



Digitalizing Faculty Career Advancement: How SIM-PAK Quality Accelerates Academic Rank Promotion

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Abstract :

Digital transformation in higher education requires effective academic information systems to support governance and improve teaching quality. One strategic process in faculty resource management is academic rank promotion, which demands a transparent, efficient, and accountable administrative system. This study examines the role of Credit Point Assessment Management Information System (SIM-PAK) implementation quality in shaping faculty satisfaction and enhancing the effectiveness and speed of academic rank promotion processes. A quantitative survey was conducted involving 267 faculty members who have used SIM-PAK. Data were collected through a structured questionnaire measured on a five-point Likert scale and analyzed using Partial Least Squares–Structural Equation Modeling (SEM-PLS). The results show that SIM-PAK implementation quality positively and significantly affects process effectiveness ($\beta = 0.52$; $p < 0.001$), process speed ($\beta = 0.47$; $p < 0.001$), and faculty satisfaction ($\beta = 0.61$; $p < 0.001$). This study highlights system implementation quality as a key factor in reducing administrative workload, enabling faculty to focus more on teaching innovation and learning development. Practically, universities should prioritize high-quality academic information systems to enhance faculty performance and institutional effectiveness.

INTRODUCTION

Digital transformation in higher education has become a critical societal issue, as universities are expected to produce graduates who are adaptable, innovative, and able to respond to rapid technological change. The point is that digital systems are no longer optional but essential infrastructures that shape institutional effectiveness. The reason lies in the increasing reliance on information technology to manage academic processes, facilitate communication, and support data-driven decision-making. Evidence from global higher education practices shows that institutions adopting integrated digital systems demonstrate improved administrative efficiency and enhanced teaching quality, particularly in environments where faculty are supported by reliable academic information systems (Benavides et al., 2020; Mishra & Purohit, 2025). These transformations extend beyond technical improvements, influencing how educators allocate time, design learning experiences, and engage in reflective teaching practices. Consequently, digital transformation directly affects educational quality and societal development. The conclusion is that understanding how digital systems support faculty

performance is essential, as it determines whether higher education institutions can fulfill their broader mission in advancing knowledge and societal progress.

The implementation of academic information systems can be theoretically examined through established models in information systems and technology acceptance. The DeLone and McLean Information Systems Success Model explains that system quality, information quality, and service quality collectively determine user satisfaction and net benefits at both individual and organizational levels (Alyoussef, 2023; DeLone & McLean, 2016). Complementing this, the Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology highlight perceived usefulness and ease of use as key determinants of user satisfaction and behavioral intention (Davis, 1989; Liesa-Orús et al., 2023). Within this framework, user satisfaction becomes a central mediating construct linking system characteristics to performance outcomes. In the context of higher education, process effectiveness and process speed are conceptualized as organizational outcomes influenced by system use, reflecting the system's ability to deliver accurate, timely, and efficient services (Papiorek & Hiebl, 2024; Rusilowati et al., 2024). Thus, these theories provide a comprehensive basis for analyzing how system implementation quality influences faculty experiences and administrative performance through both direct and indirect pathways.

Despite the recognized importance of digital transformation, higher education institutions face persistent challenges in managing complex administrative processes, particularly in faculty academic rank promotion. This process is inherently bureaucratic, requiring extensive documentation, verification, and compliance with regulatory standards. As a result, faculty members often experience increased administrative burdens, reducing the time available for teaching, research, and pedagogical innovation. In many cases, poorly implemented digital systems fail to alleviate these burdens and may even exacerbate inefficiencies due to unclear interfaces, unreliable performance, or inadequate support services. This creates a gap between the intended benefits of digitalization and users' actual experiences. The problem is not merely technical but organizational, as ineffective system implementation can lead to dissatisfaction, reduced engagement, and diminished performance outcomes. Consequently, understanding how system quality influences user satisfaction and administrative processes becomes essential for addressing these challenges and ensuring that digital transformation genuinely supports academic work.

Previous studies have explored the role of information systems in enhancing organizational performance and user satisfaction across various sectors, including education. Research consistently shows that high-quality system implementation positively affects user satisfaction, which, in turn, improves performance outcomes and organizational effectiveness (Lepistö et al., 2024; Melgis et al., 2024; Saputra et al., 2023). In higher education, digital platforms such as learning management systems and academic information systems have been found to support teaching and administrative processes when they are user-friendly, reliable, and responsive to user needs (Mbodila & Elegbeleye, 2025; Sun & Yoon, 2025). Moreover, studies using SEM-PLS approaches have demonstrated that system quality influences outcomes both directly and indirectly through mediating variables such as satisfaction and perceived usefulness (Du, Grigorescu, and Aivaz 2023; Saputra et al., 2023). However, much of this research focuses on learning platforms rather than administrative systems, leaving a gap in understanding how similar mechanisms operate in faculty-related processes such as academic rank

promotion.

Although the existing literature provides valuable insights, several limitations remain. First, many studies examine system quality and user satisfaction in isolation, without considering their cascading effects on multiple organizational outcomes. Second, research on academic information systems often emphasizes student learning platforms rather than administrative systems that directly affect faculty workload and institutional governance. Third, limited attention has been given to integrating pedagogical perspectives into the evaluation of administrative systems, particularly regarding how these systems influence teaching time allocation and instructional development. Recent studies suggest that the quality of policy and system implementation significantly affects user perceptions and outcomes in educational settings, yet these findings are rarely extended to promotion-related administrative processes (Cintamulya & Mawartiningsih, 2024; Sholeh et al., 2024). Therefore, there is a clear need for comprehensive models that examine how system implementation quality affects user satisfaction and, in turn, the effectiveness and speed of academic processes within a unified analytical framework.

Based on these gaps, the central research problem is to understand how the quality of academic information system implementation influences faculty user satisfaction and how this satisfaction subsequently affects the effectiveness and speed of academic rank promotion processes. The argument of this study is that system implementation quality is not only a technical factor but also a psychological and organizational driver that shapes user experiences and outcomes. When faculty perceive the system as reliable, easy to use, and supportive, they are more likely to experience satisfaction, thereby enhancing their engagement with it. This satisfaction then translates into more effective and efficient administrative processes, reducing delays and improving accuracy. Conversely, poor system implementation is expected to reduce satisfaction and hinder process performance. Thus, user satisfaction serves as a key mediating mechanism that explains how system quality influences organizational outcomes.

This study contributes to the literature by proposing an integrated model that links system implementation quality, user satisfaction, process effectiveness, and process speed within the context of faculty academic rank promotion. Unlike previous studies, this research simultaneously examines multiple outcome variables and emphasizes the mediating role of user satisfaction in a pedagogically relevant administrative process. The study argues that improving system quality can indirectly enhance teaching and learning by reducing administrative burdens and allowing faculty to focus on educational innovation. Accordingly, the research aims to examine the effect of SIM-PAK implementation quality on faculty user satisfaction, analyze the effect of user satisfaction on process effectiveness and process speed, and investigate the mediating role of user satisfaction in these relationships. By addressing these objectives, the study provides both theoretical and practical insights into how digital transformation can be optimized to support academic performance and institutional effectiveness in higher education.

RESEARCH METHODS

This study used an explanatory, quantitative approach and a survey to explore causal relationships among latent variables in the proposed conceptual model. This design is suitable for testing relationships in research on the implementation of academic information systems and their effects on higher education processes, as outlined by Henline-Hall (2024) and Mugenda (2023). The study population comprised 800 faculty

members at Universitas Negeri Surabaya who used the Credit Point Assessment Management Information System (SIM-PAK) for academic rank promotion. A sample size of 267 faculty members was determined using the Slovin formula with a 5% margin of error, which is appropriate for Partial Least Squares–Structural Equation Modeling (PLS-SEM) analysis, known for handling medium sample sizes and non-normally distributed data (Mastana, 2025; Subhaktiyasa, 2024).

The sampling technique was simple random sampling, ensuring equal selection probability and minimizing bias (Etikan, 2017; Makwana et al., 2023). A structured questionnaire was developed based on the research model's constructs and indicators, measuring faculty perceptions of SIM-PAK's implementation quality, user satisfaction, process effectiveness, and speed. The five-point Likert scale was used for responses, and the indicators were grounded in the DeLone and McLean Information Systems Success Model and technology acceptance theory (Davis, 1989; DeLone & McLean, 2016). Data analysis was performed using the PLS-SEM approach in SmartPLS, which is ideal for analyzing causal relationships among multidimensional latent variables (Mastana, 2025; Subhaktiyasa, 2024).

The evaluation of the measurement model focused on convergent validity, construct reliability, and discriminant validity. Convergent validity was assessed using outer loadings and Average Variance Extracted (AVE), with values ≥ 0.70 and $AVE \geq 0.50$ indicating acceptable validity. Reliability was evaluated using Composite Reliability (CR) and Cronbach's Alpha, with values ≥ 0.70 considered reliable. Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT), with values below 0.90 indicating adequate distinctiveness among constructs (Ringle et al., 2023; Sarstedt et al., 2021). The results confirmed that the indicators met the required validity and reliability criteria, supporting their use in testing the structural model and evaluating the hypotheses.

RESULTS AND DISCUSSION

Results

Measurement Model Evaluation

The measurement model evaluation assessed the validity and reliability of all latent constructs in the research model. This stage is essential in Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis because it ensures that all indicators accurately measure their respective constructs before the structural relationships among variables are examined. The measurement model assessment focused on convergent validity, construct reliability, and discriminant validity using SmartPLS software.

Convergent validity was assessed by examining the outer loadings and the Average Variance Extracted (AVE). The analysis revealed that all indicators achieved outer loadings greater than the recommended threshold of 0.70, indicating strong correlations with their corresponding latent variables. High outer loading values suggest that the indicators consistently represent the underlying constructs and contribute substantially to explaining the model's variance.

Furthermore, the Average Variance Extracted (AVE) values for all constructs exceeded 0.50, indicating that each latent variable explains more than half of its indicators' variance. These findings demonstrate that the constructs possess adequate convergent validity and confirm that the indicators are suitable for measuring the dimensions of SIM-PAK implementation quality, process effectiveness, process speed,

and faculty user satisfaction.

Reliability testing was also conducted using Cronbach's Alpha and Composite Reliability (CR). The results indicate that all constructs exceeded the recommended threshold value of 0.70, demonstrating strong internal consistency among indicators. Cronbach's Alpha values ranged from 0.76 to 0.83, while Composite Reliability values ranged from 0.82 to 0.88. These findings indicate that the measurement items consistently reflect the latent constructs and that the research instrument is statistically reliable for further analysis.

Table 1. Results of Construct Validity and Reliability Testing

Variable	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
SIM-PAK Implementation Quality	> 0.70	0.81	0.86	0.61
Process Effectiveness	> 0.70	0.79	0.84	0.58
Process Speed	> 0.70	0.76	0.82	0.55
User Satisfaction	> 0.70	0.83	0.88	0.62

Source: SmartPLS Output, 2025

The results presented in Table 1 indicate that all research constructs fulfil the required statistical criteria for validity and reliability in SEM-PLS analysis. The high reliability values demonstrate that faculty responses regarding their experiences using SIM-PAK were internally consistent. Additionally, the AVE values above 0.50 confirm that each construct adequately captures the variance explained by its indicators. These findings suggest that the research instrument effectively measures faculty perceptions regarding the implementation quality of the SIM-PAK system and its implications for administrative effectiveness, process speed, and user satisfaction. Therefore, the measurement model is statistically acceptable, enabling the analysis to proceed to structural model evaluation.

Discriminant Validity Evaluation

Discriminant validity was assessed to ensure that each construct within the research model is empirically distinct from the others. In this study, discriminant validity was evaluated using the Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio (HTMT). The purpose of this analysis is to confirm that the indicators associated with a particular construct measure only that construct and not other latent variables within the model. The Fornell-Larcker analysis demonstrates that the square root of each construct's AVE is greater than the correlations between constructs. This finding indicates that each latent variable has stronger relationships with its own indicators than with indicators from other constructs.

Table 2. Fornell-Larcker Criterion

Variable	SIM-PAK Quality	Process Effectiveness	Process Speed	User Satisfaction
SIM-PAK Quality	0.781			
Process Effectiveness	0.522	0.762		
Process Speed	0.471	0.563	0.741	
User Satisfaction	0.611	0.548	0.517	0.787

Source: SmartPLS Output, 2025

The HTMT analysis further confirms discriminant validity, as all HTMT values were below the recommended threshold of 0.90. This indicates that the constructs are conceptually distinct and statistically separable from one another.

Table 3. Heterotrait-Monotrait Ratio (HTMT)

Variable Relationship	HTMT Value
SIM-PAK Quality ↔ Process Effectiveness	0.682
SIM-PAK Quality ↔ Process Speed	0.641
SIM-PAK Quality ↔ User Satisfaction	0.734
Process Effectiveness ↔ Process Speed	0.701
Process Effectiveness ↔ User Satisfaction	0.688
Process Speed ↔ User Satisfaction	0.655

Source: SmartPLS Output, 2025

Overall, the discriminant validity analysis demonstrates that the constructs included in the study are statistically distinct. Faculty respondents were able to differentiate their perceptions regarding system quality, administrative effectiveness, process speed, and satisfaction levels. Therefore, the measurement model fulfils the required discriminant validity criteria for SEM-PLS analysis.

Coefficient of Determination (R-Square)

The coefficient of determination (R-squared) was evaluated to examine the explanatory power of the structural model. R-square values indicate the proportion of variance in endogenous variables explained by exogenous constructs included in the model.

Table 4. R-Square Values

Variable	R-Square	Interpretation
Process Effectiveness	0.27	Moderate
Process Speed	0.22	Moderate
User Satisfaction	0.37	Moderate

Source: SmartPLS Output, 2025

The results indicate that SIM-PAK implementation quality explains 27% of the variance in process effectiveness, 22% in process speed, and 37% in faculty user satisfaction. These findings suggest that the implementation quality of academic information systems substantially contributes to improving organisational performance and user perceptions. The highest explanatory power is observed in faculty user satisfaction, indicating that the quality of system implementation strongly influences faculty experiences. This finding demonstrates that reliable digital systems significantly affect how faculty members perceive administrative services within higher education institutions.

Effect Size (f-square)

An effect size analysis was conducted to examine the magnitude of the influence of SIM-PAK implementation quality on endogenous variables. The f-square values indicate whether the effects are categorised as small, medium, or large.

Table 5. Effect Size (f-square)

Variable Relationship	f-square	Effect Size
SIM-PAK Quality → Process Effectiveness	0.35	Large
SIM-PAK Quality → Process Speed	0.28	Medium
SIM-PAK Quality → User Satisfaction	0.44	Large

Source: SmartPLS Output, 2025

The results indicate that SIM-PAK implementation quality has a large effect on process effectiveness and faculty user satisfaction, while its effect on process speed is categorized as medium. These findings emphasize the strategic importance of system quality in shaping administrative outcomes and user experiences within academic promotion processes.

Predictive Relevance (Q-square)

Predictive relevance analysis was conducted using the blindfolding procedure to examine the predictive capability of the research model.

Table 6. Predictive Relevance (Q-square)

Variable	Q-square
Process Effectiveness	0.181
Process Speed	0.164
User Satisfaction	0.243

Source: SmartPLS Output, 2025

The Q-square values above zero indicate that the model possesses adequate predictive relevance for all endogenous constructs. This finding confirms that the research model has acceptable predictive capability in explaining faculty perceptions regarding the implementation quality of the SIM-PAK system.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS. The significance of relationships among variables was evaluated based on path coefficients, t-statistics, and p-values.

Table 7. Hypothesis Testing Results

Hypothesis	Variable Relationship	Path Coefficient (β)	t-statistics	p-value	Decision
H1	SIM-PAK Implementation Quality → Process Effectiveness	0.52	8.764	< 0.001	Accepted
H2	SIM-PAK Implementation Quality → Process Speed	0.47	7.953	< 0.001	Accepted
H3	SIM-PAK Implementation Quality → User Satisfaction	0.61	10.482	< 0.001	Accepted

Source: SmartPLS Output, 2025

The results demonstrate that the quality of SIM-PAK implementation significantly influences the effectiveness of the academic rank promotion process ($\beta = 0.52$; $p < 0.001$). This finding indicates that high-quality implementation of digital administrative systems contributes to procedural consistency, transparency, and administrative accuracy.

Faculty members perceive that SIM-PAK facilitates easier monitoring of promotion requirements and reduces errors in document submission processes. The analysis also reveals that the quality of SIM-PAK implementation significantly affects process speed ($\beta = 0.47$; $p < 0.001$). This suggests that integrated digital systems improve administrative responsiveness by speeding up verification and approval processes. Implementing user-friendly, reliable systems reduces bureaucratic delays and enhances institutional efficiency in managing faculty promotion services.

Furthermore, the strongest relationship was identified between SIM-PAK implementation quality and faculty user satisfaction ($\beta = 0.61$; $p < 0.001$). This result confirms that perceptions of system usability, accessibility, reliability, and technical support quality strongly influence faculty satisfaction. Faculty members are more likely to have positive experiences when the system provides transparent, efficient administrative services.

Overall, these findings indicate that the successful implementation of academic information systems significantly improves organisational effectiveness, accelerates administrative processes, and enhances faculty experience in higher education institutions.

Discussion

The results of this study demonstrate that the implementation quality of the SIM-PAK application significantly influences the effectiveness, speed, and user satisfaction of academic rank promotion processes. The finding that SIM-PAK implementation quality positively affects the effectiveness of the academic promotion process aligns with existing literature, particularly the DeLone and McLean Information Systems Success Model, which highlights system implementation quality as a key determinant of organizational benefits, including process effectiveness. This supports previous studies that argue that high-quality system implementation reduces ambiguity, standardizes workflows, and ensures consistency in decision-making, all of which are essential for effective governance in higher education (DeLone & McLean, 2016; Ramos, 2025). Moreover, the quality of system implementation is not only linked to administrative efficiency but also contributes to the credibility and transparency of academic processes, which is consistent with findings from studies on digital governance in higher education (Doğan & Arslan, 2025; Goldfinch, 2023).

Furthermore, the significant positive effect of SIM-PAK implementation quality on process speed corroborates the theory of digital process transformation, which posits that well-designed systems accelerate work cycles by automating tasks and improving data integration across organizational units. This study extends the literature by empirically demonstrating that the speed of academic administrative processes is heavily dependent on the quality of the digital systems in place. Previous research has shown that digital systems enable real-time information exchange and reduce delays in approval and verification processes, findings confirmed by the present study. This not only streamlines administrative workflows but also enhances institutional responsiveness, a key performance indicator in both public-sector and higher-education digital transformations (Mukul & Büyüközkan, 2023; Oliveira & De Souza, 2022). The study's results suggest that faster academic processes increase faculty members' flexibility, allowing them to focus on their core academic responsibilities, such as teaching and research.

The finding that SIM-PAK implementation quality also significantly impacts faculty user satisfaction reinforces the importance of system quality in shaping user experiences. Faculty satisfaction, as highlighted by the study, is not solely dependent on system availability but on the overall quality of interaction with the system, including ease of use, reliability, and the support provided. This result aligns with technology acceptance theories, which identify system and information quality as antecedents of user satisfaction. Faculty satisfaction with academic systems has practical implications for reducing workload and stress, thereby allowing faculty members to devote more energy to teaching and curriculum development, as the study suggests. These findings resonate with previous research linking supportive digital environments to improved faculty well-being and teaching quality (Halverson et al., 2023; Han & Gao, 2023).

In terms of theoretical contributions, this study adds to the growing body of knowledge on the relationship between information system implementation quality and both process performance and user experience in higher education. The results are consistent with recent research demonstrating that digital transformation initiatives enhance institutional efficiency and service accessibility through robust digital platforms and infrastructure. Additionally, this study highlights that system quality is a central factor in achieving both administrative efficiency and user satisfaction, which are essential for successful digital transformation in higher education. Theoretical advancements in digital transformation, such as those proposed by Dhameria et al. (2025) and Tri & Hoang (2023), underscore the importance of integrating robust information systems to improve organizational outcomes.

From a practical perspective, this research offers several valuable insights for higher education institutions and policymakers. The findings suggest that prioritizing the quality of digital systems—focusing on usability, reliability, and integration support—can significantly improve administrative processes, increase user satisfaction, and enhance governance in higher education institutions. This aligns with practical recommendations in the literature on digital transformation, which emphasize that a well-implemented information system can drive institutional responsiveness and improve service delivery (Loku & Loku, 2024; Rusilowati et al., 2024). By focusing on high-quality implementation, higher education institutions can not only streamline administrative processes but also foster a more supportive and efficient academic environment.

The contributions of this study extend beyond theoretical knowledge, offering practical frameworks for guiding digital transformation in higher education. The study demonstrates that effective digital systems can enhance the overall quality of education by improving administrative governance and providing a conducive environment for faculty development. By demonstrating the links between system quality, process effectiveness, and user satisfaction, this research contributes to the ongoing discourse on how universities can leverage digital technology to strengthen both administrative efficiency and educational quality.

CONCLUSION

This study highlights that the quality of SIM-PAK application implementation is crucial in ensuring effective, efficient, and user-oriented management of faculty academic rank promotion processes. The findings emphasize that SIM-PAK goes beyond being a mere technical tool, functioning as a strategic organizational infrastructure that enhances process effectiveness, service responsiveness, and faculty user experience in

academic administration. High-quality system implementation fosters transparency and accountability in academic governance while creating supportive digital work environments that reduce administrative burdens and enable faculty to focus on teaching, pedagogical innovation, and professional growth. These insights suggest that higher education institutions should consider improving the quality of their academic information systems as a long-term strategic investment aligned with institutional quality assurance and faculty development policies.

Despite its valuable contributions, this study has limitations. The reliance on cross-sectional survey data restricts the ability to observe how system use and faculty perceptions evolve. Additionally, the study's focus on a single academic information system and institutional context limits the generalizability of the findings to other higher education settings. Future research should employ longitudinal designs to examine how the quality of system implementation affects academic processes and faculty performance over time. Comparative studies across different institutions or types of academic information systems would provide more insights into the contextual factors that influence system success. Furthermore, future studies could incorporate additional variables, such as organizational culture, digital literacy, and leadership support, to expand our understanding of digital transformation in higher education administration.

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REFERENCES

- Alyoussef, I. Y. (2023). Acceptance of E-Learning in Higher Education: The Role of Task-Technology Fit with the Information Systems Success Model. *Heliyon*, 9(3). <https://doi.org/10.1016/j.heliyon.2023.e13751>
- Benavides, L. M. C., Tamayo Arias, J. A., Arango Serna, M. D., Branch Bedoya, J. W., & Burgos, D. (2020). Digital Transformation in Higher Education Institutions: A Systematic Literature Review. *Sensors*, 20(11), 3291. <https://doi.org/10.3390/s20113291>
- Cintamulya, I., & Mawartiningih, L. (2024). The Development of Project-Based Learning Models That Accommodate the Reflective and Impulsive Cognitive Style. *Studies in Learning and Teaching*, 5(1), 59–72. <https://doi.org/10.46627/silet.v5i1.279>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- DeLone, W. H., & McLean, E. R. (2016). Information Systems Success Measurement. *Foundations and Trends® in Information Systems*, 2(1), 1–116. <https://doi.org/10.1561/29000000005>

- Dhamera, V., Muazeib, A. I. M., Blhaj, K. M. S., Sugiyarsih, S., & Rosadah, R. A. (2025). The Impact of Digital Transformation in Higher Education Management: Integrating Online Learning and Educational Applications for Efficiency and Accessibility. *International Journal of Educational Qualitative Quantitative Research*, 4(1), 15–24. <https://doi.org/10.58418/ijeqqr.v4i1.135>
- Doğan, M., & Arslan, H. (2025). Graduate Student Engagement and Digital Governance in Higher Education. *Education Sciences*, 15(6), 682. <https://doi.org/10.3390/educsci15060682>
- Du, R., Grigorescu, A., & Aivaz, K.-A. (2023). Higher Educational Institutions' Digital Transformation and the Roles of Digital Platform Capability and Psychology in Innovation Performance After COVID-19. *Sustainability*, 15(16), 12646. <https://doi.org/10.3390/su151612646>
- Etikan, I. (2017). Sampling and Sampling Methods. *Biometrics & Biostatistics International Journal*, 5(6), 215–217. <https://doi.org/10.15406/bbij.2017.05.00149>
- Goldfinch, S. F. (2023). The Challenge of Public Administration Reform: Introduction to the Handbook of Public Administration Reform. In *Handbook of Public Administration Reform* (pp. 1–26). Edward Elgar Publishing. <https://doi.org/10.4337/9781800376748.00005>
- Halverson, L. R., Spring, K. J., Huyett, S., Henrie, C. R., & Graham, C. R. (2023). Blended Learning Research in Higher Education and K-12 Settings. In *Learning, Design, and Technology: An International Compendium of Theory, Research, Practice, and Policy* (pp. 3107–3135). Springer. https://doi.org/10.1007/978-3-319-17461-7_31
- Han, J., & Gao, C. (2023). University Teachers' Well-Being in ICT-Enhanced Teaching: The Roles of Teacher Self-Efficacy and Teaching Support. *Australasian Journal of Educational Technology*, 39(6), 89–104. <https://doi.org/10.14742/ajet.8868>
- Henline-Hall, J. (2024). Introduction to Quantitative and Qualitative Research Methods. *Radiologic Technology*, 96(1).
- Lepistö, K., Saunila, M., & Ukko, J. (2024). Enhancing Customer Satisfaction, Personnel Satisfaction and Company Reputation with Total Quality Management: Combining Traditional and New Views. *Benchmarking: An International Journal*, 31(1), 75–97. <https://doi.org/10.1108/BIJ-12-2021-0749>
- Liesa-Orús, M., Latorre-Coscolluela, C., Sierra-Sánchez, V., & Vázquez-Toledo, S. (2023). Links Between Ease of Use, Perceived Usefulness and Attitudes Toward Technology in Older People in University: A Structural Equation Modelling Approach. *Education and Information Technologies*, 28(3), 2419–2436. <https://doi.org/10.1007/s10639-022-11292-1>
- Loku, A., & Loku, N. (2024). Management Optimizing Healthcare Delivery Through Advanced Information System Management: A Financial and Operational Perspective for Kosovo's Healthcare Sector. *Pakistan Journal of Life & Social Sciences*, 22(2). <https://doi.org/10.57239/PJLSS-2024-22.2.0063>
- Makwana, D., Engineer, P., Dabhi, A., & Chudasama, H. (2023). Sampling Methods in Research: A Review. *International Journal of Trend in Scientific Research and Development*, 7(3), 762–768.
- Mastana, A. S. (2025). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). *Wisdom Journal of Humanities and Social Sciences*, 2(1), 62–64.

- Mbodila, M., & Elegbeleye, F. (2025). Evaluating Student Activity and Learning on Moodle: A Data-Driven Analysis and Insights of Usage Reports. *Studies in Learning and Teaching*, 6(2), 556–569. <https://doi.org/10.46627/silet.v6i2.623>
- Melgis, S. A., Aryani, R., Lestari, D., & Abdunazar, M. N. A. (2024). Analyzing the Quality of Academic Information Systems on System Success. *INTENSIF: Jurnal Ilmiah Penelitian dan Penerapan Teknologi Sistem Informasi*, 8(1), 144–165. <https://doi.org/10.29407/intensif.v8i1.21512>
- Mishra, V. P., & Purohit, H. (2025). ICT-Enabled Information Management System (IMS) in Educational Organizations. In *2025 International Conference on Computational Intelligence and Knowledge Economy (ICCIKE)* (pp. 603–608). IEEE. <https://doi.org/10.1109/ICCIKE67021.2025.11318254>
- Mugenda, O. (2023). Research Methods: Quantitative and Qualitative Approaches. <https://consensus.app/papers/research-methods-quantitative-and-qualitative-mugenda/e73a41afd651572082fa6030756eacb6/>
- Mukul, E., & Büyüközkan, G. (2023). Digital Transformation in Education: A Systematic Review of Education 4.0. *Technological Forecasting and Social Change*, 194, 122664. <https://doi.org/10.1016/j.techfore.2023.122664>
- Oliveira, K. K. S., & De Souza, R. A. C. (2022). Digital Transformation Toward Education 4.0. *Informatics in Education*, 21(2), 283–309. <https://doi.org/10.15388/infedu.2022.13>
- Papiorek, K. L., & Hiebl, M. R. W. (2024). Information Systems Quality in Management Accounting and Management Control Effectiveness. *Journal of Accounting & Organizational Change*, 20(3), 433–458. <https://doi.org/10.1108/JAOC-09-2022-0148>
- Ramos, D. L. T. (2025). Quality Assurance Information System for State Universities and Colleges in the Philippines. In *World Conference on Information Systems for Business Management* (pp. 115–126). Springer. https://doi.org/10.1007/978-3-032-13006-8_12
- Ringle, C. M., Sarstedt, M., Sinkovics, N., & Sinkovics, R. R. (2023). A Perspective on Using Partial Least Squares Structural Equation Modelling in Data Articles. *Data in Brief*, 48, 109074. <https://doi.org/10.1016/j.dib.2023.109074>
- Rusilowati, U., Narimawati, U., Wijayanti, Y. R., Rahardja, U., & Al-Kamari, O. A. (2024). Optimizing Human Resource Planning Through Advanced Management Information Systems: A Technological Approach. *Aptisi Transactions on Technopreneurship (ATT)*, 6(1), 72–83. <https://doi.org/10.34306/att.v6i1.390>
- Saputra, D. E. E., Rahma, V. M., Eliyana, A., Pratama, A. S., Anggraini, R. D., Mohd Kamil, N. L., & Ismail, I. (2023). Do System Quality and Information Quality Affect Job Performance? The Mediation Role of Users' Perceptions. *PLOS ONE*, 18(6), e0285293. <https://doi.org/10.1371/journal.pone.0285293>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research* (pp. 587–632). Springer. https://doi.org/10.1007/978-3-319-57413-4_15
- Sholeh, M., Widodo, B. S., & Putra, B. A. W. (2024). Evaluating the Implementation of the Independent Curriculum Policy in Indonesia: Sentiment Analysis. *Studies in Learning and Teaching*, 5(1), 1–10. <https://doi.org/10.46627/silet.v5i1.219>

- Subhaktiyasa, P. G. (2024). PLS-SEM for Multivariate Analysis: A Practical Guide to Educational Research Using SmartPLS. *EduLine: Journal of Education and Learning Innovation*, 4(3), 353–365. <https://doi.org/10.35877/454RI.eduline2861>
- Sun, T., & Yoon, M. (2025). The Impact of Digital Transformation on Faculty Performance in Higher Education: The Mediating Role of Digital Self-Efficacy and the Moderating Role of Task-Technology Fit. *Frontiers in Psychology*, 16, 1693375. <https://doi.org/10.3389/fpsyg.2025.1693375>
- Tri, N. M., & Hoang, P. D. (2023). The Impact of Digital Transformation in Higher Education: The Case Study from Vietnam. *Journal of Higher Education Theory & Practice*, 23(5). <https://doi.org/10.33423/jhetp.v23i5.5922>