

The Influence of Employee Competence on Student Satisfaction with the Mediation of Siakad Service Quality at Borneo Tarakan University

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Abstract: This study examines the effect of administrative staff competence on student satisfaction mediated by SIAKAD service quality at Universitas Borneo Tarakan. A quantitative method with a survey of 98 students from the 2024/2025 cohort was conducted using proportionate stratified random sampling. Data were collected through validated questionnaires and analyzed using path analysis (SPSS Version 31). Results indicate that staff competence significantly and positively affects service quality and student satisfaction, with SIAKAD service acting as a significant mediator. The study emphasizes the importance of continuous competence development to optimize services and enhance satisfaction, while contributing theoretically to HR management and information systems, and providing practical recommendations for institutions to improve employee capacity and service quality

Keywords: Employee Competence; Student Satisfaction; Service Quality; SIAKAD; Mediating Variable

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INTRODUCTION

Borneo Tarakan University has invested in information technology infrastructure and human resources for modern academic services through SIAKAD and administrative staff, yet there exists a significant gap between resource availability and the quality of service experienced by students. The competence gap among employees occurs across four dimensions: limited technical knowledge of SIAKAD, varying operational skills, service attitudes that are not user satisfaction-oriented, and inadequate literacy in public service regulations. The sophistication of SIAKAD becomes meaningless if employees as the interface lack adequate competence in providing technical assistance and responsive solutions, thereby creating frustration among students who expect modern digital services but face the reality of slow and unresponsive service. The competence gap results in low student satisfaction as an indicator of service system failure. Dissatisfaction occurs when expectations do not match reality (Zeithaml et al., 1990), with implications for student learning motivation and retention, and reflects issues of public service accountability in accordance with Law No. 25/2009.

Service quality is determined by five SERVQUAL dimensions (Parasuraman et al., 1988), while employee competence encompasses knowledge, skills, and attitudes. The phenomenon gap at Borneo Tarakan University raises questions about the mechanism of relationships among employee competence, service quality, and student satisfaction, which is important for identifying leverage points, revealing the mediating role of service quality, and formulating targeted policy interventions. Research in border region universities remains limited, resulting in inadequate understanding of the relationship mechanism among employee competence, SIAKAD service quality, and student satisfaction in border areas such as North Kalimantan, making this research relevant and urgent.

This research contributes to enriching the literature on civil service human resource management in the digital governance era, developing understanding of service quality mediation mechanisms by empirically examining the application of the SERVQUAL model in the context of information system based academic services in higher education, providing perspectives on public services in border regions, contributing to the development of the New Public Service paradigm that emphasizes the importance of citizen satisfaction orientation, strengthening the argument that public service accountability must be evaluated from the user satisfaction perspective, and providing concrete benefits for improving public service quality in the higher education sector.

LITERATURE REVIEW

Public Administration has transformed from Old Public Administration toward New Public Service that places citizens at the center of service delivery (Denhardt, 2007). Although civil service competence is recognized as the foundation of public service in the digital era (Spencer & Spencer, 1993; Hutapea & Thoha, 2008), previous studies have not comprehensively explained the mechanism of transforming competence into user satisfaction, particularly in the context of border region universities. Previous research has tended to examine the direct relationship between competence and satisfaction without exploring the mediating role of service quality as a connecting mechanism.

Service quality, measured through SERVQUAL dimensions (Parasuraman et al., 1988) and information system success (DeLone & McLean, 2003), has been extensively studied as an independent variable affecting satisfaction. However, a critical question that remains unanswered is how service quality functions as a mediation mechanism that transforms civil service competence into student satisfaction. Unlike previous research that positioned service quality as an independent variable (Zeithaml & Bitner, 2003; Tjiptono, 2014), this study positions SIAKAD service quality as a mediation mechanism that explains the process of transforming employee competence into student satisfaction in the context of border region universities.

The conceptual framework of this research adopts a mediation model that connects employee competence, SIAKAD service quality, and student satisfaction. Employee competence encompasses knowledge, skills, and attitudes Spencer (1993) that form the foundation of quality service based on the five SERVQUAL dimensions (Zeithaml et al., 1990).

This research identifies gaps in existing literature, as previous studies assumed a linear relationship between competence and satisfaction without exploring the mediation mechanism. This research model tests two paths of influence: the direct path of employee competence on student satisfaction, and the indirect path through the mediation of SIAKAD service quality. The critical position of this research is to reveal that employee competence does not automatically generate satisfaction, but rather must be transformed through concrete service

quality that meets student expectations (Kotler & Keller, 2016; Oliver, 1999). Thus, SIAKAD service quality functions as a translation mechanism that connects competence input with student satisfaction output.

METHOD

This research employs a quantitative approach with a survey method to measure students' perceptions of employee competence, SIAKAD service quality, and student satisfaction. The quantitative approach was chosen because the research variables are latent constructs that require systematic and objective numerical measurement for statistical analysis. The research design uses a partial mediation model where SIAKAD service quality (M) functions dually as an endogenous variable influenced by employee competence (X) and simultaneously as an exogenous variable affecting student satisfaction (Y), making it a linking mechanism that connects organizational input with service outcomes. The research design is a research framework used as a guideline in conducting the research process.

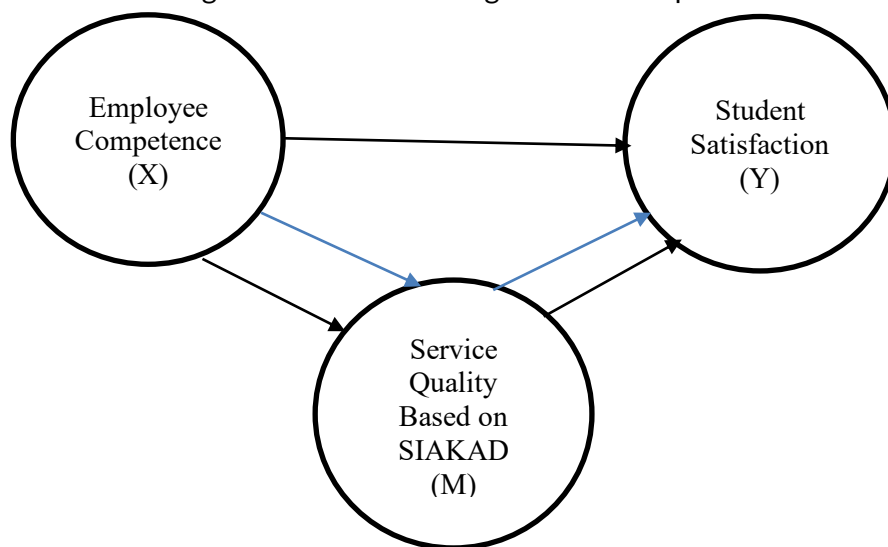


Figure 1. Research Design Diagram

This partial mediation model also implies that SIAKAD-Based Service Quality (M) functions not only as a mediator, but also as an endogenous variable influenced by Employee Competence (X) and simultaneously as an exogenous variable affecting Student Satisfaction (Y). This dual position makes variable M a linking mechanism or causal bridge that connects organizational input (human resource competence) with service outcomes (user satisfaction).

The research population consists of 4,321 new students at Borneo Tarakan University for the 2024/2025 academic year, selected due to their high intensity and frequency of SIAKAD usage and their fresh experience, which makes their assessments tend to be more accurate and unbiased. The sample was drawn using proportional random sampling technique with the Slovin formula, yielding 98 respondents. The research instrument is a questionnaire with a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree) that has undergone validity and reliability testing to ensure construct validity and measurement consistency. Data were collected through observation for preliminary identification, questionnaires as the primary source, and documentation for literature review.

$$n = N / (1 + N e^2) = 4.321 / (1 + 4.321 \times 0,1^2) = 97.74 = 98$$

The data collection procedure in this research employs the observation method to identify preliminary data related to the feasibility of conducting research at Borneo Tarakan University concerning several variables to be examined, questionnaires used as the primary source of information in analyzing research findings. Questionnaire distribution was conducted to the predetermined sample (Arikunto, 2020), and documentation for data collection through documents such as books, journal articles, and previous research on research variables as literature review and theoretical basis.

Data processing uses SPSS Version 31 with data screening to eliminate invalid responses such as straight-lining patterns, significant missing data, and extreme outliers. Data analysis comprises five stages: validity testing to ensure the instrument measures the intended theoretical construct, reliability testing for measurement consistency, descriptive statistical analysis to describe data characteristics, path analysis to test the mediation mechanism, and inferential statistical analysis for hypothesis testing that confirms causal relationships among research variables.

ANALYSIS AND DISCUSSION

Analysis

This research involved 98 second-semester students at Borneo Tarakan University from 27 study programs, with the majority of respondents aged 19 years (53.06%) and female (74.49%). Validity testing showed that all instrument items for the three variables were valid ($r\text{-count} > 0.199$, $\text{Sig.} < 0.05$), with very high reliability: Employee Competence ($\alpha=0.952$), SIAKAD Service Quality ($\alpha=0.930$), and Student Satisfaction ($\alpha=0.967$).

Classical assumption tests were fulfilled with normally distributed residuals (Asymp. Sig. $0.094 > 0.05$), no multicollinearity (Tolerance= $0.275 > 0.10$; VIF= $3.640 < 10.00$), and free from heteroscedasticity (Sig. variable $X=0.615$ and $M=0.288 > 0.05$). Descriptive analysis showed that all three variables were in the high category with mean scores of Employee Competence= 28.98 , SIAKAD Service Quality= 28.71 , and Student Satisfaction= 29.26 .

Table 1. Validity Test Results of Employee Competence Data (X)

No. Item	r_{hitung}	$r_{\text{tabel}} 5\%$	Sig.	Criteria
X1	0,872	0,199	0,000	Valid
X2	0,861	0,199	0,000	Valid
X3	0,866	0,199	0,000	Valid
X4	0,893	0,199	0,000	Valid
X5	0,908	0,199	0,000	Valid
X6	0,885	0,199	0,000	Valid
X7	0,893	0,199	0,000	Valid

Source: SPSS, 2025

Table 2. Validity Test Results of SIAKAD Based Service Quality Data (M)

No. Item	r_{hitung}	$r_{\text{tabel}} 5\%$	Sig.	Criteria
M1	0,883	0,199	0,000	Valid
M2	0,803	0,199	0,000	Valid
M3	0,855	0,199	0,000	Valid
M4	0,858	0,199	0,000	Valid
M5	0,852	0,199	0,000	Valid

M6	0,875	0,199	0,000	Valid
M7	0,774	0,199	0,000	Valid

Source: SPSS, 2025

Table 3. Validity Test Results of Student Satisfaction Data (Y)

No. Item	r_{hitung}	$r_{tabel\ 5\%}$	Sig.	Criteria
Y1	0,907	0,199	0,000	Valid
Y2	0,931	0,199	0,000	Valid
Y3	0,904	0,199	0,000	Valid
Y4	0,887	0,199	0,000	Valid
Y5	0,928	0,199	0,000	Valid
Y6	0,938	0,199	0,000	Valid
Y7	0,909	0,199	0,000	Valid

Source: SPSS, 2025

The first regression test showed that Employee Competence has a positive and significant effect on SIAKAD Service Quality with a very strong correlation coefficient ($R=0.852$), coefficient of determination $R^2=0.725$, and regression coefficient $\beta=0.843$ ($t=15.919$; Sig.=0.000). The second regression test proved that Employee Competence and SIAKAD Service Quality simultaneously affect Student Satisfaction ($R=0.916$; $R^2=0.839$; $F=247.178$; Sig.=0.000). Partially, Employee Competence has a significant effect on Student Satisfaction ($\beta=0.210$; $t=2.703$; Sig.=0.008), and SIAKAD Service Quality has a more dominant effect on Student Satisfaction ($\beta=0.728$; $t=9.266$; Sig.=0.000).

Path analysis confirms the mediating role of SIAKAD Service Quality in the relationship between Employee Competence and Student Satisfaction. The indirect effect ($0.843 \times 0.728 = 0.614$) is greater than the direct effect (0.210), with a total effect of 0.824. The mediation proportion reaches 74.5% ($0.614/0.824$), indicating that SIAKAD Service Quality is a dominant partial mediator. The Sobel test yielded a statistical value of 7.9736 with a probability of 0.000, confirming the statistical significance of the mediating role.

The crucial finding of this research lies in the highly dominant mediating role of SIAKAD service quality (74.5%) in transforming employee competence into student satisfaction. Although employee competence has a significant direct effect on student satisfaction ($\beta=0.210$), its indirect effect through SIAKAD service quality is much larger (0.614), nearly three times the direct effect. This reveals the important fact that employee competence does not automatically generate student satisfaction that competence must be manifested in the form of quality SIAKAD service.

Discussion

Employee competence is proven to be the main determinant of SIAKAD service quality, affirming the resource-based view theory Barney (1991) that competent human resources are a source of organizational competitive advantage. This research extends the perspective of Spencer & Spencer (1993) by demonstrating that competence in the digital era encompasses not only administrative capabilities but also mastery of Information Technology and responsive capabilities that realize SERVQUAL dimensions. Practically, this implies the need for employee competence development integrated with digital literacy to optimize information system-based services.

SIAKAD service quality functions as a dominant mediation mechanism that transforms employee competence into student satisfaction. This finding provides an important conceptual contribution by revealing that competence does not automatically generate satisfaction competence must be realized through a quality service system that meets user expectations. This reinforces the New Public Service model Denhardt (2007) which emphasizes citizen satisfaction orientation, while integrating the Technology Acceptance Model Davis (1989) regarding the importance of synergy between human resource competence and quality technology infrastructure.

The dominant influence of SIAKAD service quality on student satisfaction reflects a paradigm shift from conventional service to integrated digital experience. Contemporary students demonstrate a rational orientation toward efficiency, convenience, and certainty in academic services, aligned with DeLone & McLean's (2003) information system success theory. This research implies that strategies for improving student satisfaction require a simultaneous approach: developing employee competence and optimizing SIAKAD quality, rather than partial intervention, to create synergistic effects in higher education academic services.

CONCLUSION

Conclusion

This research validates the causal mechanism of student satisfaction through three significant paths: the direct effect of employee competence on satisfaction ($\beta=0.210$), employee competence on SIAKAD service quality ($\beta=0.843$), and SIAKAD service quality on satisfaction ($\beta=0.728$). With a mediation proportion of 74.5%, student satisfaction is proven to be a product of synergy between human resource capabilities and technology infrastructure, not the result of either factor separately.

The crucial finding shows that a partial approach is suboptimal investment in human resources or technology separately produces limited impact. SIAKAD service quality functions as a transformational mechanism that converts employee competence into tangible service experience, with an indirect effect (0.614) three times greater than the direct effect (0.210). This confirms that competence is a necessary condition but insufficient without the intermediation of service system quality.

Theoretically, this research enriches Service Quality Theory and the Technology Acceptance Model by integrating the perspective of human resource competence as an antecedent, and contributes to Human Capital theory by demonstrating that the value of competence can only be realized through adequate system infrastructure. From a policy perspective, this research implies the need for: (1) simultaneous investment in competence development and IT infrastructure, (2) output-based performance evaluation (service quality and satisfaction), and (3) a holistic approach to improving higher education quality.

Recommendations

For Borneo Tarakan University: Implement the Grand Design for Digital Academic Service Transformation 2025-2029 with 15% operational budget allocation, including: (1) Service Quality Control Unit with periodic audits and a complaint response target of 2x24 hours, (2) Performance-Based Incentive System that links allowances with competence scores

and service quality, (3) Strategic partnerships for benchmarking and employee internship programs of at least 2 people per semester.

For Academic Service Managers: Develop SIAKAD Service SOPs with video tutorials, a shift system ensuring availability of at least 3 front office and 2 back office staff (07.00-16.00 WIB), plus 24/7 online help desk. Implement SIAKAD training programs every 3 months, excellent service workshops every semester, BNSP certification for 50% of employees within 2 years, and real-time monitoring dashboard for weekly evaluation.

For National Policy: BKN (National Civil Service Agency) and the Ministry of Education, Culture, Research, and Technology should revise competency standards for academic administration positions by incorporating digital literacy certification as a mandatory requirement, develop a new functional career path (Digital Academic Service Manager) with special allowances of 20-30%, and allocate competitive grant funds for digital academic service innovation.

For Further Research: Develop an expanded model with moderating variables (student generation, socio-economic background) using SEM Multigroup Analysis, mixed-method research with Critical Incident Technique to identify priority competencies, longitudinal design over 2 years to test reciprocal causation, and comparative studies across contexts (public vs private universities, urban vs remote, across ASEAN) using meta-analysis.

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