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ABSTRACT: The primary aim of this study was to investigate the interplay among leadership, work motivation, polytechnic culture, and their combined impact on lecturer performance within the Indonesian context. Specifically, the study sought to explore how these factors influence lecturer performance through the mediating mechanisms of effective commitment and work ethics. Data were gathered from a sample of 310 lecturers from private sector universities in Indonesia, utilizing a convenient sampling method. The research design employed was crosssectional, explanatory, and quantitative in nature. The findings of regression analysis revealed that leadership, polytechnic culture, work motivation, work ethics, and effective commitments significantly influence lecturer performance in Indonesia. In essence, it was observed that leadership, polytechnic culture, and work motivation positively affect lecturer performance, mediated by work ethics and effective commitments. This observation contributes substantially to the existing literature, underscoring the importance of these factors in the academic setting. Furthermore, the study offers theoretical insights into organizational dynamics aimed at enhancing performance within Indonesian higher education institutions. The significance of leadership, supportive organizational culture, and effective motivation strategies in fostering performance within academic contexts in Indonesia was underscored by the research results. The study also acknowledges its limitations and suggests avenues for future research, thereby providing a comprehensive outlook on the subject matter.

Keywords: Leadership, Polytechnic Culture, Work Motivation, Lecturer Performance, Indonesia

1. Introduction

Lecturer performance stands as a pivotal element within any educational organization, not only influencing students' academic achievements but also shaping the overall prestige of the institution (Wahyudi, 2022). Beyond imparting knowledge, adept lecturers serve as catalysts for inspiring students to excel in their academic pursuits, thus elevating the significance of lecturer performance in facilitating student growth. Amidst the myriad factors influencing lecturer performance, effective commitment and work ethics emerge as pivotal determinants shaping lecturer behaviour and outcomes (Purwanto, 2020a). Effective commitment delineates the emotional bond and allegiance of lecturers towards their respective institutions (Marliza, 2022), while work ethics encapsulate the values and conduct guiding lecturer performance (Cen et al., 2021). Moreover, the pivotal role of work ethics in enhancing employee performance, thereby bolstering overall organizational performance, has been underscored in research (Aflah et al., 2021). Consistent research findings highlight the paramount importance of effective commitment and work ethics in driving employee performance across diverse organizational landscapes, thus accentuating their pertinence within higher education institutions.

Leadership behaviours demonstrated by academic

leaders, such as department heads and deans, serve as influential factors in shaping organizational culture and climate, thereby affecting lecturer attitudes and conduct (Atrizka & Pratama, 2022; Azizaha et al., 2020; Saragih et al., 2020). Transformational leadership, characterized by visionary leadership, support, and inspiration, fosters a positive work environment conducive to effective commitment among lecturers (Astuty et al., 2022; Robert & Vandenberghe, 2021; Susilawati et al., 2022). Similarly, leadership also cultivates an environment conducive to strong work ethics (Roque et al., 2020), thereby contributing to performance enhancement (Dura, 2022; Isnaini, Nurhaida, & Pratama, 2020; Simbolon, Riana, & Pratama, 2023; Utami, Sumaji, et al., 2019). Furthermore, work motivation, comprising both intrinsic and extrinsic factors, plays a crucial role in shaping lecturer engagement (Jufrizen et al., 2021; Pratama, Adam, & Kamardin, 2019; Susilawati et al., 2023), ultimately enhancing performance. Lecturers driven by a sense of purpose, recognition, and professional growth are more inclined to demonstrate strong work ethics and commitment to their institutions (Aflah et al., 2021). Additionally, university culture, encompassing shared values, norms, and practices, shapes lecturer perceptions and behaviours, thereby enhancing employee engagement (Rasool et al., 2021) and ultimately improving performance. Various studies have

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argued that increasing employee commitment through improved organizational culture enhances organizational performance (Sapta, Muafi, & Setini, 2021). Conversely, it is argued that a culture fostering collaboration, innovation, and continuous improvement enhances work ethics among lecturers (Novita, Kumaningtyas, & Nugroho, 2022), thereby augmenting lecturer performance. Therefore, this study aims to investigate the impact of leadership, work motivation, and polytechnic culture on lecturer performance through the lenses of effective commitment and work ethics.

Empirically, numerous studies have explored the connections between leadership, work motivation, polytechnic culture, work ethics, effective commitments, and employee performance across diverse cultural contexts. However, these investigations reveal certain gaps. Primarily, much of the existing research has concentrated on the individual impacts of leadership on performance (Febrian, Rajab, & AR, 2023; Saleem et al., 2020), culture's influence on performance (Iskamto, 2023; Shea et al., 2023), work motivation's role in performance (Nugroho et al., 2023; Susanto, Syailendra, & Suryawan, 2023), effective commitment's impact on performance (Renaldo, 2023; Setiadi et al., 2023), and work ethics' influence on performance (Muhammad & Yusriadi, 2022; Widyaningsih, Kirana, & Kusuma, 2024). While these prior inquiries have extensively scrutinized individual effects, a significant gap persists in the literature concerning the combined effects of these factors, especially within the context of higher education institutions such as Indonesian universities.

Furthermore, existing research has produced inconsistent findings regarding the relationships between these constructs and employee performance, indicating a need for further investigation and clarification. Several studies have contended that leadership, work motivation, and polytechnic culture may more effectively enhance employee performance through indirect effects (Febrian et al., 2023; Qomariah et al., 2023; Susanto et al., 2023). Therefore, the study's focus on the mediating effects of effective commitment and work ethics holds paramount importance, as numerous studies have identified the significant impact of these indicators (Sattar et al., 2021; Tabarsa et al., 2023).

Moreover, a substantial portion of research exploring these constructs has been conducted in organizational contexts outside of academia, with limited investigation specifically targeting universities and the distinctive dynamics inherent within higher education institutions (Febrian et al., 2023; Qomariah et al., 2023; Susanto et al., 2023). Fourthly, prior research predominantly focused on other nations,

with minimal attention directed towards universities in Indonesia. Indonesian universities hold pivotal roles as centres for knowledge generation and talent cultivation, crucial drivers of the nation's socio-economic advancement (Humaira & Rachmadtullah, 2021).

This study's objectives carry significant theoretical implications, as they aim to bridge critical gaps in existing literature by delving into the intricate interplay between leadership, work motivation, organizational culture, effective commitment, work ethics, and lecturer performance within Indonesia's distinctive landscape. In doing so, it enriches theoretical frameworks in organizational behaviour, educational management, and human resource development, augmenting our comprehension of how these variables synergize to shape performance outcomes. Moreover, the practical implications of the study findings are paramount for guiding policymaking and organizational strategies within Indonesian universities. Insights garnered from the research can inform administrators and policymakers in crafting effective leadership development initiatives, fostering motivating work environments, and nurturing positive organizational cultures conducive to enhancing lecturer performance. Ultimately, this research has the potential to drive tangible enhancements in educational quality, faculty contentment, and institutional efficacy, thereby propelling Indonesia's academic milieu forward and bolstering its global competitiveness.

The study comprises four additional chapters: literature review, research methods, data analysis and results, and discussion and conclusion.

2. Review of Literature and Development of Hypotheses

Numerous studies have examined the relationship between leadership, polytechnic culture, motivation, work ethics, effective commitment, and employee performance, revealing inconsistencies that warrant further investigation. Leadership, a crucial concept, demonstrates management behaviour and plays a pivotal role in enhancing performance (Febrian et al., 2023). Transformational leadership, characterized by inspirational motivation and idealized influence, consistently correlates with improved employee performance (Ulum & Mun'im, 2023). Transformational leaders inspire and motivate employees, leading to higher job satisfaction and commitment levels (Piwowar-Sulej & Igbal, 2023). Research suggests that leadership effectiveness depends on the leader's ability to adapt their style to followers' needs (Piwowar-Sulej & Igbal, 2023). Additionally, studies by Persada and Nabella

(2023) confirm the positive and significant impact of transformational leadership on performance outcomes, including job performance, satisfaction, and commitment. These findings underscore the importance of leadership as an indicator for employee performance, thus forming the basis for the study's research hypotheses.

Hypothesis 1: Employee performance significantly influence by leadership.

Moreover, work motivation, a fundamental concept in organizational psychology, significantly influences employee performance (Asbur et al., 2024; Miharja et al., 2019; Salim & Ernanda, 2023). According to selfdetermination theory, individuals experience intrinsic motivation when their work resonates with their values, interests, and sense of autonomy, fostering heightened engagement and performance levels (Arifuddin et al., 2023). Furthermore, goal-setting theory asserts that establishing specific, challenging goals and offering feedback enhances employee motivation and performance (Pasulu et al., 2023). Empirical evidence consistently reveals a positive correlation between work motivation and employee performance across diverse organizational settings (Pasulu et al., 2023). For instance, studies conducted by Utami, Indrianto and Pratama (2019), Danilwan et al. (2020), and Pasulu et al. (2023) indicate that intrinsically motivated employees demonstrate heightened levels of task performance and job satisfaction. Additionally, a meta-analysis conducted by Salim and Ernanda (2023) confirms motivation as a significant predictor of job performance. Thus, the study formulates the following research hypotheses based on these premise.

Hypothesis 2: Employee performance significantly influence by work motivation.

The polytechnic culture, distinguished by its emphasis on practical learning, is believed to have a positive impact on employee performance within educational institutions (Nguyen, Yandi, & Mahaputra, 2020). This culture fosters an environment conducive to innovation, problem-solving, and teamwork, which are crucial for enhancing employee engagement (Purwanto, 2020b). Research indicates that employees in organizations with strong cultures tend to demonstrate heightened levels of job satisfaction, commitment, and performance (Trushkina et al., 2020). Specifically, within the context of polytechnic institutions, Al-Swidi, Gelaidan and Saleh (2021) discovered that a supportive organizational culture correlates with increased employee engagement and performance. Hence, the study formulates the following research hypothesis.

Hypothesis 3: Employee performance significantly influence by polytechnic culture.

Effective commitment, denoting employees' emotional attachment and loyalty to the organization, exerts a substantial influence on employee performance (Febrina & Syamsir, 2020). Employees who demonstrate commitment to their organization are more inclined to invest discretionary effort, remain with the organization, and contribute to its overall success (Marliza, 2022). Empirical evidence suggests a positive correlation between effective commitment and job performance, as committed employees are driven to achieve organizational objectives and uphold its values (Donkor, Dongmei, & Sekyere, 2021). Furthermore, organizational commitment is associated with heightened levels of job satisfaction, which, in turn, correlates with improved performance outcomes (Paramita, Lumbanraja, & Absah, 2020). Hence, the study proposes the following research hypothesis.

Hypothesis 4: Employee performance significantly influence by effective commitment.

Work ethics is a fundamental concept in organizational psychology, playing a pivotal role in shaping employee performance (Aflah et al., 2021). According to selfdetermination theory, individuals are intrinsically motivated to adhere to ethics when their work aligns with their values, interests, and sense of autonomy, leading to heightened performance levels (Rahman, 2020). Empirical evidence consistently demonstrates a positive association between work ethics and employee performance (Aflah et al., 2021). For example, research conducted by Ichsan, Nasution and Setiadi (2022) revealed that intrinsically motivated employees exhibit elevated levels of task performance and job satisfaction. Furthermore, Raja et al. (2020) corroborated that ethics significantly predicts job performance. Therefore, it is postulated that work motivation positively influences employee performance. Thus, the study posits the following research hypothesis.

Hypothesis 5: Employee performance significantly influence by work ethics.

As previously discussed, leadership, polytechnic culture, and work motivation have direct effects on employee performance. However, various studies have suggested that these factors could more effectively enhance employee performance through indirect effects (Febrian et al., 2023; Qomariah et al., 2023; Susanto et al., 2023). Therefore, their relationships can be examined with the mediating effects of effective commitment and work ethics. Among these variables, polytechnic culture, characterized by its emphasis on practical learning, is proposed to positively

influence employee performance within educational institutions (Ismail, Asmawi, & Widodo, 2020). This culture fosters an environment conducive to innovation, problemsolving, and teamwork, which are crucial for enhancing employee engagement and productivity (Odor, 2020). Research indicates that employees in organizations with strong cultures tend to demonstrate higher levels of job satisfaction, commitment, and performance (Kagucia, 2022). Thus, the study formulates the following research hypothesis.

Hypothesis 6: Polytechnic culture significantly influence to employee performance through effective commitment.

Moreover, leadership influences employee performance through its impact on effective commitment, which refers to employees' emotional attachment and loyalty to the organization (Park et al., 2022). Effective leaders inspire trust, foster a sense of belonging, and uphold organizational values, leading to heightened levels of commitment among employees (Jiatong et al., 2022). Research indicates that transformational leadership behaviours, such as providing vision and support, are positively correlated with organizational commitment (Jiatong et al., 2022). Additionally, effective commitment has been associated with elevated levels of job performance and organizational citizenship behaviours (Donkor et al., 2021). Another study found that leadership is a significant determinant influencing employees' commitment, thereby enhancing employee performance (Donkor et al., 2021). Furthermore, a significant mediating effect of effective commitment was observed in the relationship between leadership and employee performance (Duarte et al., 2021). Thus, the study formulates the following research hypothesis.

Hypothesis 7: Leadership significantly influence to employee performance through effective commitment.

Conversely, work motivation, previously established as influencing employee performance, is further posited to significantly and positively impact employee performance through indirect pathways (Riyanto, Endri, & Herlisha, 2021). Motivated employees are inclined to exert discretionary effort and contribute to organizational goals, fostering a sense of commitment and loyalty (Riyanto et al., 2021). Research suggests that intrinsic motivation, stemming from personal interest and satisfaction, is positively correlated with organizational commitment (Park et al., 2022). Moreover, organizations that effectively manage employee stress and cultivate meaningful work experiences are more likely to foster strong employee ties to the organization (Almaaitah et al., 2020). In addition, it is argued that work motivation could significantly and

positively enhance employee performance through other moderating and mediating mechanisms (Chien et al., 2020). Therefore, the study has formulated hypotheses regarding the mediating effect of effective commitment as follows.

Hypothesis 8: Work motivation significantly influence to employee performance through effective commitment.

Al Halbusi et al. (2021) assert that authentic leadership, characterized by transparency and ethical decisionmaking, significantly influences employees' ethical behaviour and performance. Zhang and Xu (2024) support this, emphasizing the importance of ethical leadership in shaping organizational culture conducive to ethical conduct. Park et al. (2022) found that leadership practices indirectly influence employee misconduct through their impact on the organization's ethical climate. Islam et al. (2023) discovered a significant and positive impact of leadership on work ethics, suggesting that improving work ethics enhances employee performance. Faliza, Setiawan and Agustina (2024) argue that when employees feel intrinsically motivated and have a sense of autonomy and competence, they are more likely to uphold ethical standards, improving performance. Additionally, Jamil et al. (2024) investigated the impact of organizational culture, including polytechnic culture, on work ethics and performance. Various studies also suggest that leadership, work motivation, and polytechnic culture could enhance employee performance indirectly (Febrian et al., 2023; Qomariah et al., 2023; Susanto et al., 2023). Therefore, considering the significant impact of effective commitment and work ethics indicated by prior studies (Sattar et al., 2021; Tabarsa et al., 2023), this study focuses on their mediating effects. Hence, the following research hypotheses are formulated based on the previous discussion.

Hypothesis 9: Leadership significantly influence to employee performance through work ethics.

Hypothesis 10: Work motivation significantly influence to employee performance through work ethics.

Hypothesis 11: Polytechnic culture significantly influence to employee performance through work ethics.

3. Research Methods

The research aimed to explore the combined impacts of leadership, work motivation, and polytechnic culture on lecturer performance in Indonesia, mediated by effective commitment and work ethics. Utilizing a quantitative research approach, data were collected through survey instruments, considered more effective than qualitative

methods (Almalki, 2016). The study employed a crosssectional research design, suitable for data collected at a single point, contrasting with longitudinal designs (Sedgwick, 2015). It adopted an explanatory nature, testing hypotheses based on existing theory (Bartels & Ketellapper, 1979). Analysis was conducted using Smart PLS and SPSS software.

3.1 Instrumentation and Procedures for Data Collection in Research

The research utilized a self-administered questionnaire adapted from existing literature. Work motivation was assessed using six items, university polytechnic culture with 10 items, and leadership with five items, all adapted from Suyitno (2024). Effective commitment was evaluated using six questions

(Gessesse & Premanandam, 2023), while work ethics was assessed with five items (Ahmed et al., 2023). Lecturer performance was measured with five items (Hiswara et al., 2023). The adapted instrument employed a five-point Likert scale, ranging from 1 for "strongly disagree" to 5 for "strongly agree." Questionnaires were distributed among lecturers at Indonesian private sector universities, with 420 distributed using non-probability convenient sampling due to unknown population and limited resources (Han et al., 2021). Out of the 420 questionnaires distributed, 330 were returned, with 310 deemed effective for further analysis, indicating a satisfactory response rate (Kotrlik & Higgins, 2001). The predicted variables are illustrated in Figure 1.



Figure 1. Conceptual Framework

3.2 Descriptive Statistics

Table 1 presents the descriptive statistics for six variables: leadership, work motivation, polytechnic culture, effective commitment, work ethics, and lecturer performance. Leadership and work motivation display slightly negative skewness, suggesting a slight left-leaning distribution, with means of 3.75 and 4.10, and standard deviations of 0.82

and 0.67, respectively. Polytechnic culture shows positive skewness, indicating a right-leaning distribution, with a mean of 3.45 and a standard deviation of 0.91. Effective commitment, work ethics, and lecturer performance exhibit relatively symmetrical distributions with slightly positive skewness and mean values of 3.90, 3.60, and 3.90, respectively. These results are summarized in Table 1.

Table 1: Descriptive Statistics.

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Minimum	Maximum
LEA	3.75	0.82	-0.12	-0.24	1	5
WM	4.10	0.67	-0.05	-0.10	1	5
POLTC	3.45	0.91	0.30	-0.15	1	5
EC	3.90	0.76	-0.18	-0.05	1	5
WE	3.60	0.85	0.15	0.08	1	5
LEP	3.90	0.89	0.16	0.09	1	5

3.3 Convergent Validity

Convergence was evaluated through factor loadings, composite reliability (CR), Cronbach's alpha, and

average variance extracted (AVE). Recommended factor loading values are above 0.5, indicating at least 50% variance in the observed variables (Hair et al., 2017). Cronbach's alpha values exceeding 0.70 are

typically considered satisfactory for internal consistency reliability (Hair et al., 2017). CR values above 0.70 are also deemed acceptable, signifying scale reliability (Hair et al., 2017). AVE values surpassing 0.50 suggest that more than half of the variance in observed variables is explained by the underlying construct, indicating adequate convergent validity (Hair et al., 2017). These values are summarized in Table 2.

Table 2: Convergent Validity.

Variable	Alpha	CR	AVE
LEA	0.861	0.890	0.650
WM	0.782	0.822	0.601
POLTC	0.823	0.851	0.702
EC	0.851	0.882	0.682
WE	0.802	0.833	0.621
LEP	0.781	0.811	0.712

Note: LEA: Leadership, WM: Work Motivation, POLTC: Polytechnic Culture, EC: Effective Commitment, WE: Work Ethics. LEP: Lecturer Performance.

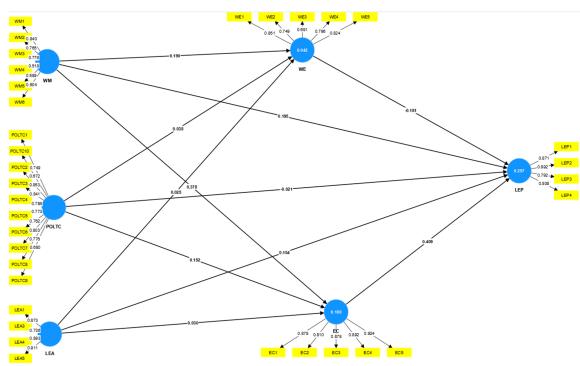


Figure 2: Factor Loadings

3.4 Discriminant Validity

Discriminant validity assesses how constructs differ, checked through Fornell and Larcker criterion, crossloadings, and HTMT. According to Fornell and Larcker, it's met when the square root of the AVE for each construct exceeds correlations with other constructs. Cross-loadings reveal if items meant for one construct load onto others, with 0.5 typically recommended for good discriminant validity (Hair et al., 2017). Additionally, the HTMT ratio compares the average correlation among items measuring different constructs to that among items measuring the same construct. A threshold below 0.85 or 0.90 indicates discriminant validity (Henseler, Ringle, & Sarstedt, 2015), and Table 3 results indicate that all construct correlations are below 0.85, meeting the discriminant validity criterion. Several authors contend that HTMT suffices for establishing discriminant validity.

Table 3: Discriminant Validity.

	LEA	WM	POLTC	EC	WE	LEP
LEA						
WM	0.681					
POLTC	0.621	0.702				
EC	0.712	0.632	0.692			
WE	0.653	0.682	0.673	0.663		
LEP	0.781	0.231	0.451	0.232	0.231	

3.5 Findings on Hypotheses

After model assessments, the next step is testing research hypotheses. Before hypothesis testing, model fit statistics evaluate how well the data represent variable relationships. Q square and R square are key for assessing model fitness. In PLS-SEM, Q square measures predictive capability, while R square indicates variance explained by variables, aiding in predictive power and explanatory ability evaluation. Cohen (1998) suggested R square values above 0.26 as substantial, 0.13 as moderate,

and 0.02 as weak. The R square values in Table 4, 0.45 and 0.573, are substantial, indicating strong explanatory power. Additionally, all values exceeding 0 signify predictive relevance (Hair et al., 2017), which is the case here. Additionally, F square serves as an effect size indicator, where values above or equal to 0.02 are small, those surpassing or equal to 0.15 are medium,

and those exceeding 0.35 are large (Cohen, 1998). All F square values exceeding 0.15 suggest a medium level of impact on lecturer performance. The hypothesis results indicate positive and significant impacts of leadership, work motivation, and polytechnic culture on lecturer performance, alongside effective commitment and work ethics. These findings are summarized in Table 4.

Table 4: Hypothesis Findings.

Hypothesis	Beta Coefficient	Standard Error	T Statistics	Results
LEA->LEP	0.353	0.083	4.38***	Supported
WM-LEP	0.422	0.062	7.00***	Supported
POLTC-LEP	0.251	0.091	2.77**	Supported
WE-LEP	0.391	0.073	5.57***	Supported
EC-LEP	0.272	0.101	2.77**	Supported
LEA->WE->LEP	0.253	0.062	4.18***	Supported
WM->WE -LEP	0.382	0.081	4.75***	Supported
POLTC->WE -LEP	0.293	0.071	3.93***	Supported
LEA->EC->LEP	0.272	0.052	5.20***	Supported
WM->EC ->LEP	0.363	0.073	5.14***	Supported
POLTC->EC->LEP	0.221	0.081	2.75**	Supported

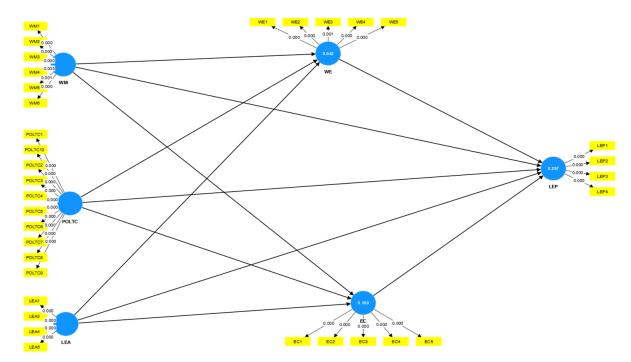


Figure 3. Structural Model

4. Discussion and Conclusion

The research sought to assess the influence of work motivation, leadership, and polytechnic culture on lecturer performance, with work ethics and effective commitments as mediating factors, within private sector universities in Indonesia. Data were gathered from lecturers in these institutions. The study's primary findings reveal a significant positive impact of leadership on lecturer performance,

consistent with the proposed hypothesis. This suggests that effective leadership in Indonesian universities, characterized by vision, support, and encouragement, enhances lecturer performance by fostering motivation and providing a conducive work environment, aligning with prior research (Febrian et al., 2023; Iskamto et al., 2021). Similarly, the results demonstrate a positive and significant effect of work motivation on lecturer performance,

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affirming the proposed hypothesis. Intrinsically motivated lecturers, driven by their passion for teaching and academic growth, exhibit higher performance levels, as supported by existing literature (Arifuddin et al., 2023; Salim & Ernanda, 2023). This underscores the importance of recognizing lecturers' achievements, offering professional development opportunities, and assigning meaningful tasks to enhance performance in Indonesian universities. Additionally, polytechnic culture is found to positively influence lecturer performance. A polytechnic culture, characterized by practical learning and interdisciplinary collaboration, fosters lecturer engagement and performance, aligning with previous studies highlighting the role of supportive organizational cultures (Ariani, 2023; Iskamto, 2023). Thus, promoting a polytechnic culture in Indonesian universities is deemed instrumental in improving lecturer performance.

The study also reveals a positive and significant impact of work ethics on lecturer performance. This underscores the critical role of ethics in influencing lecturer performance in Indonesian universities, as lecturers with strong ethics are more likely to invest in teaching, student engagement, and scholarly activities (Akhmadi et al., 2023; Muhammad & Yusriadi, 2022). Enhancing lecturer ethics improves the work environment, crucial for improving lecture performance. Additionally, effective commitment significantly influences lecturer performance, with committed lecturers demonstrating greater dedication to their teaching, research, and service roles (Renaldo, 2023; Setiadi et al., 2023). This highlights the importance of fostering effective commitment through supportive leadership, professional development, and positive organizational culture to enhance lecture performance in Indonesian universities.

Further analysis reveals significant and positive mediating effects of work ethics between leadership and lecturer performance. This suggests that leadership behaviours, such as providing inspiration, can enhance work ethics, thereby improving lecturer performance indirectly (Faliza et al., 2024). Effective leadership, fostering a supportive and inspiring work environment, indirectly boosts lecture performance by promoting work ethics conducive to excellence in teaching and research activities. Similarly, work ethics significantly mediates the relationship between work motivation and lecturer performance. Motivated lecturers are inclined to exhibit higher levels of engagement, effort, and innovation in teaching practices (Faliza et al., 2024), a finding supported by Susanto et al. (2023), emphasizing motivation's integral role in improving lecturer performance. Hence, private universities in Indonesia play a pivotal role in motivating their employees,

enhancing commitment, and subsequently improving lecturer performance. Additionally, the relationship between polytechnic culture and lecturer performance is significantly mediated by work ethics. The presence of a polytechnic culture in Indonesian universities shapes lecturer work ethics, fostering practical learning, collaboration, and innovation (Al-Ansi, Jaboob, & Awain, 2023; Iskandar, Ardhiyansyah, & Jaman, 2023), thereby enhancing lecturer performance.

Moreover, the relationship between work motivation and lecturer performance is also significantly and positively mediated by effective commitment. These findings indicate that lecturer motivation directly affects their commitment to the university, subsequently influencing lecturer performance (Rafa'i et al., 2023). Thus, enhancing lecturer motivation could indirectly enhance lecturer performance by fostering a stronger commitment to the university.

Additionally, the relationship between polytechnic culture and lecturer performance is significantly mediated by effective commitment. This suggests that the presence of a polytechnic culture in Indonesian universities influences lecturer performance by enhancing effective commitment among lecturers. This argument is supported by the notion that a culture emphasizing practical learning and innovation fosters a sense of belonging and loyalty among faculty members (Mishra & Kasim, 2023). Consequently, promoting a polytechnic culture that values hands-on learning experiences and interdisciplinary collaboration may indirectly enhance lecturer performance by cultivating a stronger commitment to the university.

5. Implications

The study conducted in Saudi Arabian universities offers significant theoretical and practical contributions. The empirical findings highlight the positive impact of leadership, polytechnic culture, and work motivation on lecturer performance, enriching the literature on educational settings. Moreover, by revealing the indirect effects of these factors through effective commitment and work ethics, the study sheds light on the mechanisms influencing lecturer performance, particularly in Indonesian universities. This mediating influence underscores the importance of considering multiple variables in understanding lecturer performance dynamics. Additionally, the study provides a valuable framework for future research, encouraging the exploration of additional variables within this context. Practically, the research offers actionable insights for enhancing lecturer performance in Indonesia. Leadership programs focused on nurturing transformational leadership behaviours

can empower academic leaders to enhance lecturer motivation and commitment. Initiatives aimed at fostering a supportive polytechnic culture within universities can promote collaboration, innovation, and lecturer engagement. Furthermore, strategies to enhance motivation, such as providing professional development opportunities and recognition, can create an environment conducive to lecturer well-being and effectiveness. Implementing these strategies can help Indonesian universities create supportive environments conducive to improving lecturer performance.

6. Limitations and Directions for Future

The study identifies several limitations despite its significant findings, which warrant consideration in future research to enhance the study's reliability. Firstly, the study's scope was confined to private universities, limiting its generalizability. Future research could compare private and public sector universities to discern potential variations in results, thereby broadening the research's applicability. Secondly, the research employed a cross-sectional design, restricting the exploration of temporal dynamics. Subsequent investigations could adopt a longitudinal approach to capture temporal changes in outcomes. Lastly, the study focused solely on mediating effects; future research could extend its framework to include moderating effects, thereby augmenting the research's generalizability.

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