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The Role of User Competence Moderation in the Influence of Management Information Systems on Performance

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Abstract: *This article aims to analyse how user competency moderates the performance of FEB lecturers in a management information system at the Islamic University of Malang. The research sample consists of 45 permanent lecturers. Questionnaires were distributed via Google Forms as direct data collection from respondents. The data were then analysed using Structural Equation Modelling Partial Least Squares (SEM-PLS), which was then used to answer the research hypothesis. The results showed that both the management information system and user competence have a significant effect on lecturer performance. However, user competence does not moderate the influence of management information systems on lecturer performance. Implications for further research suggest comparing the performance of lecturers at other universities.*

Keywords: *Management Information System, User Competence, Lecturer Performance, SISFO.*

Abstract: *Tujuan artikel ini untuk menganalisis system informasi manajemen yang dimoderasi oleh kompetensi pengguna terhadap kinerja dosen FEB pada Universitas Islam Malang. Sampel penelitian sebanyak 45 dosen tetap. Kuesioner disebarkan melalui google form sebagai pendataan langsung dari responden. Selanjutnya data dianalisis dengan menggunakan Structural Equation Modeling Partial Least Square (SEM-PLS), yang kemudian digunakan untuk menjawab hipotesis penelitian. Hasil penelitian menunjukkan system informasi manajemen berpengaruh signifikan terhadap kinerja dosen, kemudian kompetensi pengguna berpengaruh signifikan terhadap kinerja dosen dan kompetensi pengguna tidak memoderasi pengaruh antara system informasi manajemen terhadap kinerja dosen. Implikasi untuk penelitian lebih lanjut menyarankan membandingkan kinerja dosen di Universitas lain.*

Keywords: Sistem Informasi Manajemen, Kompetensi Pengguna, Kinerja Dosen, SISFO.

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INTRODUCTION

The development of information technology is recognised as contributing to improved performance, as activities or work can be carried out more quickly and accurately (Aini et al., 2022). The manifestation of information technology development in organisations is the application of information systems in organisational activities. An information system is a collection of integrated and interconnected elements for data processing, information flow, and the results of the decision-making process (Nisrina et al., 2024). A sound information system will increase productivity, provide added value from activities, improve services, and facilitate the decision-making process for management. Therefore, information development is increasingly necessary to enhance work effectiveness and efficiency (Diawati et al., 2023).

The importance of information systems is evident in their ability to improve the performance of all types and sizes of institutions, as well as in supporting and facilitating decision-making processes and strengthening collaborative work between teams, which leads to strengthening the competitive position of the organisation in the market in which it operates (Alotaibi, 2021). Management information systems contribute to improving performance levels, especially in strategic and tactical decision-making, through the timely provision of information, which also serves to optimise the use of these systems and their various tools (Hamdat et al., 2024). On the other hand, performance is the lifeblood of an organisation, which, through follow-up, improvement, and development, provides the ability for organisations and their employees to adapt to the work environment and explore the gaps resulting from violations of standards and address these shortcomings efficiently and effectively (Lestari & Deviastri, 2025).

Management Information Systems play a significant role in facilitating the exchange of data between data processing facilities and employees as users (Hasanah et al., 2024). This relationship is integrated into the process of data collection, processing, storage, feedback, and distribution to both internal and external organisations. Employee performance is critical because it shows the extent of an employee's ability to carry out the tasks assigned to them (Rahmadila, 2021). Optimal performance does not just happen or occur by itself, but there are crucial factors that have a substantial impact on performance improvement (Bunteng, 2022). Performance management's development has fundamentally altered the nature of business and given companies that recognise and comprehend the relevant impact of management information systems a competitive edge (Okeke, 2021).

The grand theory underlying this research can be best explained through the Information Systems Success Model DeLone & McLean (1992), which provides a comprehensive framework for evaluating how information systems contribute to organisational performance. This model emphasises that system quality, information quality, and service quality influence system usage and user satisfaction, which in turn affect both individual and organisational performance. In the context of this

study, the Management Information System (MIS) functions as the technological resource whose effective use can enhance lecturer performance. At the same time, user competence represents the human factor that determines how effectively lecturers can operate and maximize the benefits of the MIS. The study also aligns with the Socio-Technical Systems Theory, which highlights the interdependence between technology and human capabilities in producing optimal outcomes (Appelbaum, 1997). Additionally, elements of the Ability Motivation Opportunity (AMO) Theory from Bos-Nehles et al. (2023) are reflected in the role of user competence as an aspect of ability, while MIS provides the opportunity for lecturers to perform effectively. Thus, by drawing from these theoretical perspectives, the research situates its framework in understanding how MIS and user competence together influence performance, with the Information Systems Success Model serving as the primary grand theory foundation. Ma'rifat et al. (2024) showed that a website-based lecturer performance assessment system significantly improved both evaluation efficiency and human resource development in higher education. Similarly, Rachman et al. (2025) highlighted that optimizing accounting and remuneration information systems enhanced the performance of lecturers by increasing transparency and reducing administrative burdens.

In line with this, Abdullah et al. (2025) emphasized that digital training in MIS contributes to better academic staff performance by strengthening digital literacy and efficiency in handling institutional processes. Costaa et al. (2024) also demonstrated that MIS supports coordination between administration and lecturers, ultimately enhancing institutional performance. From a broader perspective, Zoubi et al. (2025) revealed that MIS-based knowledge management systems improve innovation performance within universities by enabling better knowledge sharing among academic staff. Junwei & Duraipandi (2025) further found that MIS supports collaborative management practices, which in turn elevate organizational effectiveness in educational institutions.

From the perspective of the Information Systems Success Model DeLone & McLean (1992) System quality and information quality enhance performance only when users can effectively interact with the system. There are several studies that have been conducted previously about the effect of system information management to performance with user competence as a moderating factor, including: Mudzakkir & Mardjono (2025) found that information technology competence moderates the relationship between user participation and the success of accounting information systems, which directly affects organizational performance.

The study on the role of user competence in moderating the effect of management information systems (MIS) on lecturer performance at the Islamic University of Malang highlights several research gaps that future studies could address. First, the findings show that user competence does not moderate the effect of MIS on performance, suggesting that other factors such as organizational culture, motivation, rewards, or technological infrastructure may play a more significant role. Second, the scope is limited to a single institution with a small sample, which restricts the generalizability of the results and leaves room for comparative studies across universities, regions, or academic settings. Third, the study focuses narrowly on MIS, competence, and performance, overlooking other variables that might influence performance, such as leadership style, workload, or organizational support. Additionally, the research relies solely on quantitative methods (SEM-PLS with

questionnaires), missing the qualitative depth needed to understand lecturers' experiences and perceptions of MIS adoption. The technological aspect of the MIS is also not explored in detail, leaving unclear which features or functions are most critical for performance improvement. Moreover, the study is cross-sectional, offering no insights into the long-term impact of MIS usage on lecturer performance. Altogether, these gaps suggest opportunities for future research to expand the scope, include more diverse variables, apply mixed-method approaches, and explore the system features and longitudinal effects of MIS on academic performance.

The rapid advancement of information technology has transformed organizational operations, enabling faster, more accurate, and efficient work performance. Within this digital landscape, the management information system plays a vital role in integrating data processing, decision-making, and communication to enhance productivity and service quality (Nisrina et al., 2024). A management information system not only supports operational and strategic decision-making but also strengthens collaboration and institutional competitiveness (Alotaibi, 2021). In higher education, the effective use of a management information system facilitates data management, administrative efficiency, and academic performance improvement. For lecturers, the management information system provides tools to manage teaching, research, and reporting processes more effectively. However, the success of management information system implementation depends significantly on user competence, the skills, knowledge, and attitudes required to utilize technology optimally (DeLone & McLean, 2003). The study investigates whether user competence moderates the influence of management information systems on lecturer performance. This research has a theoretical contribution to refine the Information Systems Success Model by testing the moderating role of user competence in the MIS-performance link within higher education institutions. On the other hand, practical contributions offer insights for university management to enhance lecturer performance through MIS optimization and targeted user competence development programs.

LITERATURE REVIEW

Management Information System

Management Information Systems (MIS) are broadly defined as integrated frameworks that combine people, processes, data, and technology to support organizational operations and managerial decision-making. K. Laudon & Laudon (2020) emphasize that MIS not only provides accurate, timely, and relevant information but also serves as a strategic resource for firms seeking efficiency and competitive advantage. Theoretical perspectives such as the Resource-Based View (Barney & Clark, 2007) and the Technology Acceptance Model (Venkatesh et al., 2003) explain why MIS adoption and effectiveness depend on the alignment of technical solutions with organizational needs, user acceptance, and resource capabilities. Over time, MIS has evolved from basic transaction processing and reporting systems into complex enterprise solutions, business intelligence platforms, and, more recently, cloud-based and AI-driven systems (Ralph Stair & Reynolds, 2020). Empirical studies consistently show that MIS improves decision quality, reduces costs, enhances process integration, and strengthens strategic agility, though these benefits are often moderated by factors such as top-management support, user competence, and data quality (DeLone & McLean, 1992); (Almajali et al., 2016).

At the same time, challenges persist in areas of strategic alignment, change management, data governance, and cybersecurity, especially as organizations increasingly rely on distributed and digital platforms**.** Current trends in MIS research and practice emphasize cloud computing, big data analytics, real-time information flows, and ethical considerations such as fairness, transparency, and privacy in automated decision-making (Dwivedi et al., 2021); (Riggins & Wamba, 2015). Despite substantial progress, research gaps remain in understanding MIS value realization over time, integration of AI into managerial work, adoption by small and medium enterprises, and the socio-ethical implications of digital systems in diverse cultural contexts. Overall, MIS continues to play a central role in shaping how organizations operate and compete, making it a critical area for both scholarly inquiry and practical application.

H1: The implementation of management information systems has a significant effect on lecturer performance.

Performance

Employee performance is a central topic in organizational research, generally defined as the extent to which employees successfully complete their tasks and contribute to overall organizational goals. The literature identifies it as a multidimensional construct, encompassing task performance, contextual performance, and adaptive performance. Several theoretical foundations help explain employee performance. Motivation theories such as Maslow's hierarchy of needs, Herzberg's two-factor theory, and Vroom's expectancy theory highlight the role of needs fulfillment, motivators, and effort–reward expectations in shaping employee outcomes. The Job Characteristics Model (Hackman & Oldham) emphasizes how autonomy, task significance, and feedback enhance performance, while leadership theories and organizational behavior concepts such as Leader–Member Exchange (LMX), job satisfaction, and organizational citizenship behavior (OCB) also play a critical role. Empirical studies consistently show that both individual factors (skills, motivation, personality, stress management) and organizational factors (leadership style, culture, compensation, training, work environment) significantly affect performance. For example, research demonstrates that transformational leadership, supportive organizational culture, and fair compensation increase employee motivation, which in turn leads to higher performance. Meanwhile, job satisfaction and employee engagement act as mediators between organizational practices and performance outcomes. Despite the breadth of studies, gaps remain, particularly in longitudinal analyses, research on small and medium-sized enterprises (SMEs), and investigations into contextual influences such as culture and technology adoption. With the rise of digitalization, remote work, and artificial intelligence, scholars also point to the need for examining how technology and employee well-being interact with performance. Overall, the literature suggests that employee performance is shaped by a complex interplay of individual, organizational, and contextual factors, making it an essential focus for both theory and practice.

Recent studies continue to highlight that employee performance is influenced by a wide range of organizational and individual factors. For instance, Wulandari and Dara (2023) show that work environment, workload, and motivation are critical drivers of employee performance in healthcare organizations, reflecting the

importance of supportive conditions and balanced demands. Similarly, Hasugian, Absah, and Sembiring (2024) emphasize that competence and organizational culture play significant roles, with job satisfaction mediating the relationship between these factors and employee outcomes. Research in Indonesian SMEs also demonstrates that leadership and performance satisfaction influence the effectiveness of human resource practices (Listiani & Apriliyani, 2024). In addition, Situmorang and B (2024) found that job satisfaction remains a strong predictor of employee performance, supporting earlier organizational behavior theories. From a strategic perspective, Darul Wiyono et al. (2025) highlight that ESG-driven human resource practices are emerging as a framework for enhancing performance while ensuring sustainable organizational growth. Moreover, Fauziah and Panjaitan (2025) show that employee loyalty mediates the effect of organizational practices on performance in electronic manufacturing industries, underlining the importance of retention and commitment. Collectively, these recent findings reaffirm that employee performance is shaped by both internal motivators and external organizational practices, while also pointing toward new themes such as sustainability and employee loyalty as crucial dimensions in the contemporary workplace.

User Capability

Meanwhile, the use of information technology depends on humans, because it is humans who operate it; technology is only the medium. In using information technology applied in companies, the ability of the employees who use it is required. If employees have limited ability to use information technology, it can impact their ability to perform their work. This will then affect the performance of the lecturer.

The purpose of information technology is to solve problems, unlock creativity, and increase effectiveness and efficiency for its users. Although information technology has sophisticated functions that can simplify human work, its effectiveness depends on human capabilities to use it properly.

H2: User ability moderates the influence of management information system implementation on lecturer performance.

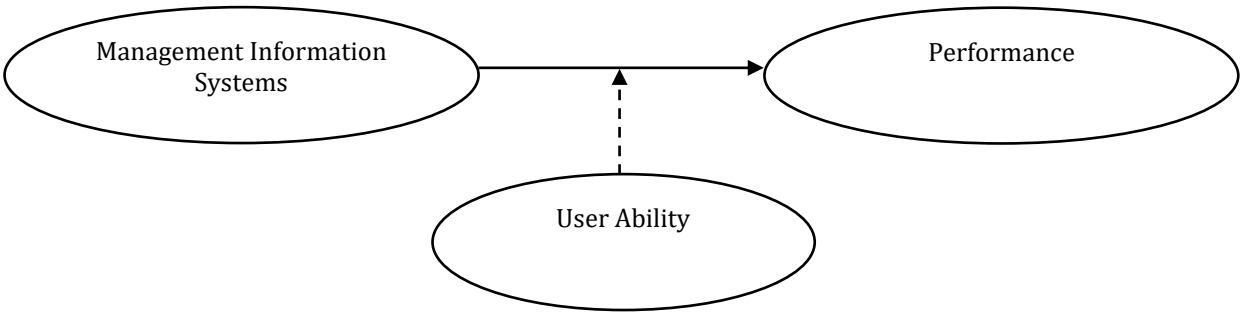

Figure 1. Research Framework

RESEARCH METHODS

This study employs quantitative research. The research population used is all lecturers at the Islamic University of Malang. Because the population size is known

with certainty, this study uses *random sampling* techniques because all members of the population have the same opportunity to be sampled. Thus, a sample of 450 people was obtained by using 15% of the population, resulting in 67.5, so the number of questionnaires distributed was 68. However, only 47 questionnaires were ready for processing. The research instrument used was a questionnaire with a Likert scale and was distributed using Google Forms.

The management information system was adopted from Kadir (2003) using indicators of increased system speed, security, time efficiency, effectiveness, and lower costs. Furthermore, the user competency variable was adopted from Robbin & Judge (2008) with indicators of knowledge, *attitude*, and expertise. Finally, the lecturer performance variable was adopted from Robbin & Judge (2008) with indicators of quality, quantity, effectiveness, and timeliness. The data analysis technique used is *structural equation modelling* (SEM-PLS) using the SmartPLS 3 application. The testing includes model evaluation (*Outer Model*) using algorithms and conducting validity and reliability tests, followed by a structural model (*Inner Model*) using bootstrapping, which includes hypothesis testing and model fit.

RESULT AND DISCUSSION

Measurement Model Evaluation (Outer Model)

The outer model is a measurement model to evaluate the validity and reliability of the model. Through an iterative algorithm process, measurement model parameters (convergence value, discriminant value, composite reliability, and Cronbach's alpha) were obtained, including the R^2 value as a parameter of the prediction model's accuracy (Abdillah & Jogiyanto, 2015).

Validity Test

Convergent Validity

Table 1. Validity Test Results

Indicator	Loading Factor	Conclusion
X1.1	0.918	Valid
X1.2	0.909	Valid
X1.3	0.849	Valid
X1.4	0.851	Valid
X1.5	0.828	Valid
Z.1	0.755	Valid
Z.2	0.774	Valid
Z.3	0.817	Valid
Z.4	0.823	Valid
Z.5	0.815	Valid
Z.6	0.823	Valid
Z.7	0.706	Valid
Z.8	0.736	Valid

Indicator	Loading Factor	Conclusion
Y.1	0.827	Valid
Y.2	0.805	Valid
Y.3	0.784	Valid
Y.4	0.744	Valid

Source: Processed data, 2024

The results of the convergent validity test on *the outer model* can be seen in Table 1 above, which involves all variables (E-CRM, *satisfaction*, and *loyalty*). Each variable has a loading factor value greater than 0.70, so it can be concluded that all constructs are valid.

Discriminant Validity

After testing validity using the *outer loading factor* value, which has met the requirements, we then look at the *Average Variance Extracted* (AVE) value. Construct validity testing is seen in the AVE value, which is required to be > 0.5, and discriminant validity is seen from the square root of the AVE for each variable, which is greater than the correlation between variables in the model. After testing using SmartPLS 3.0, the results can be presented as follows.

Table 2. Average Variance Extracted

Variable	AVE	Results
SIM	0.760	Valid
User Competence	0.612	Valid
Performance	0.611	Valid

Source: Processed data, 2024

Based on Table 2, it is known that the AVE values for each construct meet the validity criteria. This is indicated by AVE values greater than 0.50, in accordance with the recommended criteria.

Reliability Test

Next, the reliability test in the actual study was based on the *composite reliability* value*.* Based on the advice from Ghozali and Latan (2015), who noted that the Cronbach's alpha value produced by PLS is underestimated, the composite reliability and Cronbach's alpha values were used in the reliability test*.* Indicators are considered reliable if they have *composite reliability* and *Cronbach's alpha* values greater than 0.7. The following are the reliability test results from SmartPLS 3.0.

Next, the reliability test in Table 3 shows that the E-CRM variable has a *Cronbach's alpha* value of 0.951, *satisfaction* 0.815, and *loyalty* 0.862 > (0.70) and a *composite reliability* value > 0.70. It can therefore be concluded that the constructs in this study are reliable.

Table 3. Reliability Test Results

	Cronbach's Alpha	*Composite Reliability*	Conclusion
SIM	0.921	0.940	Reliable
User Competence	0.909	0.926	Reliable
Performance	0.789	0.863	Reliable

Source: Processed data, 2024

Structural Model (Inner Model)

This *inner model* analysis was conducted to determine how independent variables can predict and measure dependent variables, to examine the effect of independent variables on dependent variables, and to test hypotheses. This can be seen and used in data analysis techniques using SmartPLS 3.3.3 *software* to assess the model. In this case, it is the R^2 value and hypothesis testing. The following are the results of the structural model, which can be seen in Figure 1 below.

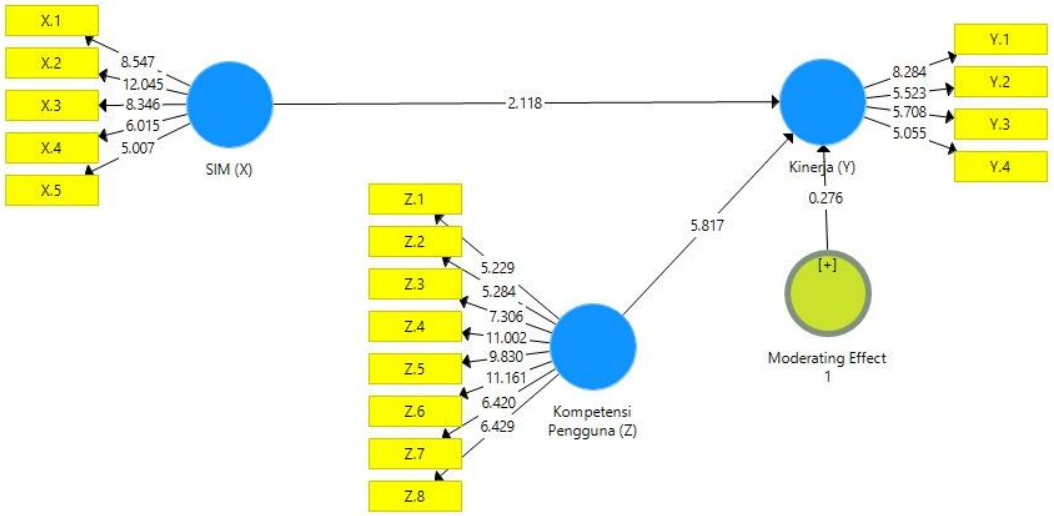

Figure 2. PLS Analysis Results

SIM has a significant effect on performance, as evidenced by the t-statistic value of 2.118> 1.96 and a p-value of 0.035, which is less than 0.05. In other words, the better the SIM (SISFO) at the Islamic University of Malang, the higher the performance of the lecturers. Therefore, H1 is accepted.

Table 4. Direct Effects

	Path Analysis	Original Sample	T-statistic	P-Value	Description
H_1	SIM → Performance	0.303	2.118	0.035	Significant
H_2	Competence→ Performance	0.703	5,817	0.000	Significant

Source: Processed data, 2024

User competence has a significant effect on lecturer performance, as evidenced

by a t-statistic value of 5.817> 1.96 and a p-value of 0.000, which is less than 0.05. In other words, the better the user competence of lecturers in using SISFO, the more significantly it can improve the performance of those lecturers. Therefore, H2 is accepted.

Furthermore, the PLS model is assessed through the *R-squared* of each independent variable. Table 5 shows the *R-square* values obtained from data analysis with SmartPLS.

Table 5. *R-square*

Variable	*Adjusted R-square*	Description
Performance	0.892	Strong

Source: Processed data, 2024

Furthermore, this study uses one independent variable that is influenced, namely, performance. Table 5 shows that the *adjusted R-squared* value for the performance variable is 0.892, which can be categorised as strong.

Then, in testing *the goodness of fit* of the structural model in *the inner model*, the *Q-Square predictive-relevance* (Q^2) value is used. $Q^2= 1–(R^2)$. The R-square value for the endogenous variable in this study, the performance variable, is 0.892. So the *Q-Square predictive-relevance* value is 89.2 per cent. From the above formula, it can be seen that with a *predictive-relevance* value of 89.2%, the model in this study can be concluded to be feasible. Furthermore, the *predictive relevance* value of 89.2% indicates that there is 89.2% variation in the research data. Meanwhile, the remaining 10.8% is explained by other variables (not yet contained in the model) and errors. This result indicates that the PLS model formed is good because it can explain 89.2% of the overall information.

Moderation Effect

Table 6 shows that, based on the *total effect* table of the *bootstrapping* iteration results in the sixth hypothesis, the t-statistic value of the moderating variable is 0.276< 1.96, which means that user competence is unable to moderate the effect of SIM on performance, so the hypothesis for the moderating effect is rejected. Therefore, it can be concluded that good user competence does not affect the influence of SIM on the performance of lecturers at the Islamic University of Malang. Thus, H4 is accepted.

Table 6. Total Effect

Hypothesis	Moderation	Description
Total Effect (t-statistic)	User Competence	
SIM and Performance	0.276	Not Significant

Source: Processed data, 2024

Discussion

Management Information Systems on Performance

Based on the results of hypothesis testing, it is known that SIM has a significant

effect on the performance of UNISMA lecturers, so it can be concluded that hypothesis 1 (H1) is accepted. Management is required in order to create and optimize capabilities and performance. Implementing a Management Information System is one of the policies put in place to increase an organization's productivity and effectiveness (Syavera et al., 2024). Planning, monitoring, directing, and processing information in a way that adds value and significance for the organization are all included in MIS, which is often defined as information processing. The Management Information System's implementation is expected to produce human resources with effective, efficient, and closely monitored performance (Detlor, 2010). According to (Hariyanto, 2018) Management Information System (MIS) is a structured framework that organizes and analyzes data and information to facilitate organizational task performance. It is impossible to overestimate the importance of MIS in improving worker performance because it speeds up workflows, increases productivity, and improves accuracy (Sutjahjo et al., 2021).

The accepted hypothesis suggests that the SIM owned by UNISMA, in the form of SISFO, can influence lecturers' performance; the better the SIM management, the better the performance of lecturers. Based on the results of descriptive statistical analysis, it is known that the average response value of respondents regarding the SIM owned by UNISMA, namely SISFO, mostly agreed with the statements presented in the questionnaire. Therefore, this study empirically proves that the SIM owned by UNISMA, namely SISFO, can influence lecturer performance. The positive coefficient value indicates that the better the management of the SIM in the form of SISFO, the higher the performance of lecturers.

Utilizing Management Information Systems (MIS) has become essential to supporting organizational operations in the quickly changing digital age. Through more structured data management and analysis, MIS helps businesses increase productivity and effectiveness and attain the best possible outcomes (K. C. Laudon & Laudon, 2020) While effectiveness refers to how an organization can accomplish its stated goals with the assistance of an integrated information system, high efficiency can be attained through workflow automation, less administrative errors, and improved resource utilization (Turban et al., 2018). As a result, it is now more important than ever to do MIS research to determine how much this system enhances corporate efficiency.

Management information systems are essential in a company because they play a significant role in the company's development. A company is vulnerable to decline if it does not have a management information system. Conversely, a company has the potential to grow if it has a sound management information system. The dominant culture in a company has a strong influence on members of the organization, which means that this culture will support management in successfully implementing company strategies because the company culture becomes a guideline for the behavior of members of the organization in order to achieve company targets by improving coordination and control within the company (Hofstede et al., 1990; Indriantoro, 2000). The results of this study support the results of previous research by (Syavera et al., 2024); (Gupron et al., 2024).

There is an increasing need for businesses in the public and commercial sectors to assist strategic decision-making by becoming more technologically savvy. Management can create more focused policies with the use of accurate and up-to-date data from a well-designed and implemented MIS (R. Stair & Reynolds, 2021). In

order to help academics and practitioners create more effective MIS implementation techniques that are suited to organizational demands, this study will provide more thorough insights.

User Competence on Performance

Based on the results of hypothesis testing, it is known that user competence has a significant effect on lecturer performance, so it can be concluded that hypothesis 2 (H2) is accepted. The accepted hypothesis indicates that the user competence possessed by UNISMA lecturers significantly affects their performance; the better the user competence possessed by lecturers, the higher their performance. Based on the results of descriptive statistical analysis, it is known that the average response value of respondents regarding the user competence possessed by lecturers mostly agreed with the statements presented in the questionnaire. Therefore, this study empirically proves that the user competence possessed by UNISMA lecturers can affect their performance. The positive coefficient value indicates that the better the user competencies possessed by UNISMA, the higher the performance of its lecturers.

Employee competencies must always be improved in order to fulfill the organization's vision and objective. Every company wants to succeed, and having good staff is essential to achieving this goal. Competencies are made up of a variety of traits that influence behavior. Human resources are one of the determining factors for an organization's success or failure in achieving goals, so having highly competent employees is essential because they will be able to support the improvement of employee performance and help the organization achieve its goals (Ghufron et al., 2023); (Mildawani, 2023).

Although the company wants every person to work to the best of their abilities, some data indicate that the organization is not receiving the best performance outcomes. This is due to the fact that each employee's lack of competency prevents them from meeting the required workload. This condition has an effect on both employee and company performance; in other words, the more competencies a person possesses, the more committed they are to the organization in order to boost corporate performance (Sirait et al., 2022).

Competence enables employees to use organizational resources more effectively, engage with technology in a meaningful way, and solve problems independently. (Chou & Chang, 2008) showed that user competence significantly affects the benefits employees gain from enterprise systems, directly boosting performance outcomes. Studies on technology adoption, such as (Venkatesh et al., 2012) further highlight competence as a predictor of perceived usefulness and actual performance. Moreover, research emphasizes that competence is not static it grows with continuous training and learning, which in turn sustains performance over time (DeLone & McLean, 2003); (Markauskaite, 2007). The results of this study support the research by (Ibrahim & Isa, 2021) demonstrated that competence improves performance indirectly by enhancing employee engagement, and (Sutanto, 2020) confirmed competence as a key factor alongside motivation in driving work outcomes.

The Effect of Management Information Systems on Performance Moderated by User Competence

The results of this study indicate that user competence is not able to moderate

the relationship between SIM use and performance. These results illustrate that user competence weakens the influence of SIM use on performance. This means that even with good user competence, it is not possible to reduce the influence of SIM use on the performance of lecturers at the Islamic University of Malang. The results of this study present new findings that differ from previous ones. This result is because lecturers already have good competence in using SIM, so it cannot strengthen its influence on lecturer performance. With competence in using SIM, it cannot improve performance through user competence.

Management Information Systems (MIS) have been widely recognized as crucial tools for improving organizational and employee performance by enhancing decision-making, information flow, and operational efficiency. However, research consistently shows that the effectiveness of MIS in driving performance is not uniform, as it is significantly moderated by user competence. Employees with high levels of competence—encompassing technical skills, digital literacy, and problem-solving abilities—are more capable of utilizing MIS to its full potential, thereby translating system capabilities into higher productivity, accuracy, and innovation. Conversely, employees with low competence may struggle to use MIS effectively, which reduces the system's intended benefits and can even hinder performance. Studies by (Chou & Chang, 2008) and (DeLone & McLean, 2003) underline that user competence determines the extent to which MIS contributes to organizational outcomes. MIS alone does not guarantee improved performance; rather, it is the interaction between system implementation and user competence that drives success. Thus, organizations must not only invest in MIS but also in continuous training and competence development to maximize performance outcomes. Recent studies have highlighted that the impact of Management Information Systems (MIS) on organizational and employee performance is strongly influenced by user competence. These recent findings confirm that MIS alone does not guarantee performance improvements; rather, the system's effectiveness is moderated by the level of user competence, making employee training and digital skill development strategic priorities for organizations in the digital era.

CONCLUSION

This study found that management information systems are proven to directly improve lecturer performance, but management information systems moderated by user competence do not have a significant effect on performance. These results indicate that effective implementation of management information systems enhances the efficiency, accuracy, and productivity of lecturers' work, while user competence contributes positively by enabling individuals to utilize technology more effectively in teaching, research, and administrative tasks. However, the study also revealed that user competence does not moderate the relationship between management information systems and performance. This suggests that competence alone cannot strengthen the impact of management information systems once users reach a sufficient level of digital proficiency. Other organizational factors, such as culture, motivation, infrastructure, and institutional support, may have a more substantial influence in enhancing the effectiveness of MIS.

Furthermore, for future research, it is also recommended to add other mediating variables, such as rewards and compensation, in order to explore more deeply the variables that can improve lecturer performance. The findings of this

study provide several important theoretical contributions to the field of management information systems and performance management. First, the research extends the information systems success model by DeLone & McLean (2003) by examining the moderating role of user competence in the relationship between management information systems and lecturer performance. Second, the study contributes to the socio-technical systems theory that the interaction between technology and human capability does not always produce synergistic effects; rather, the technological infrastructure itself may drive performance independently when user competence has reached a functional threshold. Third, the findings align with and extend the ability-motivation-opportunity framework (Bos-Nehles et al., 2023), emphasizing that ability alone is insufficient to enhance performance through technology use. Other elements, such as motivation, organizational support, and opportunity structures, are likely to have stronger moderating roles.

From a practical perspective, this study provides several actionable insights for university administrators and policymakers. The significant direct effect of management information systems on lecturer performance underscores the importance of investing in high-quality, user-friendly information systems to academic and administrative needs. Although user competence did not moderate the relationship, its direct positive influence on performance highlights the ongoing necessity of continuous digital training and professional development to maintain lecturers' technological readiness. University management should also focus on improving the usability, accessibility, and integration of management information systems platforms to minimize barriers to effective use. Moreover, institutional strategies should not rely solely on improving technical skills; they must be complemented by motivational incentives, organizational culture, and IT support systems to sustain high performance levels. Practically, the evidence supports the allocation of resources toward both infrastructure improvement and human resource development, ensuring that digital transformation initiatives contribute meaningfully to teaching, research, and administrative efficiency in higher education institutions.

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