Determinants of Lecturer Performance through Competencies, Leadership, Academic Culture, and Technology Mastery

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ABSTRACT

Lecturer performance is a central factor in improving the quality of higher education, as it reflects the ability of educators to fulfill the Tri Dharma of Higher Education. Previous studies have often measured lecturer performance using reflective indicators, but limited research has examined performance through formative indicators, particularly in the context of private universities. This study aims to determine, analyze, and measure the direct and indirect effects of leadership, academic culture, competence, and technology mastery on lecturer performance. The research employed a quantitative approach using Structural Equation Modeling–Partial Least Squares (SEM-PLS). A total of 410 lecturers from private universities in Jambi Province were selected as respondents. The analysis results showed that six of the ten proposed hypotheses were supported. Academic culture, technology mastery, and competence had significant direct effects on lecturer performance. Furthermore, academic culture and technology mastery demonstrated significant indirect effects on performance through competence. In contrast, leadership did not show a significant direct or indirect influence. The findings highlight that competence has the strongest impact on lecturer performance, with its effectiveness enhanced by supportive academic culture and technology mastery relevant to contemporary educational demands.

***Keywords**: Academic Culture, Competence, Formative Indicators, Leadership, Lecturer Performance, Technology Mastery.*

ABSTRAK

Kinerja dosen merupakan faktor sentral dalam peningkatan mutu pendidikan tinggi, karena mencerminkan kemampuan pendidik dalam memenuhi Tri Dharma Perguruan Tinggi. Penelitian-penelitian sebelumnya seringkali mengukur kinerja dosen menggunakan indikator reflektif, tetapi penelitian yang mengkaji kinerja melalui indikator formatif masih terbatas, terutama dalam konteks perguruan tinggi swasta. Penelitian ini bertujuan untuk mengetahui, menganalisis, dan mengukur pengaruh langsung dan tidak langsung kepemimpinan, budaya akademik, kompetensi, dan penguasaan teknologi terhadap kinerja dosen. Penelitian ini menggunakan pendekatan kuantitatif dengan Structural Equation Modeling–Partial Least Squares (SEM-PLS). Sebanyak 410 dosen dari perguruan tinggi swasta di Provinsi Jambi dipilih sebagai responden. Hasil analisis menunjukkan bahwa enam dari sepuluh hipotesis yang diajukan terdukung. Budaya akademik, penguasaan teknologi, dan kompetensi memiliki pengaruh langsung yang signifikan terhadap kinerja dosen. Lebih lanjut, budaya akademik dan penguasaan teknologi menunjukkan pengaruh tidak langsung yang signifikan terhadap kinerja melalui kompetensi. Sebaliknya, kepemimpinan

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tidak menunjukkan pengaruh langsung maupun tidak langsung yang signifikan. Temuan ini menyoroti bahwa kompetensi memiliki dampak paling kuat pada kinerja dosen, dengan efektivitasnya ditingkatkan oleh budaya akademis yang mendukung dan penguasaan teknologi yang relevan dengan tuntutan pendidikan kontemporer.

***Kata kunci**: Budaya Akademik, Kompetensi, Indikator Formatif, Kepemimpinan, Kinerja Dosen, Penguasaan Teknologi.*

INTRODUCTION

The success of a country's education system is a key indicator of its overall progress. Reports from the World Education Forum (WEF) highlight that advancements in education significantly contribute to development across various sectors, reflecting its critical role in national growth (Limbong et al., 2022; Muhammad et al., 2024). As education drives innovation and societal improvement, many countries, including Indonesia, prioritize its development to foster sustainable progress. In Indonesia, efforts to enhance education span primary, secondary, and tertiary levels, with higher education serving as a cornerstone for nurturing critical thinking and problem-solving skills. Lecturers, as key academic figures, play an essential role in this process by planning and delivering learning experiences, assessing outcomes, guiding students, and engaging in research and community service (Memon et al., 2020).

Higher education institutions face significant challenges in managing human resources effectively, particularly in ensuring lecturer professionalism (Midhat Ali et al., 2021; Serpa et al., 2022). Lecturers are expected not only to excel in teaching but also to demonstrate professionalism through research and publications in reputable journals. This demand for multifaceted competence underscores the need for robust human resource management strategies in universities to support lecturer performance. Lecturer performance is evaluated through the Tri Dharma of Higher Education, such as education, research, and community service, along with other factors that contribute to their functional roles (Ateş et al., 2020; Kuretchenko, 2024). However, achieving high performance requires supportive leadership, a strong academic culture, and proficiency in technology, which are critical in the context of modern educational demands.

The rapid changes brought by the Industrial Revolution 4.0 further emphasize the importance of visionary leadership and technological proficiency in education. Leaders must not only set future-oriented goals but also ensure that lecturers are equipped to meet contemporary demands, such as integrating digital tools into teaching and research (Mutaroh & Resmawa, 2019; Nanjundeswaraswamy & Divakar, 2021). By addressing these factors, this study aims to contribute to a deeper understanding of how to optimize lecturer performance in the context of private higher education institutions in Jambi Province.

Despite extensive research on lecturer performance, gaps remain in understanding how specific factors interact to influence outcomes, particularly in private universities. For instance, Memon et al. (2020) focused on reflective indicators for performance but overlooked formative indicators, which are more aligned with standardized frameworks like the Tri Dharma. Similarly, Ateş et al. (2020) explored leadership's role but did not examine its indirect effects through competence. Moreover, studies like those by Nazir et al. (2022) emphasized academic culture but rarely integrated technology mastery as a key determinant. This research gap highlights the need for a comprehensive model that examines both direct and indirect effects of leadership, academic culture, competence, and technology mastery on lecturer performance, particularly in the understudied context of private universities in Jambi Province.

In Jambi Province, part of the Higher Education Service Institution (*Lembaga Layanan Pendidikan Tinggi*/LLDIKTI) Region X, private universities exhibit relatively low educational performance. For example, only two professors are employed across these institutions, signaling limited academic achievement, and only one private university or

program has achieved superior accreditation, indicating a weak academic culture (Arifin, 2021; Muhajirin et al., 2023). Additionally, many lecturers hold only undergraduate qualifications, and research grant absorption remains low compared to other regions. These challenges underscore the urgency of investigating factors that can enhance lecturer performance. The objective of this study is to analyze and measure the direct and indirect effects of leadership, academic culture, competence, and technology mastery on lecturer performance, using competence as a mediating variable, to provide actionable insights for improving educational quality in private universities.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The Determinant of Lecturer Competence

Lecturer performance, as the outcome of carrying out the Tri Dharma of Higher Education, teaching, research, and community service, is shaped by skills, experience, and dedication (Putri et al., 2019; Retnowati et al., 2021). Leadership, defined as the ability to influence others toward shared goals, enhances motivation and competence through guidance and inspiration (Mulyati, 2017; Wihara, 2019; Aboramadan & Dahleez, 2020). Competence, encompassing the knowledge, skills, and behaviors required for professional practice, ensures effective academic responsibility and professionalism (Novriyanti, 2019; Garg et al., 2022). Moreover, academic culture, rooted in values, practices, and scholarly norms, strengthens academic quality, freedom, and objectivity, fostering an environment conducive to performance improvement (Nazir et al., 2022; Sunarti et al., 2025). In the digital era, technology mastery is also crucial, as it enables lecturers to optimize e-learning and academic processes through effective use of digital tools (Ridhawati, 2017; Kim et al., 2023).

Lecturer competence represents a crucial determinant of higher education quality, as it encompasses pedagogical, professional, social, and personality aspects that must be mastered by educators (Novriyanti, 2019; Garg et al., 2022). Leadership plays a strategic role in motivating lecturers to develop their abilities, since effective leaders can provide direction, inspiration, and individualized support. Visionary and transformational leadership styles have been proven to influence work outcomes by fostering engagement and encouraging professional development (Aboramadan & Dahleez, 2020; Putro et al., 2023). However, leadership effectiveness in building competence also depends on how leaders articulate intellectual motivation, which is sometimes found to be less impactful in practice (Mulyati, 2017; Ateş et al., 2020).

Academic culture is another key factor that shapes competence. A strong academic culture based on values of truth, objectivity, openness, and cooperation allows lecturers to continuously improve their knowledge and skills (Nazir et al., 2022; Rasdiana et al., 2024). Research indicates that lecturers working within supportive academic environments demonstrate stronger motivation and higher competence levels, particularly in teaching and research (Kustiningsih et al., 2022; Nainggolan et al., 2023). Academic culture thus acts as a foundation for the institutionalization of competence enhancement practices.

Equally important, technology mastery has emerged as a significant competence builder in the era of digital transformation. Mastery of digital tools, from office software to internet-based academic resources, enables lecturers to enhance pedagogical practices and research productivity (Ridhawati, 2017; Hutasuhut & Palahi, 2021). In particular, the ability to use online platforms for teaching and research has become indispensable in the post-pandemic higher education landscape (Shofia et al., 2021).

H1: Leadership has a significant effect on lecturer competence.
H2: Academic culture has a significant effect on lecturer competence.
H3: Technology mastery has a significant effect on lecturer competence.

The Determinant of Lecturer Performance

Lecturer performance is primarily assessed through the fulfillment of the Tri Dharma of Higher Education: education and teaching, research, and community service (Putri et al., 2019). Leadership is expected to play a pivotal role in directing performance by shaping vision and motivating lecturers to meet institutional goals. Transformational leadership, characterized by charisma, inspiration, and intellectual stimulation, has been shown to positively affect employee performance, including in academic settings (Aboramadan & Dahleez, 2020; Putro et al., 2023). Effective leadership provides not only authority but also guidance, enabling lecturers to better align their work with institutional objectives.

Beyond leadership, academic culture provides an institutional environment that directly influences lecturer performance. A vibrant academic culture fosters intellectual curiosity, collaboration, and responsibility, all of which enhance productivity in teaching and research (Nazir et al., 2022). Empirical studies highlight that lecturer immersed in strong academic cultures are more effective in meeting their professional obligations and achieving higher performance outcomes (Kustiningsih et al., 2022; Nainggolan et al., 2023).

Technology mastery also exerts a direct effect on performance. The ability to utilize digital tools, ranging from online learning platforms to advanced research databases, allows lecturers to enhance both teaching quality and research output (Setyadi & Taruk, 2019; Hutasuhut & Palahi, 2021). In the context of Industrial Revolution 4.0, technological competence is not only an added skill but a necessary condition for sustaining academic productivity (Mutaroh & Resmawa, 2019). The integration of e-learning and digital communication has demonstrated significant improvements in lecturer effectiveness, particularly during the COVID-19 pandemic (Wibowo, 2020).

H4: Leadership has a significant effect on lecturer performance.
H5: Academic culture has a significant effect on lecturer performance.
H6: Technology mastery has a significant effect on lecturer performance.

Lecturer Competence as a Determinant of Performance

Competence is widely acknowledged as a direct driver of performance outcomes in higher education. It reflects the integration of pedagogical, professional, social, and personality dimensions, which collectively enable lecturers to perform effectively across teaching, research, and community service (Novriyanti, 2019; Garg et al., 2022). A competent lecturer not only delivers knowledge but also acts as a role model, demonstrating ethical behavior and professionalism that positively affect student learning and institutional reputation.

Research consistently underscores the strong relationship between competence and lecturer performance. For instance, studies reveal that professional competence enhances work commitment, which in turn improves overall performance (Martini et al., 2020). Similarly, the alignment of competence with organizational culture and motivation has been found to elevate productivity and effectiveness among lecturers (Author et al., 2017; Kartini et al., 2020). Personality competence, in particular, often emerges as the strongest factor, as lecturers are expected to serve as moral exemplars while maintaining academic rigor (Fajrizal et al., 2022).

In addition, competence plays a vital role in adapting to technological changes in higher education. Lecturers who continuously update their digital and pedagogical skills demonstrate greater flexibility in meeting academic challenges (Natania et al., 2023). This adaptability not only enhances teaching and research but also fosters resilience in navigating crises such as the COVID-19 pandemic (Shofia et al., 2021).

H7: Competence has a significant effect on lecturer performance.

Lecturer Competence as Mediating

While leadership, academic culture, and technology mastery have direct influences on performance, competence often serves as a mediating variable that strengthens these relationships. Leadership, for instance, may indirectly affect performance by enhancing lecturers' competence through intellectual guidance, motivation, and individualized support (Aboramadan & Dahleez, 2020). However, empirical findings suggest that the mediating role of competence in the leadership performance link may be weaker when leaders fail to provide sufficient intellectual stimulation (Ateş et al., 2020).

Academic culture, on the other hand, exerts significant indirect effects on performance through competence. A culture of academic freedom, responsibility, and cooperation not only provides a conducive environment but also enhances lecturers' capacity to develop and apply their competencies (Sriekaningsih et al., 2019; Nazir et al., 2022). This mediation underscores the synergistic role of institutional culture in ensuring competence translates into higher performance.

Similarly, technology mastery enhances performance indirectly by reinforcing lecturer competence. The ability to integrate digital tools into pedagogy and research increases lecturers' effectiveness and adaptability, which in turn boosts performance outcomes (Ridhawati, 2017; Setyowati & Purwantoro, 2020). In contemporary academic contexts, competence in handling digital tools is indispensable, making this mediation pathway particularly relevant during and after the pandemic era (Shofia et al., 2021).

H8: Leadership has a significant effect on lecturer performance through lecturer competence.
H9: Academic culture has a significant effect on lecturer performance through lecturer competence.
H10: Technology mastery has a significant effect on lecturer performance through lecturer competence.

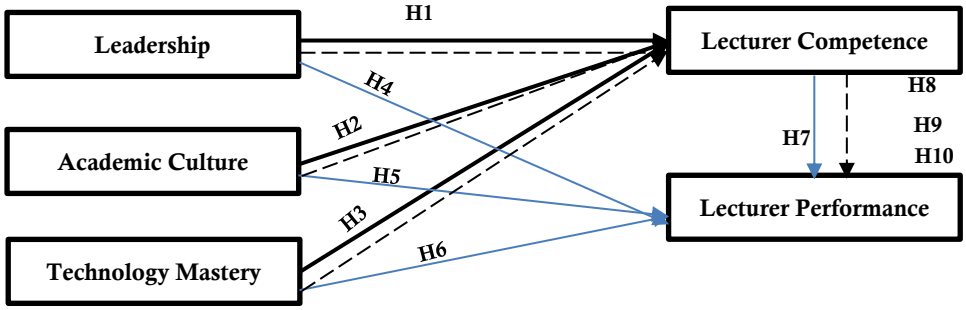

Figure 1. Research Framework

Figure 1 displays a conceptual model depicting the factors that influence lecturer performance. There are three main variables: leadership, academic culture, and technology mastery, each of which contributes directly to improving lecturer performance. Furthermore, lecturer competence plays a crucial role as a determining factor in lecturer performance. Therefore, this model emphasizes that the combination of leadership, academic culture, technology mastery, and overall lecturer competence will impact the optimization of lecturer performance in the academic environment.

RESEARCH METHODS

This research employed a quantitative approach emphasizing theory or concept testing by measuring variables and analyzing data through statistical procedures aimed at strengthening hypotheses to ultimately help strengthen old theories or form new ones. The study examined five main variables with their operational definitions as presented in Table 1.

Table 1. Operational Definition of Variables

No.	Variables	Definition	Indicator	Measurement Scale
1.	Lecturer Performance (Z)	Lecturer performance is the implementation of the lecturer's main task, namely the implementation of the Tridharma of Higher Education.	1. Education and Teaching 2. field of research and development of scientific works 3. field of community service 4. supporting tasks	Likert
2.	Competence (Y)	Competence is a set of knowledge, skills and behavior that must be possessed, experienced and mastered by teachers or lecturers in carrying out professional duties.	1. Pedagogical competence 2. Personality competency 3. Professional competence 4. Social competence	Likert
3.	Leadership (X1)	Leadership is a way of influencing others to carry out tasks effectively, a process of helping individuals and groups achieve common goals and ensuring that everyone is ready to face future challenges.	1. charisma, 2. inspirational motivation, 3. intellectual motivation, 4. individualized consideration, and 5. idealized influence.	Likert
4.	Academic Culture (X2)	Academic culture is a way of life of a diverse, pluralistic, multicultural scientific community that is housed in an institution that is based on the values of scientific truth and objectivity.	1. Academic activity values 2. Academic spirit 3. Service Orientation Culture 4. Responsibility 5. Evaluation 6. Support and cooperation	Likert
5.	Technology Mastery (X3)	Technological Mastery is a person's ability to use or master things related to technology in searching, collecting, processing, storing, and even distributing data or information.	1. ability to use a computer 2. ability to use office software such as word processing, email and presentation software, 3. the ability to create and edit images, audio and video, and 4. the ability to use a web browser and Internet search engines.	Likert

Source: Author compilation (2025)

The sample consisted of 410 lecturers from private universities in Jambi Province, selected using probability sampling with a proportionate sampling method. This sample size meets PLS-SEM requirements, which suggest samples ranging between 300 and 1,000 respondents (Kock & Hadaya, 2018; Hair et al., 2011). Data analysis employed Partial Least Squares (PLS) Structural Equation Modeling using a hierarchical component model. The analysis included outer model evaluation (measurement model) and inner model evaluation (structural model) with hypothesis testing.

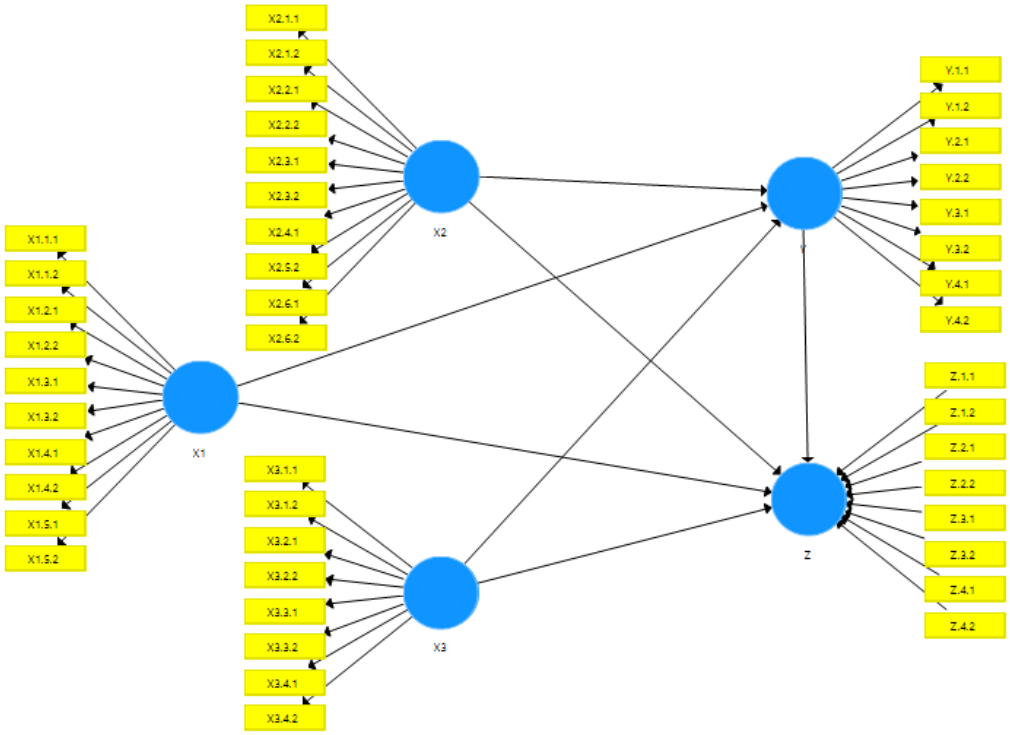

Figure 2. Hierarchical Component Model

Figure 2 shows a path analysis model with latent variables X1, X2, X3, Y, and Z, each measured through several indicators (yellow boxes). The relationships between variables are indicated by arrows, depicting the direct and indirect influences between latent constructs in explaining the causal relationships in the study.

RESULTS

The 410 distributed questionnaires were successfully collected and analyzed. Respondent characteristics were examined based on gender, age, education level, and functional positions as shown in Table 2.

Table 2. Description of Respondents based on Characteristics

Characteristic	Category	Percentage
Gender	Male	48%
	Female	52%
Age	21-30 Years	5%
	31-40 Years	35%
	41-50 Years	46%
	Above 50 Years	5%
Education	Master's Degree (S2)	85%
	Doctoral Degree (S3)	15%
Functional Degree	Professor	1%
	Associate Professor	4%
	Lecturer	80%
	Assistant Lecturer	15%

Table 2 presents the description of respondents based on their characteristics. The data show that the majority of respondents are female (52%), while males account for 48%. In terms of age, most respondents are between 41 and 50 years old (46%), followed by 31 and 40 years (35%), 21 and 30 years (14%), and above 50 years (5%). Regarding educational background, 85% hold a Master's degree (S2), and 15% hold a Doctoral degree (S3). For functional positions, the largest proportion is Lecturers (80%), followed by Assistant Lecturers (15%), Associate Professors (4%), and Professors (1%).

The outer model measurement used formative indicators for Lecturer Performance (Z) and reflective indicators for Competence (Y), Leadership (X1), Academic Culture (X2), and Technology Mastery (X3) variables. The full model results are presented in Figure 3.

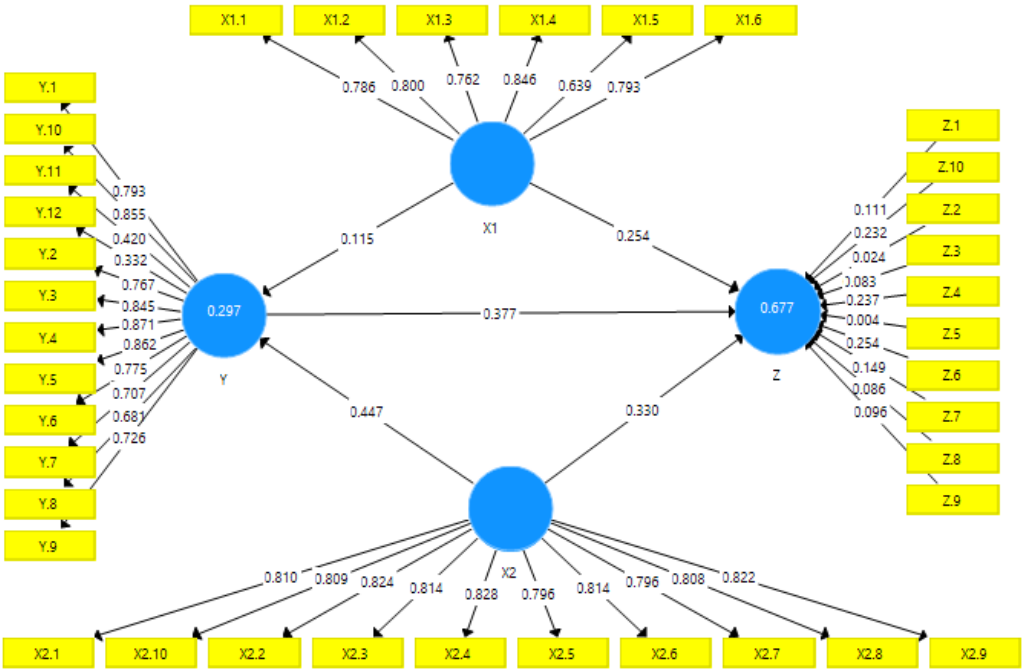

Figure 3. Full Model Results of PLS.3 Bootstrapping

Bootstrapping results for the Lecturer Performance variable showed that indicators Z.1, Z.3, Z.4, Z.5, Z.6, Z.7, Z.8, and Z.9 were significant (outer weight > 0.05, sig. < 0.05), while indicators Z.2 and Z.10 were not significant. The detailed results are presented in Table 2.

Table 3. Operational Definition of Variables

Indicator	Outer Weight	Sig.	VIF	Loading Factor	Conclusion
Z.1	0.134	0.000	2.431	0.688	Significant
Z.2	0.018	0.000	2.315	0.669	Not Significant
Z.3	0.118	0.000	2.983	0.804	Significant
Z.4	0.222	0.000	3.125	0.839	Significant
Z.5	0.074	0.000	2.534	0.789	Significant
Z.6	0.284	0.000	2.390	0.838	Significant
Z.7	0.299	0.000	1.626	0.743	Significant
Z.8	0.152	0.000	1.466	0.627	Significant
Z.9	0.134	0.000	2.431	0.688	Significant
Z.10	0.018	0.000	2.315	0.669	Not Significant

Table 3 shows the results of the Z variable indicator test using outer model analysis. Of the ten indicators, eight were found to be significant with relatively high loading factor values (0.627–0.839), while two indicators (Z.2 and Z.10) were insignificant. This indicates that most indicators have a strong contribution to measuring the Z construct. However, these non-significant indicators maintained Loading Factor values > 0.5 and VIF values < 5, allowing their retention in the model according to Garson's (2016) criteria. The final outer model testing results after indicator refinement are shown in Figure 4.

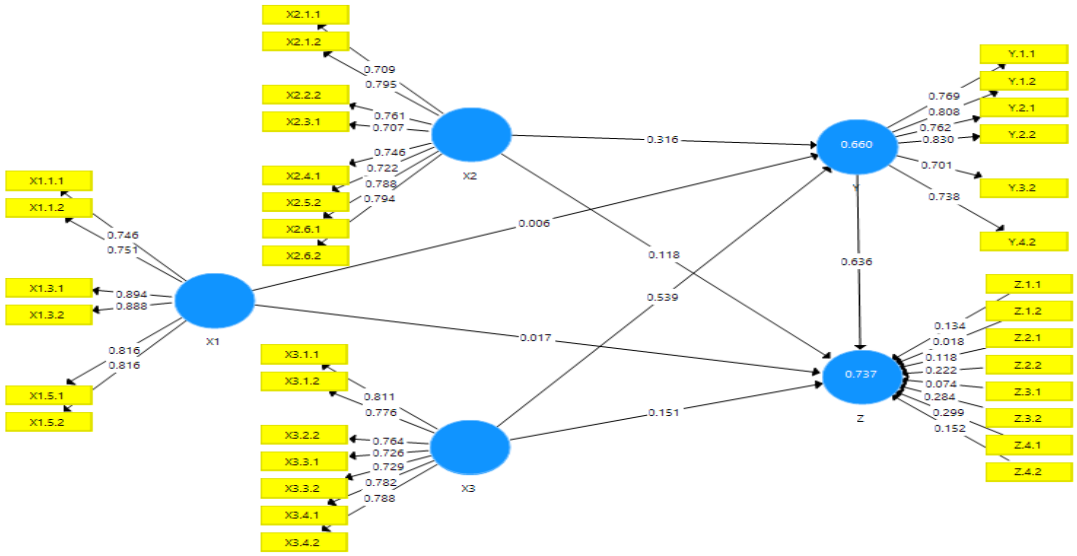

Figure 4. Outer Model Testing

Figure 4 depicts a Partial Least Squares (PLS)-based structural model showing the relationships between latent variables X1, X2, X3, Y, and Z and their indicators. Each indicator has a generally high loading factor value (0.70–0.89), indicating good convergent validity. The paths between variables show the direction of influence, with coefficient values indicating the magnitude of their contribution to other constructs.

All variables demonstrated satisfactory reliability as shown in Table 3 with Cronbach's Alpha values exceeding 0.861, Composite Reliability values above 0.897, and Average Variance Extracted (AVE) values greater than 0.568, meeting required standards.

Table 4. Reliability of Variables

Variable	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variant Extracted
Leadership (X1)	0.908	0.940	0.925	0.673
Academic Culture (X2)	0.891	0.893	0.913	0.568
Technology Mastery (X3)	0.884	0.885	0.910	0.590
Lecturer Competence (Y)	0.861	0.864	0.897	0.592
Lecturer Performance (Z)		1.000		

Table 4 shows the reliability testing results for all research variables. The findings indicate that each variable, leadership, academic culture, technology mastery, lecturer competence, and lecturer performance, meets the criteria for internal consistency, as reflected in high Cronbach's Alpha and composite reliability values. In addition, the Average Variance Extracted (AVE) for all variables exceeds the minimum threshold, confirming that the constructs are valid in explaining the indicators used. Overall, the measurement model demonstrates good reliability and construct validity.

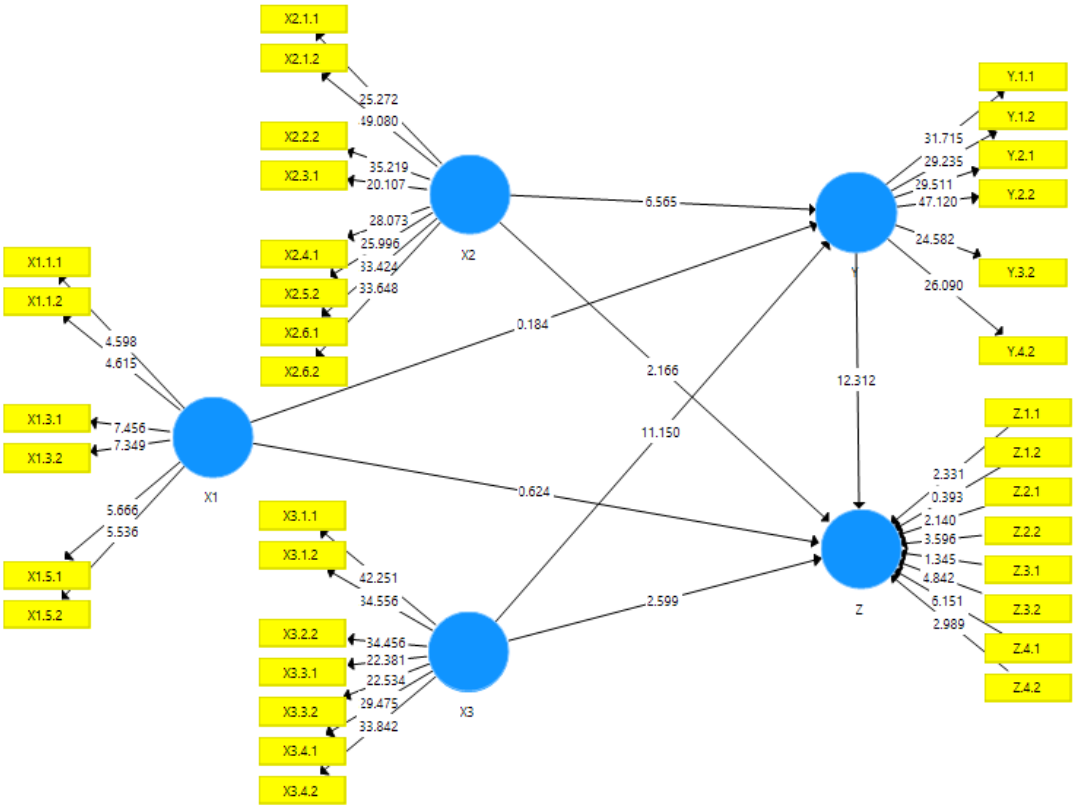

Figure 5. Inner Model

Figure 5 illustrates the inner model of the study, which depicts the structural relationships among the research variables. The model shows that leadership, academic culture, and technology mastery serve as exogenous variables that influence both lecturer competence and lecturer performance. In turn, lecturer competence also contributes directly to lecturer performance. The diagram highlights the interconnectedness of the variables, reflecting how leadership, academic culture, and technological mastery not only impact competence but also play a role in shaping overall lecturer performance. This structure confirms the theoretical framework of the study, emphasizing the mediating role of competence in strengthening the influence of other factors on performance.

Table 5. Predictive Q Square Test Results

Variables	**R2**
Lecturer Performance (Z)	0.736
Lecturer Competence (Y)	0.636
Q2 = 1 - [(1 - R1 2) (1 - R2 2)] Q2 = 1 - [(1 – 0.636) (1 - 0.0.736)] = 0.903	

Table 5 presents the predictive relevance test results using the Q-Square approach. The R^2 values indicate that lecturer performance and lecturer competence are well explained by the predictor variables in the model. Furthermore, the Q-Square value obtained is above the recommended threshold, confirming that the structural model has strong predictive relevance and is capable of explaining the variability of the endogenous variables effectively.

Table 6 presents the results of hypothesis testing for direct effects. The findings indicate that two hypotheses (H1 and H2) are rejected because their t-statistic values are below the threshold of 1.96, showing that leadership and academic culture do not significantly affect lecturer competence. In contrast, the remaining hypotheses (H3, H4, H5, H6, and H7) are accepted, as their t-statistics exceed 1.96, confirming that technology mastery, leadership,

academic culture, and competence significantly influence lecturer performance or competence directly.

Table 6. Direct Effects of Hypothesis Testing Results

Hypothesis		Original Sample	t- statistics	p-value	Results
H1	Leadership (X1) → Lecturer Competence (Y)	0.006	0.184	0.854	Rejected
H2	Academic Culture (X2) → Lecturer Competence (Y)	0.021	0.629	0.529	Rejected
H3	Technology Mastery (X3) → Lecturer Competence (Y)	0.316	6.565	0.000	Accepted
H4	Leadership (X1) → Lecturer Performance (Z)	0.319	5.307	0.000	Accepted
H5	Academic Culture (X2) → Lecturer Performance (Z)	0.539	11.150	0.000	Accepted
H6	Technology Mastery (X3) → Lecturer Performance (Z)	0.493	8.647	0.000	Accepted
H7	Competence (Y) → Lecturer Performance (Z)	0.636	12.312	0.000	Accepted
H8	Leadership (X1) → Lecturer Competence (Y) → Lecturer Performance (Z)	0.004	0.184	0.854	Rejected
H9	Academic Culture (X2) → Lecturer Competence (Y) → Lecturer Performance (Z)	0.201	5.969	0.000	Accepted
H10	Technology Mastery (X3) → Lecturer Competency (Y) → Lecturer Performance (Z)	0.343	8.005	0.000	Accepted

Table 7. Indirect Effects Hypothesis Testing Results

Hypothesis	Relationship	Original Sample	t-statistics	P-value	Results
H8	Leadership (X1) → Lecturer Competence (Y) → Lecturer Performance (Z)	0.004	0.184	0.854	Rejected
H9	Academic Culture (X2) → Lecturer Competence (Y) → Lecturer Performance (Z)	0.201	5.969	0.000	Accepted
H10	Technology Mastery (X3) → Lecturer Competence (Y) → Lecturer Performance (Z)	0.343	8.005	0.000	Accepted

Table 7 presents the results of hypothesis testing for indirect effects. The findings show that hypothesis H8 is rejected because its t-statistic value is below the threshold of 1.96, indicating that leadership through competence does not significantly affect lecturer performance. In contrast, hypotheses H9 and H10 are accepted, as their t-statistics exceed 1.96, confirming that academic culture and technology mastery significantly influence lecturer performance indirectly through lecturer competence. These results highlight the dominant role of competence as a mediating variable in the relationships involving academic culture and technology mastery.

DISCUSSION

This study provides valuable insights into the factors influencing lecturer performance in private universities in Jambi Province, revealing a complex interplay of competence, academic culture, and technology mastery, while leadership shows limited impact. Of the ten proposed hypotheses, seven were accepted, indicating that lecturer performance is significantly shaped by competence, academic culture, and technology mastery, both directly and indirectly. Notably, the rejection of hypotheses H1, H2, and H8 suggests that leadership does not significantly influence lecturer competence or performance, which contrasts with findings by Aboramadan and Dahleez (2020), who emphasized transformational leadership as a key driver of academic outcomes. This discrepancy may arise from contextual factors, such as resource constraints in private universities, where leadership may lack the capacity to foster intellectual growth or professional development effectively. The limited influence of leadership, as also noted by Ateş et al. (2020), could

stem from insufficient intellectual stimulation provided by university leaders in Jambi, particularly as the intellectual motivation indicator was found invalid in this study.

The acceptance of hypotheses H5, H6, H9, and H10 underscores the pivotal role of academic culture and technology mastery in enhancing lecturer performance. A strong academic culture, characterized by values like cooperation, responsibility, and academic spirit, directly boosts lecturers' ability to fulfill their Tri Dharma responsibilities, aligning with findings by Nazir et al. (2022), who highlighted the role of institutional values in fostering academic productivity. Similarly, Setyowati and Purwantoro (2020) found that a supportive academic environment enhances lecturer accountability and research output, which is evident in this study through the dominant role of the support and cooperation indicator. Technology mastery also emerged as a critical factor, with all four indicators, computer usage, office software, multimedia creation, and internet search skills, showing strong contributions. This supports Hutasuhut and Palahi (2021), who argued that digital competence is essential for teaching and research in the digital era, particularly in the context of Industrial Revolution 4.0, where tools like web browsers and search engines are integral to academic tasks (Mutaroh & Resmawa, 2019).

Competence proved to be the most influential determinant of lecturer performance, as confirmed by the acceptance of H7. This aligns with Martini et al. (2020), who noted that professional and personal competencies drive commitment and effectiveness in academic roles. The high loading factor of personality competence, particularly lecturers' role as ethical models, underscores its importance in shaping student perceptions and institutional reputation. The mediating role of competence further amplifies the effects of academic culture and technology mastery on performance, as seen in the acceptance of H9 and H10. For instance, Shofia et al. (2021) highlighted that digital skills enhance pedagogical competence, which in turn improves teaching quality, a finding reflected in this study's results. These indirect effects suggest that fostering a supportive academic culture and equipping lecturers with digital tools can significantly enhance their competencies, leading to better performance outcomes.

The findings reveal that leadership's limited impact may be due to its focus on individualized consideration rather than broader intellectual motivation, which failed to translate into competence or performance improvements. In contrast, academic culture and technology mastery provide a robust foundation for lecturer success, as they create an environment conducive to professional growth and adaptability. This is consistent with Nainggolan et al. (2023), who found that a vibrant academic culture fosters collaboration and research productivity, critical for lecturer performance in private universities. The implications of these findings are significant for higher education management in Jambi Province. Universities should prioritize professional development programs that enhance lecturer competencies, particularly in digital skills, to meet modern educational demands. Strengthening academic culture through policies that promote collaboration, responsibility, and academic freedom is equally crucial. Additionally, leadership training should focus on fostering intellectual stimulation to better support lecturer growth. By investing in these areas, private universities can improve lecturer performance, enhance educational quality, and contribute to regional academic competitiveness. Theoretically, this study extends prior research by clarifying the limited role of leadership in resource-constrained academic environments while reinforcing the centrality of competence, academic culture, and technology mastery in shaping lecturer performance. These insights contribute to a more nuanced understanding of performance drivers in higher education, particularly within developing contexts.

CONCLUSION

This study offers key insights into the factors influencing lecturer performance at private universities in Jambi Province, confirming that competence, academic culture, and technology mastery are significant drivers, while leadership has minimal impact. Of the ten hypotheses tested, seven were supported, highlighting that lecturer competence, particularly in pedagogical, professional, personality, and social dimensions, has the

strongest direct effect on performance. The use of formative indicators, aligned with the Tri Dharma of Higher Education, provides a comprehensive and standardized approach to measuring performance, distinguishing this study from previous research. The findings emphasize that lecturer performance relies heavily on individual capabilities, supported by a robust academic culture that fosters collaboration and responsibility, as well as proficiency in digital tools relevant to modern educational demands. These elements collectively enhance lecturers' ability to fulfill their teaching, research, and community service responsibilities effectively.

The implications of this study are significant for private universities seeking to improve educational quality, suggesting a focus on developing lecturer competencies through targeted training programs, particularly in digital skills, and fostering a supportive academic culture. However, the study's limitations include its focus solely on private universities in Jambi Province, which may limit generalizability to other regions or public institutions. Additionally, the weak influence of leadership may reflect context-specific factors, such as resource constraints, which warrant further exploration. Future research should expand to include a broader geographic scope, such as all LLDIKTI Region X universities, to ensure more representative findings. Exploring alternative leadership indicators or additional variables, such as motivation or institutional support, could also provide deeper insights into enhancing lecturer performance.

REFERENCES

[1] Aboramadan, M., & Dahleez, K. A. (2020). Leadership styles and employees' work outcomes in nonprofit organizations: the role of work engagement. *Journal of Management Development*, *39*(7-8), 869-893.

[2] Arifin, Z. (2021). A study of determinants of lecturer performance: the Islamic universities in Makassar City case. *European Journal of Business and Management Research*, *6*(2), 111-117.

[3] Ateş, N. Y., Tarakci, M., Porck, J. P., van Knippenberg, D., & Groenen, P. J. F. (2020). The dark side of visionary leadership in strategy implementation: strategic alignment, strategic consensus, and commitment. *Journal of Management*, *46*(5), 637-665.

[4] Author, C., Mus, R., Nujum, S., & Sukmawati, S. (2017). The influence of competency and organizational culture on performance lecturer kopertis region IX employed on PTS in Makassar. *Quest Journals Journal of Research in Business and Management*, *5*(2), 2347-3002.

[5] Fajrizal, Jalinus, N., & Ambiyar. (2022). The factors that affect the lecturers' performance. *Journal of Positive School Psychology*, *2022*(6), 10443-10451.

[6] Garg, S., Sinha, S., Kar, A. K., & Mani, M. (2022). A review of machine learning applications in human resource management. *International Journal of Productivity and Performance Management*, *71*(5), 1590-1610.

[7] Hair, J. F., Cheah, J. H., Ringle, C. M., Sarstedt, M., & Ting, H. (2021). Guest editorial. *European Business Review*, *33*(1), 1-8.

[8] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-152.

[9] Hutasuhut, J., & Palahi, A. (2021). The influence of information technology utilization on lecturer performance in the new normal era. *Student Business Journal 8* (3) 35-49.

[10] Kartini, D., Kristiawan, M., Fitria, H., Negeri, S., & Sugihan, M. (2020). The influence of principal's leadership, academic supervision, and professional competence toward teachers' performance. *International Journal of Progressive Sciences and Technologies (IJPSAT)*, *20*(1), 156-164.

[11] Kim, L., Pongsakornrungsilp, P., Pongsakornrungsilp, S., Horam, N., & Kumar, V. (2023). Key determinants of job satisfaction among university lecturers. *Social Sciences*, *12*(3), 153-160.

[12] Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, *28*(1), 227-261.

[13] Kuretchenko, L. (2024). The role of total quality management toward business performance. *Journal of Current Research in Business and Economics*, *3*(1), 1460-1489.

[14] Kustiningsih, N., Noor, A., Intaniman, S., & Leki, R. (2022). Pandemic Covid 19: Academic culture, lecturer ability, and lecturer performance. *Archives of Business Research*, *10*(03), 136-145.

[15] Limbong, M., Faradiba, F., Harefa, N., & Lumbantoruan, J. H. (2022). Description of increasing the number of research and publication of lecturers at the Indonesian Christian University, East Jakarta. *Tadbir: Jurnal Studi Manajemen Pendidikan*, *6*(2), 333-352.

[16] Martini, I. A. O., Supriyadinata, A. A. N. E., Sutrisni, K. E., & Sarmawa, I. W. G. (2020). The dimensions of competency on worker performance mediated by work commitment. *Cogent Business and Management*, *7*(1), 24-37.

[17] Memon, M. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: review and recommendations. *Journal of Applied Structural Equation Modeling*, *4*(2), 23-36.

[18] Midhat Ali, M., Qureshi, S. M., Memon, M. S., Mari, S. I., & Ramzan, M. B. (2021). Competency framework development for effective human resource management. *SAGE open*, *11*(2), 215-228.

[19] Muhajirin, A., Rahman Irsyadi, A., Rizal, F., & Sumaryono. (2023). Optimization of information technology, organizational culture and competence in improving lecturer performance (literature review). *Journal of Information Systems Management Economics*, *5*(1), 1-10.

[20] Muhammad, M., Wibisono, C., & Rumengan, A. E. (2024). Determinants of lecturer performance: a multifactorial study at private university in Lampung. *JPPI (Jurnal Penelitian Pendidikan Indonesia)*, *10*(2), 466-477.

[21] Mulyati, T. (2017). The influence of competence, academic culture and spiritual leadership on motivation and its implications. *Journal of Economics and Finance*, *19*(1), 66-68.

[22] Mutaroh, & Resmawa, I. N. (2019). The influence of the industrial revolution 4.0 on lecturer competence. *National Seminar on Economic Management and Accounting*, *IV*(1), 271-276.

[23] Nainggolan, A., Akrim, A., & Prasetia, I. (2023). The influence of achievement motivation, academic culture and self-development on lecturer performance at the tarbiyah college of Batu Bara Regency. *Journal Of Administration and Educational Management*, *6*(1), 64-72.

[24] Nanjundeswaraswamy, T. S., & Divakar, S. (2021). Determination of sample size and sampling methods in applied research. *Proceedings on Engineering Sciences*, *3*(1), 25-32.

[25] Natania, Wahira, & Mus, S. (2023). Professional competence of teachers in the aspect of ICT mastery at SMAN 11 Luwu Timur. *Edustudent: Scientific Journal of Education and Learning Development*, *1*(2), 1-9.

[26] Nazir, J., Rahaman, S., Chunawala, S., Ahmed, G., Alzoubi, H., Alshurideh, M., & AlHamad, A. (2022). Perceived factors affecting students academic performance. *Academy of Strategic Management Journal*, *21*(4), 1-15.

[27] Novriyanti, D. (2019). *Pengaruh kompetensi dan kemampuan terhadap kinerja karyawan Bank Muamalat Harkat*. Bengkulu: IAIN Bengkulu (Doctoral dissertation).

[28] Putri, L. R., Dewi, F. G., & Yuliansyah, Y. (2019). Effect of compensation on the performance of private higher education lecturers with motivation as an intervening variables. *International Journal for Innovation Education and Research*, *7*(12), 751-755.

[29] Putro, S. E., Hakim, L., Sujudi, M., & Susanto, S. (2023). Pengaruh kepemimpinan transformasional dan disiplin kerja terhadap kinerja pegawai (dosen) di Universitas Teknologi Surabaya. *Ekonomika45: Jurnal Ilmiah Manajemen, Ekonomi Bisnis, Kewirausahaan*, *11*(1), 25-39.

[30] Rasdiana, Wiyono, B. B., Imron, A., Rahma, L., Arifah, N., Azhari, R., ... & Maharmawan, M. A. (2024). Elevating teachers' professional digital competence: synergies of principals' instructional e-supervision, technology leadership and digital culture for educational excellence in digital-savvy era. *Education Sciences*, *14*(3), 266-270.

[31] Retnowati, T. H., Mardapi, D., Kartowagiran, B., & Hamdi, S. (2021). A model of lecturer performance evaluation: sustainable lecturer performance mapping. *International Journal of Instruction*, *14*(2), 83-102.

[32] Ridhawati, R. (2017). Antecedents and consequences of information technology utilization of private college lecturers (PTS) in Indonesia. *Journal of Economics and Finance*, *12*(4), 516-518.

[33] Serpa, S., Sá, M. J., & Ferreira, C. M. (2022). Digital organizational culture: contributions to a definition and future challenges. *Academic Journal of Interdisciplinary Studies*, *11*(4), 22-33.

[34] Setyadi, H. J., & Taruk, M. (2019). Analysis of the impact of technology use (technostress) on lecturers and staff employees that influence performance in the organization (case study: universities in East Kalimantan). *Informatics Mulawarman: Scientific Journal of Computer Science*, *14*(1), 13-25.

[35] Setyowati, L., & Purwantoro, P. (2020). Determinants affecting lecturer performance in implementing the tri dharma of higher education. *Scientific Journal of Economics and Business*, *17*(1), 9-14.

[36] Shofia, N. A., Luthfi, E., & Ahsani, F. (2021). The effect of teachers' IT mastery on the quality of learning during the pandemic. *Educational Journal*, *12*(2), 201-215.

[37] Sriekaningsih, A., Hafid, H., Roslina, Chairuddin, Bahron, A., & Eranza, D. R. D. (2019). Competence study and lecture academic culture as a policy strategy for increasing dose performance (case study in Tarakan and Sabah). *IOP Conference Series: Earth and Environmental Science*, *382*(1), 342-354.

[38] Subarto, S., Solihin, D., & Qurbani, D. (2021). Determinants of job satisfaction and its implications for the lecturers performance. *Jurnal Pendidikan Ekonomi Dan Bisnis (JPEB)*, *9*(2), 163-178.

[39] Sunarti, S., Iswan, I., Husainah, N., Bahri, S., Bahar, H., & Haryatno, L. (2025). Determinants of lecturer performance: the role of transformational leadership, competence, and job satisfaction at Muhammadiyah Universities In Jakarta. *Multidisciplinary Research Studies in Social Sciences*, *1*(2), 13-22.

[40] Wibowo, S. (2020). Determinants of lecturer performance in online teaching methods during the covid-19 pandemic with stress factors as a mediator. *Journal of Business & Applied Management*, *13*(2), 131.

[41] Wihara, D. S. (2019). Improving lecturer performance in the industrial revolution 4.0 era through e-learning: a comparative study at the faculty of economics, Universitas Nusantara PGRI Kediri. *Journal of Applied Management Research 2*(2), 166-178.

[42] Yuting, Z., Adams, D., & Lee, K. C. S. (2022). The relationship between technology leadership and teacher ICT competency in higher education. *Education and Information Technologies*, *27*(7), 10285-10307.

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