



“A Theoretical Framework for exploring the complex relation between Service Quality Management and Student Learning Outcomes in Higher Education”

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ABSTRACT:

The paper depicts the conceptual framework of higher education from 2009 to 2025. The paper shows the proceeds from the traditional method of service quality management i.e. identifying gaps between student expectation and perception (SERVQUAL) to Holistic method- Focus on Institutional Image & Learning Quality.

This theoretical framework divides service quality management into different dimensions like facilities and equipment, assurance and dependable, helpful, trust and knowledge, caring and personal attentions as an independent variable (IV) it has been noticed that the inputs do not affect the outcomes but are preceded with the psychological mediating variables i.e. student engagement & motivation and Student satisfaction. Moreover, the moderating variables are being illustrated by student characteristics and contextual and institutional factors.

Significantly, this study shows a shift from viewing students merely as consumers to the active co-creators of knowledge. To conclude, the education can maximize the cognitive bandwidth of students through the strategic service quality. This allows them to focus on learning outcomes which can be measured by GPA, skill development and personal growth. This study provides the theoretical framework for administrators seeking to align institutional efficiency with academic excellence.

Key words: SQM, Student learning outcome, SERVQUAL Dimensions, Student Characteristics, Contextual & Institutional Factors, Student Engagement & Motivation.

1. Introduction:

The quality of education in higher education institutions (HEIs) is shaped by numerous factors, among which employee service quality plays a pivotal role. Service Quality Management (SQM) refers to the strategic and systematic management of both academic and non-academic staff services that support the teaching and learning process. Hence, it consists of administrative staff, student counseling, teaching assistance will subsequently affect the overall student experience.

Effective SQM ensures that employees are trained and motivated to meet the needs of students and faculty, thereby improving institutional services. The non-academic staff plays a crucial role to enhance the efficiency of institutional services. The supportive staff also involved in areas like

student counseling and career guidance directly to the student well-being and academic success. This research explores the impact of Service Quality Management (SQM) to student learning outcomes in higher education institutions (HEIs). It explores how different aspects of service quality—like responsiveness and empathy—impact student outcomes such as academic performance and satisfaction.

Through examining these dimensions, this study looks for the determination of how effectively the service quality is been managed to cater a supportive academic environment. For instance, the reliability and responsiveness can ensure continuous support for students, while empathy and assurance can contribute to more inclusive and comfortable atmosphere. These service quality impacts not only to academic experience but also cater to shape the students' long term engagement and retention in academic programs.

This study provides a framework of higher education institution to refine the service quality practices by a comprehensive analysis of the relationship between SQM and learning outcomes.

In Succession this will form an environment for better supports students' academic and personal development which leads to increase performance, satisfaction and overall institutional success. It aims to provide actionable insights for educational administrators and policymakers.

2. Objectives of the study:

The objectives define the specific goals of your conceptual framework.

1. To Identify Key Service Quality Dimensions Which serves as an independent variables in higher education intuitions.
2. To Analyze the Relationship between SQM and Learning Outcomes. To explore the theoretical link between high-quality service delivery and the achievement of Student Learning Outcomes (SLO), including academic performance and personal growth.
3. To Examine the Mediating Role of Student Engagement. To investigate how "Internal Mechanisms" such as student motivation, active participation, and satisfaction act as mediators between institutional service quality and final learning results.
4. To Evaluate the Impact of Moderating Variables. To assess how demographic factors (age, gender) and institutional characteristics (Online vs. Offline mode) influence the strength of the relationship between SQM and student success.
5. To Propose a Comprehensive Conceptual Model. To synthesize the findings into a robust theoretical framework (integrating variables from HiEduQual, HEDPERF, and SERVQUAL) that HEI administrators can use to improve institutional effectiveness.

3. A Global Perspective on Service Quality:

This study reflects the theatrical framework encompasses the Service Quality Management (SQM) in higher education is geographically diverse. The collection from four continents contains in this research depicting the economic and cultural context shaping the student expectations.

The "SERVQUAL Gap" era was featured in early research, which shows quality as a distance between expectation and perception. However, a significant global shift occurred when Senthil Kumar (2009, 2011) and Annamdevula (2016) argued that delivery processes are insufficient if they do not lead to tangible results. The Danish (2011) and Bhattacharjee (2021) focused on recognizing insufficiency in reliability; the Indian research cluster (Senthil Kumar, Anushree) successfully

argued that "Placement" and "Industry Linkage" are the ultimate global yardsticks for quality. It Reflects that the Independent Variable i.e. Service Quality Management as the fuel for Dependent Variable.

The Global perspective depicts that "Quality" is not a static concept but is Moderated by regional socio-economic realities. The Infrastructure baseline: In developing economy like Ghana (Amoako, 2023) and Ethiopia (Habtegeorgis, 2023), the study focus heavily on Tangibles - laboratory, libraries, and electricity as a primary driver of satisfaction.

In the Middle East and Southeast Asia (Alhazmi, 2022; Gürbüz, 2023), the research focus on Institutional Image and Reputation as a critical trust signals. Tsigiris (2022) orient aligned SERVQUAL with Hofstede's cultural dimensions, proving that individual cultural values act as global moderator for service expectations.

A Strategic alignment in the papers corpus is the conversion from viewing students as customers to co-creators. Annamdevula (2016, 2021) and Teeroovengadam (2019) presented Motivation and Student Satisfaction as the "middlemen" or mediating variables. They conclude that high-quality facilities don't magically produce results; they work by sparking a student's internal "Drive to Learn." The recent study by Hossain (2025) suggests that Institutional Image acts as a mediator which reduces a student's "Perceived Risk", allowing them to comment more fully to the academic programme, thereby facilitating higher Learning Outcome (SLO).

The global perspective was fundamentally redefined between 2020 and 2022 by the COVID-19 pandemic. Rozak et al. (2022) and Darawong (2021) pivoted the global research focus from physical campus building to platform stability and online support.

Marlina (2021) adapted the UTAUT model to prove that in the modern global ecosystem, the "quality" of a lecture is a mediating variable through the student's "Effort Expectancy" regarding digital tools. It aligns the study with the recent Phase 4 frontier, where reliability is a structural necessity for cognitive engagement.

It is concluded that Service Quality Management is a global "Psychological Engine" instead of localized administrative task. The goal of Service Quality Management (SQM) has unified to reduce administrative and emotional friction, whether in the placement-driven markets of India, the infrastructure-focused sectors of Africa, or the digital-centric universities of the West. This goal is unified so that students can focus full cognitive capacity on achieving Student Learning Outcome (SLO).

The Evolution of Quality (2009-2025):

Through the Literature Review of research papers the chronological evolution of Service Quality Management (SQM) in higher education institution (HEIs) reflects the profound shift viewing as "passive consumers" to "active co-creators of their own academic transformation. This evolution can be traced by four different stages of academic thought.

1. The Era of Functional Measurement (2009–2014):

The SERVQUAL philosophy were dominated in foundational years. Previous research like Senthil Kumar (2009, 2011) and Danish (2011), emphasising on identifying the "Gap" between student expectations and perceptions. During this period, the functional lenses were measured for quality. The institution was "high quality", if the laboratory is modern and administration was punctual. A critical breakthrough occurred when Senthil Kumar introduced placement as a crucial outcome metric in the Indian context, for the first time suggesting service quality should measure by the Result rather than just the Process. Similarly, Prasad and Jha (2014) integrated consumer decision-making models to explain how students evaluate their "purchase" of an education.

2. The Rise of Specialization and Motivation (2016–2019):

In the mid-2010s, researchers began to evaluate generic models. Onditi (2017) and Bhaskar (2017)

argued that a universally accepted scale was missing and that generic SERVQUAL failed to capture the unique “dual nature” of academic and administrative services. It leads to the development of tailored instruments like HiEduQual (Annamdevula, 2016) and HESQUAL (Teeroovengadum, 2019). The most significant shift in this era was to introduce the Student Motivation as a key variable. The research moves from what the institution does to how the student feels. Annamdevula's work proved that high-quality facilities works by sparking an internal “Drive to Learn” instead of produce success and it established the first gears of the "Psychological Engine".

3. The Digital Crisis and Technical Reliability (2020–2022):

The COVID-19 pandemic acted as a global catalyst, pushing a transition to mixed and hybrid models. The study by Rozak et al. (2022) and Darawong (2021) pivoted the definition of “Tangibles”. Platform Stability and Online Support replaces the Physical building and campus life. During this phase, Marlina (2021) adapted the UTAUT model to analyse the performance in e-learning and Bhattacharjee (2021) shows that "Reliability" and "Responsiveness" the most critical benchmarks during the digital crisis. Quality was no longer an “added value” but a structural necessary to ensure that learning didn’t stall in virtual environment.

4. The Holistic and Mediating Frontier (2023–2025):

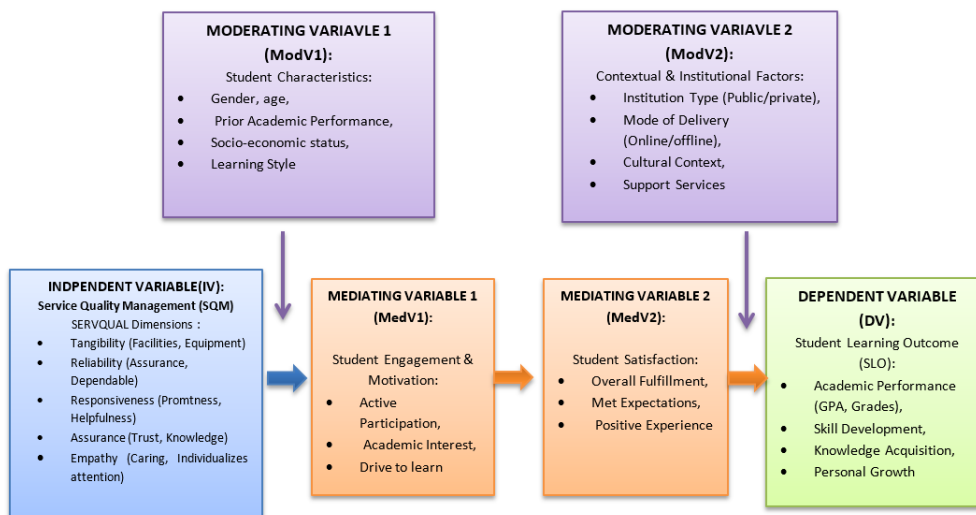
The recent era, represents through the most recent work of Hossain (2025) and Khosla (2025), they uses advanced Structural Equation Modelling (SEM) to explore complex Mediation Paths. The Research Gap has shifted to the role of Institutional Image and Institutional Branding. Hossain (2025) argues Institutional Image acts as a trust-signal which filters how other services are perceived. “Student-Centric Framework” was proposed by Sharma (2024) which combines academic inputs with well-being outputs.

The research clearly shows the evolution, moving from Phase 1: Gap Filling (Reliability/Tangibles) to Phase 2: Psychological Sparking (Motivation/Loyalty) to Phase 3: Digital Resilience (Platform Reliability) and finally moved to Phase 4: Transformative Results (Institutional Image/Learning Quality).

The conclusion from 15 years evolution is that Service Quality Management plays a role of Cognitive Bandwidth Accelerator. Institutions reduce administrative friction through managing reliability and empathy. It allows the students to focus on full mental energy on the final outcome: Student Learning Outcomes (SLO).

Service Quality Management (SQM) widely explored in the sectors like healthcare, hospitality and banking but the applications of SQM is under-researched in higher education. Some studies examines the impact of support staff on student experiences and few have focused on the systematic management of service quality in higher education institutions (HEIs).

4. Conceptual Model:



The conceptual model depicts the quality of university services like facilities and staff responsiveness to improve the Student Learning Outcomes. It is done by boosting their engagement and motivation and also acknowledging the student background and institutional setting can change how strong these effects are.

1. Independent Variable (IV): Service Quality Management (SQM)

The independent variable acts as the “fuel” and serves as the “cause” or fundamental starting point for the conceptual model. Independent variable represents the essential inputs provided by institutions. There are five SERVQUAL dimension to evaluate these inputs, they are tangibility, which includes physical evidence like modern libraries, clean laboratories and up-to-date software; reliability, which refers to the institution’s ability to accurately fulfil their promises like punctual classes and precise administrative records; responsiveness, which encompasses the helpfulness and promptness of staff in addressing student concerns; assurance, reflects the expertise and trust inspired by the faculty; and empathy, which shows the caring attention and individualised provided to each student.

2. Mediating Variables (MedV): The Internal Process

The Mediating variables act as “middlemen” in this framework. It explains the specific mechanism through which Independent Variable (SQM) translates into learning outcomes (Dependent variable). The high quality works by a dual-stage process rather than directly produce high grades. At first it activates student’s drive to learn that leads to Mediating Variable 1 - Student Engagement & Motivation, featuring by active participation and academic interest. Additionally, Service quality will facilitate Mediating Variables 2 – Student Satisfaction. The Students reach a state of fulfilment

and met expectations. The Satisfaction move as psychological ‘gatekeeper’ that ensures the students is not cognitively distracted and the Institutional Image caters as a ‘trust signal’ to minimize the perceived risk, that allows the student commit fully to the academic program and ultimately achieve superior performance, skill development and personal growth.

3. Moderating Variables (ModV): The "It Depends" Factors

Moderating variables act as a ‘volume knob’ within the model, which means they don’t directly cause the outcome, instead adjusts the strength and intensity of the relationships between other variables. Student Characteristics (ModV1) like age, prior academic performance and learning style, how the individual students respond to service quality is been dictated; for example, Student’s driven to learn may maintain high engagement despite inferior facilities. At the same time, Contextual and Institutional Factor (ModV2) which includes the institution type i.e. public or private institution and the mode of delivery (online or offline). This will affect the extent to which the satisfaction positively translates to final student learning outcomes. The Rozak (2022) in their study the factors are critical due to the pressure of specific service dimensions fluctuates depending on the environment. The dominant factor is reliability in the online setting, where the technical stability is the core requirements for any service delivery.

4. Dependent Variable (DV): Student Learning Outcomes (SLO)

The Dependent Variable (DV) Shows the final outcome and the prime metric of success which is the whole conceptual model aims to improve. It is explained by the Student Learning outcome (SLO) which includes the refinement of both technical "hard" skills and cognitive "soft" abilities; and Personal Growth, reflecting the student's broader acquisition of knowledge and overall development. Additionally it serves as the final indicators of the effectiveness between service quality, student engagement, and institutional support.

The "Synergy" of this model lies in its ability to integrate 15 years of fragmented research into a cohesive Path Analysis. In Structural Equation Modeling (SEM) terms, this synergy is defined by the interaction between Direct Effects, Indirect Effects (Mediation), and Conditional Effects (Moderation). The variables act as the final indications of the effectiveness of the interaction between service quality, and institutional support. It is explained by Student Learning Outcomes (SLO).

The Direct Path: Institutional Commitment to Academic Outputs

[SQM] → [SLO]

The direct path of this framework reflects the high-quality institutional inputs and its impacts to learning process. It shows that the institutions provides good tangibles, for instance advanced laboratories, high speed internet and Digital libraries- the physical and structural barriers to academic engagement are effectively will be eliminated. The direct efficiency gain to the students is been narrated. The students are now able to focus on gaining new knowledge instead of technical issues or navigating administrative systems. The research by Bhattacharjee (2021), Suggests that the

reduction of service gaps in variable like reliability acts to the direct improvement in student capacity to focus on their academic performance.

The Indirect Path: The Psychological Engine (Mediation)

[SQM] → [Satisfaction/Motivation] → [SLO]

The indirect path is the segment of "Synergy Core" of the model. It shows that the students acts as active participation instead of passive consumers, the internal psychological state dictate the extent to which they internalize the educational services provided.

The Satisfaction Component in this model acts a 'Psychological Engine'. The satisfaction is the mediating variable between Serve Quality Management and Student Learning outcome. The study of Hossain (2025) recommends that a positive institutional image together with high service reliability will enhance the student satisfaction level. The Motivation is the primary driver for the Service Quality Management (SQM). The motivation can be done by staff empathy and assurance. This will create the 'Academic trust' it is believed the fuelling for intrinsic motivation for rapid information processing and deep engagement (Annamdevula, 2016). Ultimately, the 'service' of empathy functions acts as an effectively accelerating the learning process by removing emotional and psychological barriers.

The Moderated Path: The "Volume Knob" effect, where a satisfied student experience a lower cognitive load regarding their environment. The institution allows students to develop their mental bandwidth to learning outcomes

The Moderated Path: The Conditional Influence of Context

[Context/Moderators] × [The Synergy Path]

The Synergy is conditional and not a Static Element. This aspect of model reflects the multifaceted, the real-world complexity identified in the paper.

Mode of Delivery (Online vs. Offline): The effectiveness of indirect learning path carries by delivery method .In online method, the link between satisfaction and motivation relies highly on consistency. It is observed that if a system fails, the mediation chain breaks. On the other hand in offline setting prioritising staff empathy and face-to-face interaction carries a deep psychological impact.

Demographics (Age/Drive): the demographic profile of the students is the exceptional driven to the service support. In spite of poor service, the student might be satisfied and for the maximum population of the students, the higher quality of institutional service attracts the students and this leads to academic success

5. Significance of the Study

This study is important for its potential capacity to study the functional relationship between institutional management and academic success. It offers a speculative approach and practical justification for the systematic implementation of Service Quality Management (SQM) in the higher education sector.

1. This research helps institutions to reduce "Outcome Gap" by connecting service inputs directly to academic results. This ensures that institutions can effortlessly translate student learning outcomes like GPA and technical skills.
2. A high Return on Investment (ROI) for variables like faculty empathy, the study provides a blueprint for institutions to prioritize human elements which is necessary for superior Learning Outcomes.
3. The "bandwidth" paradigm, A study illustrates how institutions can reduce administrative friction to clear students' mental space, allowing them to focus on their full mental capacity in improving their learning outcomes.
4. This framework supports institutions in aligning their service benchmarks with placement and global employability. Universities can produce more competent graduates and meet national goals through enhanced Student Learning Outcomes.
5. This study helps moving the institutional perspective of students from passive consumers to active co-creators. Institutions can optimize their environments by deep transformation which will increase Student Learning Outcomes.

6. Conclusion:

This research study shows us how Service Quality Management (SQM) has evolved from a descriptive "gap-filling" exercise into a complex, strategic mission that serves as a structural necessity for thoughtful participation. While regional studies focuses vary placement-driven metrics in the Indian subcontinent to technical reliability in post-COVID Southeast Asia, the research trends toward holistic model highlights a deeper institutional pursuit of effectiveness. The framework's inherent synergy positions the link between service inputs and learning results as a "psychological engine," where factors like reliability and empathy reduce administrative friction to accelerate the "indirect speed" of knowledge acquisition. By powering motivation and participation high-quality service inputs, institutions can facilitate learning outcomes as a systematic result, redefining the defining benchmarks of quality through sustained assurance and responsiveness in an era of digital and hybrid transformation. It is recommended that future empirical research utilize this conceptual path to test the longitudinal impact of service quality on the production of employable, skilled, and motivated graduates in a globalized knowledge economy.

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