

Authentic Leadership and Faculty Productivity: A Structural Equation Modeling Approach in Islamic Higher Education

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ABSTRACT

Authentic leadership has been widely recognized as a leadership approach that fosters trust, transparency, and ethical behavior; however, empirical evidence examining its influence on faculty productivity in Islamic higher education remains limited. This study aimed to investigate the effect of authentic leadership on lecturer productivity and to explain lecturers' perceptions of leadership practices within an Islamic higher education institution. This study employed an explanatory sequential mixed-methods design. Quantitative data were collected from 127 lecturers at STAIN Mandailing Natal using structured questionnaires and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM). Qualitative data were subsequently obtained through in-depth interviews with institutional leaders and lecturers and analyzed using NVivo to enrich and explain the quantitative findings. The findings revealed that authentic leadership had a positive and statistically significant effect on lecturer productivity ($\beta = 0.513$, $p < .001$), explaining 26.3% of the variance in productivity. Although the explanatory power was moderate, authentic leadership emerged as an important organizational factor supporting lecturers' implementation of the *Tri Dharma* of Higher Education. Qualitative findings further indicated that transparency, fairness, institutional support, and equitable access to research opportunities shaped lecturers' perceptions of authentic leadership and influenced their motivation to enhance academic productivity. The study demonstrates that authentic leadership contributes to faculty productivity by fostering a supportive and ethical academic environment. Integrating PLS-SEM with qualitative inquiry provides a more comprehensive understanding of how leadership practices influence lecturer productivity in Islamic higher education. Although the findings are limited to a single institution, they offer practical implications for strengthening transparent leadership and developing institutional policies that promote sustainable academic productivity.

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1. INTRODUCTION

Higher education has an important role in producing knowledge, but also to safeguard intellectual freedom, self-management, and productive social responsibility. In that context, lecturer productivity is not just about the quantity of research, but also about quality and relevance: research integrated with teaching, and contributions to social development and sustainability (Observatory Magna Charta Universitatum, 2020). Lecturers are a central element and contribute greatly to improving improve the performance and reputation of higher education institutions (Keradjaan et al., 2023). Lecturer productivity includes excellence in the three pillars of higher education: education, research, and community service (Hoxby & Stange, 2019). Productive lecturers will contribute to produce quality educational outcomes in an efficient manner, and career development are key indicators in assessing the quality of a higher education institution (Selvanathan et al., 2019).

Field findings generally show that lecturers at STAIN Mandailing Natal still demonstrate a limited level of involvement, particularly in the areas of research and community service. Nevertheless, there are a number of lecturers who are considered active and productive, both as presenters at national and international conferences, as well as collaborators in research with lecturers from other universities. However, most academic activities remain minimal, with attendance patterns tending to be limited to teaching and then returning home.

Obligations related to publication, research, and community service are generally fulfilled once per semester, and in some cases, there are even no book publications at all within a year. These activities are mostly carried out as a form of administrative fulfillment of the Lecturer Workload (BKD) and Employee Performance Targets (SKP) each semester. It is also undeniable that several lecturers actively contribute at the national level, both as GTK Assessors at the Ministry of Education and Culture, national instructors in the field of literacy, reviewers of Research, Scientific Publications, and Community Service (Litapdimas) and scientific journals, and tutors at the Open University.

This phenomenon reflects a productivity gap, demonstrating the need for a leadership strategy to support the comprehensive career development of lecturers. This support can take the form of non-material support, such as warm praise for lecturers' success in a particular field, or material support in the form of funding for research, scientific publications, community service, or rewards or recognition for lecturers' achievements/successes related to the implementation of the Tri Dharma of Higher Education. It is hoped that this support will increase lecturers' productivity and enthusiasm for continued work, ultimately resulting in productive, professional lecturers in their fields and a sustainable culture of quality.

In practice, lecturer productivity is influenced by several external factors, including leadership. Leadership influences employee career development through an authentic leadership style that emphasizes transparency, morality, and integrity in the relationship between leaders and subordinates (Gardner et al., 2021; Walumbwa et al., 2020). Therefore, university leaders who recognize lecturers as the main asset in the institution's progress will provide the widest possible opportunities for lecturers to develop their productivity and competence (Pallathadka & Pallathadka, 2023). This leadership style plays a role in creating an academic ecosystem that supports the professional growth and productivity of lecturers in higher education settings.

In line with this, Worden also revealed that authentic leadership contributes to creating a more inclusive and productive work environment, so that employees can maximize their potential and capacity in developing their careers (Worden, 2023). In addition, Kelly (2023) in his book *Mindfulness for Authentic Leadership: Theory and Cases* states that authentic leadership tends to emphasize increasing self-awareness, openness, and creating a work environment that supports employee growth, thereby facilitating career development and employee productivity (Kelly, 2023).

Based on the above analysis, this study aims to analyze the influence of authentic leadership on lecturer productivity at STAIN Mandailing Natal using an explanatory sequential mixed methods approach. Furthermore, this study is expected to provide a positive contribution to the development of authentic leadership studies through the integration of SEM-PLS analysis with qualitative in-depth analysis, thereby producing a more comprehensive understanding of lecturer productivity in Islamic higher education.

2. METHODS

2.1 Research Design

This research uses a case study research method at STAIN Mandailing Natal by adopting a mixed method design that combines qualitative and quantitative approaches, thus utilizing the strengths of both approaches to answer complex research questions, which cannot be fully answered with just one method (Bazeley, 2020; Gallo & Joo, 2018; Hoang & Nguyen, 2024; Minc et al., 2022; Shannon-Baker, 2022). Research with a mixed methods approach consists of three main components: (1) Data Collection and Analysis: This process includes the collection, analysis, and integration of both types of data, which can include surveys, experiments, interviews, and observations, (2) Research Design: The designs used include various models such as sequential exploratory design, explanatory sequence, and convergent. More advanced design frameworks involve multistage approaches, interventions, case studies, and participatory approaches, (3) Integration Strategy: The data integration process can be carried out by connecting, building, combining and embedding, which functions to unite qualitative and quantitative data at various stages of research.

This study employed an explanatory sequential mixed methods design, a mixed methods approach in which the researcher first collects and analyzes quantitative data, followed by qualitative data collection and analysis. This two-phase structure (quantitative and qualitative) allows for a deeper understanding of the research problem by integrating numerical data with more detailed contextual insights (Ivankova et al., 2022; Perdomo, 2023; Yan, 2017).

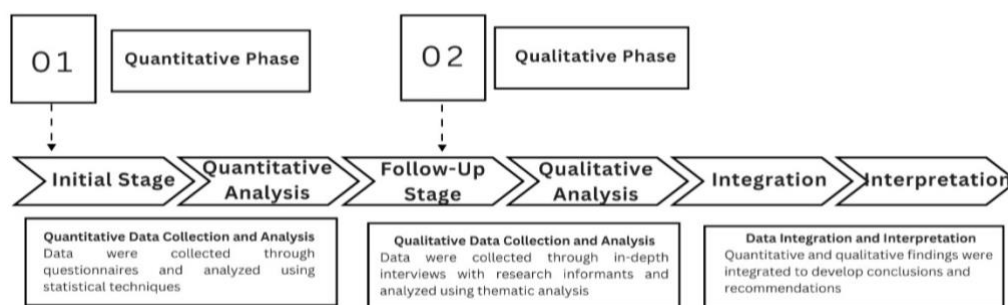


Figure 1. Stages of Sequential Exploratory Research Design

Source: Adapted from (Bazeley, 2023; Creswell & Plano Clark, 2023; Fetters et al., 2020; Ivankova et al., 2022; Manna et al., 2023).

The qualitative data processing phase aims to explain previously uncovered quantitative findings related to authentic leadership and lecturer productivity. Interview results and documentation are needed to refine the research findings regarding lecturers' perceptions of the two research variables.

2.2 Participants

The sample was taken using the Cochran formula, resulting in 127 lecturers. This formula was chosen based on its ability to accurately calculate samples for a given population, ensuring that the research results have strong statistical significance and are truly representative of the population (Xayavongsa et al., 2024). In addition, the sampling technique used Stratified Proportional Random Sampling. This technique was chosen because it is considered effective in increasing representativeness by ensuring that each subgroup (stratum) in the population receives a balanced proportion of the sample (Sun et al., 2014). This method is able to overcome the imbalance in the representation of certain characteristics that often occurs in simple random sampling, so that research results are more accurate and reliable (Tuğba Ahln, 2011). In addition, this technique has the advantage of reducing bias, increasing the precision of analysis, and facilitating systematic comparisons between groups (Hussain et al., 2020; Zaman, 2021).

2.3 Data Collection Instruments

Quantitative data was collected through questionnaires distributed using the Google Form method, while qualitative data was collected through in-depth interviews with key informants (leaders and lecturers). The qualitative data processing phase aims to explain previously uncovered quantitative findings related to authentic leadership and lecturer productivity. Interview results and documentation are needed to refine the research findings regarding lecturers' perceptions of the two research variables.

2.4 Data Analysis

The collected data was processed using Structural Equation Modelling (SEM) with Partial Least Squares (PLS) version 4 for quantitative data and the NVivo application, which simplifies the qualitative data analysis process, thereby improving the quality and transparency of qualitative data (Limna, 2023; Paulus, 2023). Table 1 show Cronbach's Alpha and Composite Reliability values were recorded above 0.90. Likewise, the Average Variance Extracted (AVE) and outer loadings values exceeded 0.60. These findings indicate that the instrument used is strong enough to measure each research variable.

Table 1. Convergent Validity

Variables	Items	Outer Loadings	Alpha	CR	AVE
Authentic Leadership	AL.1	0.875	0.974	0.976	0.695
	AL.2	0.857			
	AL.3	0.755			
	AL.4	0.858			
	AL.5	0.825			
	AL.6	0.864			
	AL.7	0.847			
	AL.8	0.877			
	AL.9	0.779			
	AL.10	0.857			
	AL.11	0.848			
	AL.12	0.839			
	AL.13	0.881			
	AL.14	0.843			
	AL.15	0.694			
	AL.16	0.858			
	AL.17	0.814			
	AL.18	0.823			
Faculty Productivity	LP.1	0.783	0.916	0.926	0.514
	LP.2	0.675			
	LP.3	0.805			
	LP.4	0.606			
	LP.5	0.732			
	LP.6	0.596			
	LP.7	0.751			
	LP.8	0.780			
	LP.9	0.702			
	LP.10	0.665			
	LP.11	0.811			
	LP.12	0.748			

Source: Data Analysis

2.5. Ethical Considerations

Data collection for this study was conducted with permission from STAIN Mandailing Natal before the study was conducted. All respondents and informants participated voluntarily and provided consent and the information required for the study. Furthermore, the identities and anonymity of informants were maintained throughout the research process.

3. FINDINGS AND DISCUSSION

3.1 Finding

This study examines the extent to which authentic leadership influences lecturer productivity at STAIN Mandailing Natal. This productivity encompasses not only the implementation of the Tridharma of Higher Education, namely teaching, research, scientific publication, and community service, but also reflects the emotional and social dimensions of lecturers' well-being, including their ability to maintain a balance between work and personal life demands (work-life balance). The following are the results of the outer loading data analysis using SEM-PLS:

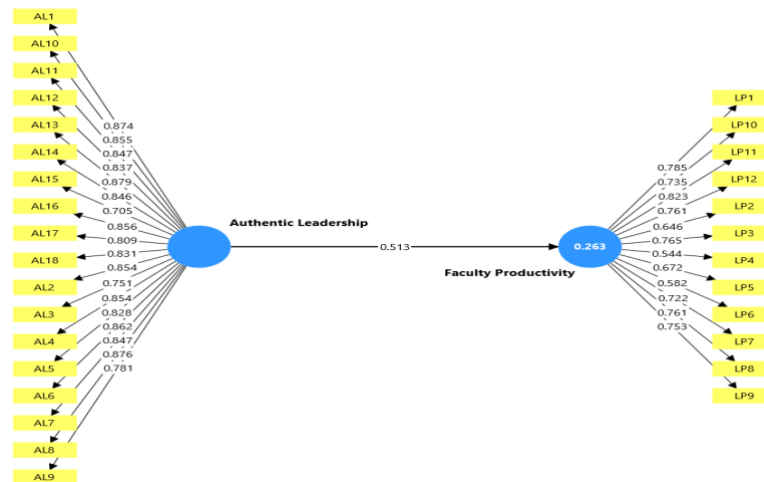


Figure 2. The Influence of Authentic Leadership on Lecturer Productivity

Figure 2 shows that the outer loading for the construct variable of lecturer productivity at STAIN Mandailing Natal is in the range of 0.596-0.805 and this is still permissible. Outer loading values between 0.40–0.70 are still acceptable if the indicator is important for content validity or if its removal does not improve the reliability/validity of the construct (Hair et al., 2020, 2022; Hult et al., 2021; Sarstedt et al., 2022).

Table 2. Hypothesis Testing of the Effect of Authentic Leadership on Lecturer Productivity

Hypothesis	Path Coefficient	p-value	95% Path Coefficient Confidence Interval		f-square
			Lower Limit	Upper Limit	
H0: There is no influence of authentic leadership on lecturer productivity at STAIN Mandailing Natal.	0.513	0.000	0.449	0.631	0.358
H1: There is a positive influence of authentic leadership on the productivity of lecturers at STAIN Mandailing Natal.					

Source: Data Analysis

Based on the results of the data analysis in Table 2, it was found that the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. This finding confirms the hypothesis that authentic leadership has a positive effect on lecturer productivity at STAIN Mandailing Natal. This is reflected in the path coefficient value of 0.513 with a p-value of 0.000, which is less than 0.05, indicating a statistically significant relationship, this means that any increase in the implementation of an

authentic leadership style has the potential to drive improvements in lecturer productivity. With a 95% confidence level, the magnitude of the influence is estimated to be in the range of 0.449 to 0.631. Furthermore, the f-square value of 0.358 far exceeds the threshold of 0.35, indicating that authentic leadership has a strong impact on lecturer productivity at STAIN Mandailing Natal.

Table 3. R-square Value of Authentic Leadership – Lecturer Productivity

Research variables	R square	Mean	Standard deviation	p-value
Authentic Leadership – Lecturer Productivity	0.263	0.291	0.051	0.000

Source: Data Analysis

Table 3 reveals that authentic leadership contributes to lecturer productivity at STAIN Mandailing Natal. This is reflected in the R-square value of 0.263, equivalent to a 26.3% contribution when multiplied by 100. This figure is considered low, but still indicates a relevant influence and is worth considering in formulating institutional policies.

In the context of the Ministry of Religious Affairs, each campus has the opportunity to apply for funding for research activities, scientific publications, and community service through the Litapdimas program. This application can be made either through the work unit (campus budget) or through the central Litapdimas program, which is sourced directly from the budget of the Indonesian Ministry of Religious Affairs. However, for Litapdimas, work units usually have limited budgets and the number of proposals received is smaller than the central Litapdimas. In work units, the size of the budget and the number of proposals received for funding depends on the size of the campus (college, institute, university). In 2025, STAIN Mandailing Natal approved 24 research proposals for funding, each proposal funded at Rp. 30,120,000. The following is a recap of the number of Litapdimas research proposals funded annually over the past five years:

Table 4. Number of Research Proposals for the Litapdimas Work Unit of STAIN Mandailing Natal 2021–2025

No	Fiscal year	Number of proposals funded	Amount of Funds
1	2021	18 proposals	Rp. 23,000,000 – 25,000,000
2	2022	14 proposals	Rp. 35,000,000 – 37,640,000
3	2023	14 proposals	Rp. 23,099,000 – 60,000,000
4	2024	17 proposals	Rp. 23,000,000 – 50,000,000
5	2025	17 proposals	Rp. 30,147,000

Source: Research documentation

Between 2021 and 2024, funding allocation for research activities at STAIN Mandailing Natal exhibited a fluctuating pattern. A closer look reveals that in 2022, 13 proposals received Rp.35,000,000 each, while one proposal received a larger amount, Rp.37,640,000. The following year, 2023, another 13 proposals received Rp.23,099,000 each, while only one proposal secured the highest funding of Rp.60,000,000. A similar trend was observed in 2024, with 16 proposals receiving Rp.23,000,000, and only one proposal receiving Rp.50,000,000. It was not until 2025 that all proposals received the same amount of funding.

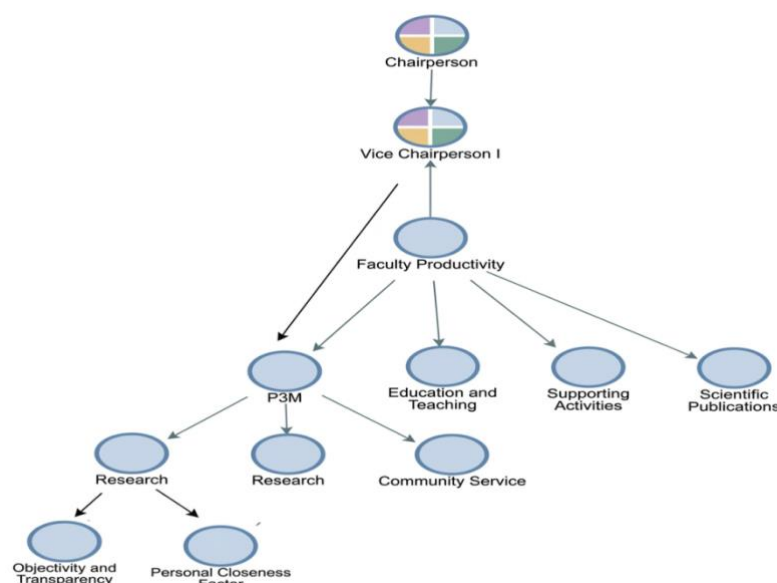


Figure 3. Project Map of the Influence of Authentic Leadership on Lecturer Productivity at STAIN Mandailing Natal

The visualization in the Project Map above presents a comprehensive overview of how the structure and direction of the relationship between institutional actors and various dimensions of lecturer productivity are interconnected within the STAIN Mandailing Natal environment. At the top are the Chairperson and Deputy Chairperson, who hold strategic authority and are hierarchically responsible for the policy direction and management of lecturer productivity. Under this leadership, the main nodes of lecturer productivity are driven, which are technically managed by the Center for Research and Community Service (P3M) through the Litapdimas Satker program, a research and community service funding scheme sourced from the campus budget.

3.2. Discussion

Authentic leadership at STAIN Mandailing Natal has been shown to influence lecturer productivity, although its statistical contribution remains relatively low at 26.3%. However, behind that figure lies a deeper story of structural challenges and internal policies that do not fully support the principles of objectivity and equality for all lecturers. Although various funding programs such as Litapdimas are available, their distribution still tends to be uneven, with structural officials often being prioritized. This inequality is not just about numbers, but also touches on the sense of justice and motivation of lecturers with ordinary functional (non-structural) positions who feel their efforts are underappreciated. When the selection process lacks transparency and room for clarification, it is natural for trust in the system to begin to erode. In this context, authentic leadership should not stop at personal example, but should also be able to create a system that is fair, transparent, and provides equal space for the productivity of the campus academic community.

Authentic leadership has been proven to directly contribute to improved employee performance and productivity. This achievement is possible because leaders are able to build a supportive work environment while simultaneously encouraging innovative work behaviors (Mrak & Kvasić, 2021; Srimongkolkul et al., 2025; Srimongkolkul & Boriraj, 2024). Through consistent and sustainable transformation of ethical practices, every policy adopted reflects a real response to the aspirations and needs of lecturers. Research shows that compensation and career development strategies significantly influence job satisfaction, which in turn affects productivity. Effective compensation systems and career development opportunities are essential to maintaining high levels of productivity (Permana et al., 2021; Thasimmim et al., 2025). This shows the importance of career support as a motivational tool to increase the productivity of lecturers' tri dharma.

Following up on these findings, leaders should be more careful in balancing lecturers' workloads to avoid disrupting their personal lives. Excessive workloads risk triggering prolonged stress, which

negatively impacts productivity (Suwarsi et al., 2025). Therefore, real support in the form of clear policies and adequate funding is essential to encourage lecturer productivity, particularly in research activities, scientific publications, and community service (Hue et al., 2022; Tuan et al., 2022).

Interview data processed with NVivo depicts a project map of the relationship between authentic leadership and lecturer productivity at STAIN Mandailing Natal, where the direction of the arrow of the Litapdimas program points not only to the substance of the proposal's content, but also intersects with two other factors that often determine whether a proposal is approved or not: objectivity and transparency, and the proximity factor, which in many cases is interpreted as personal closeness, both in terms of access and policy influence. This structure clearly demonstrates that lecturer productivity does not arise in a vacuum. It is heavily influenced by how leadership is directed, how fairly policies are implemented, and the extent to which institutional ethics are respected.

Criticism also came from lecturers who had participated in the grant selection process. One lecturer, DSP I, expressed his disappointment, "My proposal was not accepted, even though the reviewers' comments on the application and seminar presentation were good. When asked by the P3M why it was not accepted, the head of P3M replied, 'That's the policy of the leadership and the board.'" There was no transparency, and the presentation results and reviews from reviewers were never published. So lecturers did not know where their mistakes lay, which could be used as input for the future. This statement was reinforced by DKP II, who assessed that the selection process seemed unfair from the start. He said:

We both know who the winner is; even with a bad grade, we can pass. Even if we don't pass, we can accept it, but please tell me what my shortcomings are, what the weight of the score is, where the ranking is, what the reason is. What percentage of the assessment weight (scores from reviewers and the P3M team)? Yes, it must be explained so we know. This doesn't exist and never has. The problem is that the reviewers' comments are good, but why can't I pass? From the first year until now, the people who pass are the same.

DKP II added reflectively, "We can't deny the regime, but as subjective as I am, I must be able to demonstrate objectivity. We must have boundaries, and that is proven by the value of transparency." More pointedly, DB II highlighted leadership patterns he considered unhealthy. For example, if a lecturer in a work unit isn't close to you and isn't deemed to provide any benefits/advantages to you, then it won't be approved. There are many examples of this. Lecturers who aren't close to their superiors, even if their proposals are good, are still not approved for funding. For example, the proposal for Litapdimas by lecturer Y's team ranked 6th out of 24 submitted proposals, but it wasn't approved because it wasn't important and didn't contribute anything in your eyes.

This phenomenon should be a shared reflection. Lecturer productivity isn't just about credit scores or publications; it's a crucial part of the academic ecosystem that determines study program progress, institutional accreditation, and the university's reputation at the national and global levels. Lecturers who actively research, write, and publish high-quality scientific papers are invaluable assets to higher education institutions. Therefore, it is crucial for leaders to provide authentic leadership that not only upholds the values of justice and integrity but also builds a system that is transparent, fair, and open to input. This authentic leadership will create a healthy academic culture, where every faculty member's effort and achievement are duly recognized, and the institution thrives on a spirit of meritocracy, not mere pseudo-loyalty.

Speaking of leadership and productivity, when leaders are sincere and act adaptively in line with existing values, employees will feel appreciated and motivated to perform better. This motivation then becomes positive energy that drives increased productivity. Because, in essence, productivity isn't just about working hard nonstop, but rather working intelligently while remaining grounded in moral values, and guided by leadership rooted in authenticity (Demartini, 2023).

Authentic leadership fosters trust between employees and leaders, which is crucial for employee development. This trust enhances employee well-being and psychological engagement, leading to increased productivity (Kleynhans et al., 2021, 2022). Studies show that authentic leadership encourages creativity and innovative work behaviors among employees. This creativity is crucial for problem-solving and improving work processes, which can lead to higher productivity (Liu et al., 2025;

Sengupta et al., 2021). Authentic leadership also directly impacts employee performance by promoting resilience, job satisfaction, and innovative behavior. These factors collectively increase productivity (Sengupta et al., 2021; Srimongkolkul et al., 2025).

4. CONCLUSION

This study found that authentic leadership significantly influenced lecturer productivity at STAIN Mandailing Natal. Although its statistical contribution was still relatively small, at 26.3%. However, authentic leadership remains an organizational factor worthy of consideration in increasing lecturer productivity in Islamic higher education settings. Qualitative findings also indicate that a transparent system, institutional support, and providing equal space for productivity within the campus academic community are important aspects in shaping lecturers' perceptions of authentic leadership.

Furthermore, this study contributes to the development of authentic leadership scholarship through the integration of SEM-PLS analysis and qualitative research in the context of Islamic higher education. Findings indicate that authentic leadership plays a significant role in boosting lecturer productivity in higher education. This implies that leadership quality is determined not only by managerial competence, but also by character and sincerity in building honest, fair, and objective relationships. In the future, the development of a performance and expertise-based incentive system will strengthen lecturers' motivation to be more competitive in implementing the Tri Dharma of Higher Education, which will lead to increased lecturer productivity. Practically, university leaders need to strengthen a transparent and supportive academic system to increase lecturer productivity and professional development. This research was limited to one newly developing Islamic university and focused solely on authentic leadership as the primary variable influencing lecturer productivity. Therefore, further research is recommended to consider a broader range of factors related to lecturer productivity.

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