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Enhancing Lecturer Productivity Through Work-Life Balance and Organizational Commitment: The Moderating Role of Information Technology in Islamic Universities

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Abstract: Lecturer productivity is a strategic priority for Islamic Higher Education Institutions (IHEIs), which combine academic excellence with Islamic values and community service while often operating under constraints such as limited digital infrastructure, heavy administrative workloads, and dual religious–academic responsibilities. This study examines how organizational commitment and work-life balance influence lecturer productivity in six IHEIs in Jambi Province, with information technology (IT) tested as a moderating factor. Using a quantitative survey of 237 lecturers and analyzing the data with SEM-PLS, the results show that organizational commitment significantly improves lecturer productivity, whereas work-life balance has a positive but statistically insignificant effect. IT demonstrates a strong direct impact on productivity, but it does not moderate the effects of organizational commitment or work-life balance, suggesting that technology operates primarily as a general performance enabler rather than a conditional amplifier of these individual factors. These findings extend evidence on productivity determinants in the under-studied IHEI context and offer practical implications for policy and management, particularly the need to strengthen digital infrastructure, enhance organizational support systems, and align HR practices with the institutional realities of Islamic higher education.

Keywords: Organizational Commitment, Work-Life Balance, Lecturer Productivity, Information Technology, Islamic Higher Education, Indonesia, SEM-PLS, Academic Performance, Digital Moderation, Higher Education Policy

INTRODUCTION

Lecturer productivity is a key determinant of the success of Islamic Higher Education Institutions (IHEIs) in fulfilling the Three Pillars of Higher Education: teaching, research, and community service. The rapid transformation to online learning, accelerated by the COVID-19

pandemic, has posed significant challenges to lecturers, especially in regions such as Jambi Province, where technological infrastructure remains limited. The Ministry of Religious Affairs highlighted the need for lecturers to adapt to digital tools during this period, emphasizing the increased workload and technological challenges faced by educators in Islamic higher education (Kementerian Agama RI, 2021)Despite these obstacles, lecturers are expected to maintain productivity, not only in teaching but also through producing scientific publications, innovating pedagogical approaches, and contributing to community engagement. This underscores the strategic importance of addressing lecturer productivity within the context of Islamic higher education (Antara, 2025).

This study integrates three critical concepts organizational commitment, work-life balance, and information technology that are essential in enhancing lecturer productivity. Organizational commitment plays a vital role in fostering employee loyalty and engagement, which subsequently drives better performance within institutions. According to Meyer and Allen (1997), organizational commitment comprises three components: affective commitment, which reflects an emotional attachment to the organization; continuance commitment, which relates to perceived costs of leaving the organization; and normative commitment, which involves a sense of obligation to remain. These dimensions collectively influence the extent to which employees are willing to exert effort toward institutional goals (J. P. Meyer, 1997). Meanwhile, Greenhaus and Beutell's (1985) theory of work-life balance highlights the importance of managing role conflicts to reduce stress and improve work efficiency (Greenhaus & Beutell, 1985a). ZIn the digital era, Davis' (1989) Technology Acceptance Model (TAM) and Venkatesh et al.'s (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) demonstrate that the adoption of technology is significantly influenced by perceived ease of use and usefulness (Venkatesh et al., 2003; Venkatesh & Davis, 2000). By synthesizing these theoretical frameworks, this study seeks to examine how organizational commitment and work-life balance affect lecturer productivity and how information technology moderates these relationships.

Jambi Province was selected as the research site due to its unique characteristics as a region with Islamic Higher Education Institutions (IHEIs) that face significant challenges in technological infrastructure. According to the Jambi Province Statistics Bureau (2022), only 53% of educational institutions in the region have adequate digital infrastructure, which is below the national average (BPS Statistic Indonesia, 2023). Furthermore, many lecturers in this region experience heavy workloads and insufficient technological training, negatively impacting their productivity (Mahdayeni, 2021). By focusing on six IHEIs in Jambi Province, this study provides a nuanced understanding of lecturer productivity dynamics within Islamic higher education in a resource-constrained setting.

The identified research gap lies in the limited studies that explore the role of information technology as a moderator in the relationships between organizational commitment, work-life balance, and lecturer productivity. Previous studies have highlighted the direct influence of technology on individual performance but have not fully explored its interaction with organizational and individual factors. For instance, Hossain et al. (2022) examined the impact of data-driven innovation on individual performance but did not consider the moderating role of information technology in conjunction with organizational commitment and work-life balance (Hossain et al., 2024). Similarly, studies have found that poor work-life balance negatively impacts productivity but did not examine how technology could mitigate this issue. Within the context of Islamic Higher Education Institutions (IHEIs) in Indonesia, particularly in Jambi, such integrative studies remain scarce.

The novelty of this research lies in its integration of organizational commitment, work-life balance, and information technology theories within the context of Islamic Higher Education Institutions (IHEIs) operating under Islamic values in regions with limited

infrastructure. Such an integrative approach is rare in existing literature, particularly within the framework of human resource management in higher education in developing regions (Hossain et al., 2024) The findings are expected to contribute to the theoretical literature by bridging gaps in understanding the interplay of organizational and technological factors, as well as offering practical insights for policymaking to enhance lecturer productivity. Specifically, this study aims to: (1) examine the effect of organizational commitment on lecturer productivity, (2) examine the effect of work-life balance on lecturer productivity, (3) analyze the moderating role of information technology in the relationship between organizational commitment and lecturer productivity, and (4) analyze the moderating role of information technology in the relationship between work-life balance and lecturer productivity.

Conceptual Framework and Hypotheses

Organizational Commitment and Work Productivity

Organizational commitment plays a crucial role in shaping employees' motivation and performance, particularly in academia. According to Meyer and Allen's (1991) Three-Component Model of Organizational Commitment, the construct comprises three dimensions: affective commitment, reflecting emotional attachment to the organization; normative commitment, denoting a sense of obligation to stay with the organization; and continuance commitment, related to perceived costs of leaving the organization (J. P. , & A. N. J. Meyer, 1991). These dimensions collectively influence the dedication and effort employees invest in achieving organizational goals. Recent studies highlight that organizational commitment, when supported by effective leadership and a positive organizational culture, significantly enhances lecturer productivity by fostering engagement in teaching, research, and community service. This relationship is particularly critical in higher education institutions in resource-constrained settings, where institutional support is vital for maintaining academic performance (Habibi et al., 2024).

In the context of higher education, particularly within Islamic Higher Education Institutions (IHEIs), organizational commitment is essential for sustaining lecturer productivity. Meyer and Allen's (1991) Three-Component Model outlines three dimensions of organizational commitment (J. P. , & A. N. J. Meyer, 1991):

1) Affective Commitment: Reflects an individual's emotional attachment to the organization, leading to higher engagement in research, teaching, and community service.
2) Normative Commitment: Denotes a sense of obligation to remain with the institution, encouraging lecturers to actively contribute to academic and social objectives.
3) Continuance Commitment: Pertains to the perceived costs associated with leaving the organization, ensuring the retention of experienced lecturers and maintaining stability in teaching quality and institutional knowledge.

These dimensions collectively influence the dedication and effort lecturers invest in achieving organizational goals. Recent studies have demonstrated that organizational commitment positively impacts lecturer performance. For instance, research indicates that organizational commitment significantly affects lecturer performance, with higher commitment levels leading to improved teaching outcomes. Additionally, organizational commitment has been found to mediate the relationship between participatory leadership and lecturer performance, suggesting that committed lecturers are more responsive to inclusive leadership styles. These findings underscore the importance of fostering organizational commitment within IHEIs to sustain and enhance lecturer productivity (Irnawati & Nuryani, 2023; Rizal et al., 2024).

Given these dynamics, this study hypothesizes that organizational commitment positively influences lecturer productivity in the context of Islamic Higher Education Institutions (IHEIs) in Jambi Province. The hypothesis is formulated as follows:
H1: Organizational commitment has a significant positive effect on work productivity.

Work-Life Balance and Work Productivity

Work-life balance (WLB) is a critical factor influencing lecturer productivity, particularly in demanding academic roles. Greenhaus and Beutell (1985) define work-life balance as the effective management of conflicts between work and personal life across three dimensions (Greenhaus & Beutell, 1985a):

1) Time-based conflict: This occurs when the time devoted to the requirements of one role makes it difficult to fulfill the requirements of another role.
2) Strain-based conflict: This arises when the strain from participation in one role makes it difficult to fulfill the requirements of another role.
3) Behavior-based conflict: This happens when specific behaviors required by one role make it difficult to fulfill the requirements of another role.

In the academic context, lecturers often juggle multiple responsibilities, including teaching, research, and administrative duties, alongside personal commitments. Effective management of work-life balance is essential to maintain productivity and job satisfaction. Recent studies have highlighted the impact of work-life balance on academic staff. For instance, Franco et al. (2021) conducted a systematic review and found that gender inequality, high stress levels, and the absence of a healthy workplace negatively affect the well-being of higher education teachers, thereby influencing their work-life balance. Additionally, a study by Nurfalah et al. (2024) emphasized that a healthy work-life balance is vital for enhancing lecturer productivity in higher education, as it supports critical aspects like engagement and job satisfaction (Franco et al., 2021; Nurfalah, 2024).

In Islamic higher education institutions, the dual expectations of professional excellence and adherence to spiritual values make work-life balance even more critical. Research indicates that lecturers who maintain a healthy work-life balance are more likely to engage in research and teaching innovations, thereby enhancing their overall productivity. For instance, a study by Hakri found that work-life balance significantly influences job satisfaction and performance among academic staff in Malaysian Islamic universities (Hakri, 2024). Based on these insights, this study hypothesizes that work-life balance positively impacts lecturer productivity. The hypothesis is formulated as follows:
H2: Work-life balance has a significant positive effect on work productivity.

Information Technology and Work Productivity

Information technology (IT) has become an essential enabler of productivity, particularly in the academic sector, where it supports teaching, research, and administrative activities. The Technology Acceptance Model (TAM), introduced by Davis (1989), emphasizes two key factors influencing IT adoption: perceived ease of use, which refers to the degree to which technology is seen as effortless to use, and perceived usefulness, which reflects the belief that technology will enhance performance (Davis, 1989). Building upon TAM, the Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), incorporates additional factors such as social influence and facilitating conditions, highlighting the contextual nature of technology adoption (Venkatesh et al., 2003). These models provide a theoretical foundation for understanding how individuals adopt and use technology in academic settings.

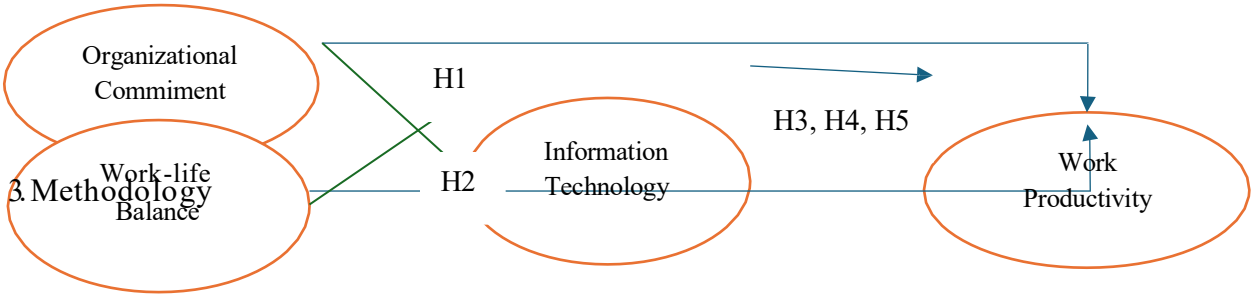
In the academic context, particularly among lecturers, the adoption of information technology (IT) can significantly enhance productivity by improving the efficiency and quality of teaching, research, and administrative tasks. Studies have demonstrated that lecturers who effectively utilize IT tools are better able to manage workloads, adapt to online learning environments, and deliver high-quality academic outputs. For instance, research indicates that IT adoption positively impacts work experience and overall employee productivity. Additionally, IT fosters innovation in teaching and facilitates collaboration in research, thereby supporting the broader goals of higher education institutions (Bojic et al., 2023; Hang, 2024). This study examines three hypotheses related to the role of IT in work productivity:

1. H3: Information technology has a significant positive effect on work productivity.
2. H4: Information technology moderates the relationship between organizational commitment and work productivity, such that the relationship is stronger when IT adoption is higher.
3. H5: Information technology moderates the relationship between work-life balance and work productivity, such that the relationship is stronger when IT adoption is higher.

By integrating these hypotheses, the study aims to understand not only the direct impact of information technology (IT) on lecturer productivity but also its moderating role in enhancing the effects of organizational commitment and work-life balance. This is particularly relevant in the context of Islamic higher education institutions in Jambi Province, where IT infrastructure and digital literacy are still developing. Research indicates that digital competence and psychological well-being significantly influence lecturer performance, with leadership styles playing a mediating role in this relationship. Additionally, work-life balance has been shown to positively affect employee performance, with happiness at work serving as a mediating factor. These findings suggest that IT adoption could strengthen the positive effects of organizational commitment and work-life balance on lecturer productivity by enhancing digital competence and facilitating a better work environment (Kosasih et al., 2024; Rizqi & Qamari, 2022).

The research framework provides a visual representation of the hypothesized relationships developed from the five proposed hypotheses. As shown in Figure 1, the framework illustrates the influence of organizational commitment, work-life balance, and information technology on work productivity, with leadership style acting as a moderating variable. This model serves as the basis for testing the conceptual relationships and understanding the dynamics between the constructs examined in this study.

Figure 1. Research Framework



3. Methodology

METHOD

This study employs a quantitative research approach with a cross-sectional survey design to examine the relationships between organizational commitment, work-life balance, information technology adoption, and lecturer productivity. A cross-sectional design allows for data collection at a single point in time, making it suitable for assessing the interactions among these variables efficiently. Quantitative methods ensure objective measurement and statistical

analysis, providing robust and generalizable results. This approach is particularly effective in identifying patterns and correlations within the data, which can inform strategies to enhance lecturer productivity in higher education institutions.

Grounded in Meyer and Allen's (1997) Three-Component Model of Organizational Commitment (J. P. , & A. N. J. Meyer, 1991), Greenhaus and Beutell's (1985) theory of work-life balance (Greenhaus & Beutell, 1985a), and Davis' (1989) Technology Acceptance Model (TAM) (Davis, 1989), this study employs Structural Equation Modeling (SEM) to examine direct and moderating relationships among the variables. SEM is chosen for its ability to analyze complex relationships between latent constructs and test multiple hypotheses simultaneously. This approach is particularly relevant in the context of Islamic higher education institutions in Jambi Province, where resource limitations necessitate an efficient and robust method for data collection and analysis.

Population and Sample

The population of this study consists of lecturers from six Islamic Higher Education Institutions (IHEIs) in Jambi Province. These institutions were selected to represent the diversity of Islamic higher education in the region, encompassing universities, institutes, and colleges with varying resources and organizational structures. The study focuses on lecturers who are actively involved in teaching, research, and administrative responsibilities, as they play a critical role in fulfilling the institutional goals of Tridarma Perguruan Tinggi.

A sample of 237 lecturers was selected using proportional stratified random sampling to ensure representation across the six institutions. This method allows for an equitable distribution of participants based on the size of each institution, enhancing the generalizability of the findings. The sample size was determined based on statistical power requirements for Structural Equation Modeling (SEM), ensuring sufficient data for robust analysis of the hypothesized relationships.

Research Instruments

This study employs a questionnaire-based survey using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire measures four key variables: Organizational Commitment, Work-Life Balance, Lecturer Productivity, and Information Technology. Each variable is operationalized based on theoretical frameworks and prior studies, ensuring reliable and valid measurements.

Organizational Commitment is adapted from Meyer and Allen's (1991) Three-Component Model (J. P. , & A. N. J. Meyer, 1991), which includes affective, normative, and continuance dimensions. Work-Life Balance is developed based on Greenhaus and Beutell's (1985) theory (Greenhaus & Beutell, 1985a), focusing on the ability to balance professional and personal responsibilities. Lecturer Productivity follows frameworks by Bakker and Demerouti (2007) and other scholars (Bakker & Demerouti, 2007), emphasizing teaching, research, and administrative outputs. Lastly, Information Technology is operationalized based on Davis' (1989) Technology Acceptance Model (TAM) (Davis, 1989) and Venkatesh and Bala (2008) (Venkatesh & Bala, 2008), which focus on the availability and effective use of digital tools and infrastructure.

Table 1 summarizes the measurement indicators for each variable, categorized into their respective constructs for clarity and consistency.

Table 1. Measurement Indicators of Variables

Variable	Indicator	Code
Organizational Commitment	Pride in being part of the organization.	OC1
	Enjoyment working in the organization.	OC2

Variable	Indicator	Code
	Sense of belonging to the organization.	OC3
	Financial dependence on the job.	OC4
	Awareness of costs or losses if leaving the job.	OC5
	Lack of alternative employment outside the organization.	OC6
	Moral obligation to stay with the organization.	OC7
	Discomfort in leaving the organization.	OC8
	Responsibility for training or development provided.	OC9
Work-Life Balance	Ability to allocate time between work and personal life.	WLB1
	Ability to fulfill work and family responsibilities without conflict.	WLB2
	Level of conflict between work demands and personal responsibilities.	WLB3
	Stress from inability to meet both roles' demands.	WLB4
	Availability of flexible work policies like remote work.	WLB5
	Ability to arrange work time according to personal needs.	WLB6
Work Productivity	Ability to complete teaching tasks as scheduled.	LP1
	Increase in academic publications.	LP2
	Efficient management of administrative tasks with technology.	LP3
	Student satisfaction with teaching.	LP4
	Contribution to curriculum development or teaching innovation.	LP5
	Ability to adjust schedules to online learning demands.	LP6
	Utilization of LMS in teaching.	LP7
	Ability to use digital tools for collaboration.	LP8
Information Technology	Availability of hardware and software supporting online learning.	IT1
	Speed and stability of the internet connection.	IT2
	Integration of technology into learning systems.	IT3
	Use of information systems for academic data management.	IT4
	Utilization of LMS for online learning.	IT5
	Ability to use technology applications for teaching.	IT6
	Ease of adapting to new technology for teaching.	IT7

Cited in Text: The variable measurements are structured based on the frameworks by Meyer and Allen (1991), Greenhaus and Beutell (1985), Bakker and Demerouti (2007), Davis (1989), and Venkatesh and Bala (2008), as summarized in Table 1.

Data Analysis

This study adopts a systematic approach to data analysis to ensure the reliability and validity of the instruments, as well as to test the hypothesized relationships and moderating effects.

First, the reliability and validity of the measurement instruments are assessed to confirm their consistency and accuracy. Reliability is evaluated using Cronbach's Alpha and Composite Reliability (CR), with values of 0.7 or higher indicating acceptable internal consistency. Validity is examined through two methods: (1) convergent validity, assessed via the Average Variance Extracted (AVE), with a minimum threshold of 0.5, and (2) discriminant validity, evaluated using the Fornell-Larcker Criterion and cross-loadings.

Second, Structural Equation Modeling–Partial Least Squares (SEM-PLS) is employed to analyze the relationships between variables and to examine the moderating role of information technology. SEM-PLS is selected for its suitability in analyzing complex models with multiple constructs and indicators, particularly when the sample size is moderate. The analysis involves two stages: (1) evaluating the measurement model (outer model) to assess the reliability and validity of constructs, and (2) evaluating the structural model (inner model) to test path coefficients, R-squared values, and the significance of hypothesized relationships. The moderating effect of information technology is analyzed by incorporating interaction terms into the structural model and examining their statistical significance.

This two-step analytical approach ensures the robustness of the findings and provides meaningful insights into the direct and moderating effects of organizational commitment, work-life balance, and information technology on lecturer productivity.

Results and Discussion

Descriptive Analysis

The respondents in this study consist of a total of 237 lecturers, with 40.9% female and 59.1% male participants, indicating a gender distribution that slightly leans toward male lecturers. In terms of age, the majority of respondents fall within the 31–40 years category (43.5%), followed by those aged 41–50 years (23.2%) and above 50 years (24.5%). Lecturers aged 20–30 years represent a smaller proportion (8.9%), reflecting that most participants are mid-career and senior professionals with substantial experience.

The distribution of academic positions among the respondents shows notable disparities. Of the total respondents, 29.5% are categorized as "Tenaga Pengajar" (Teaching Staff), the entry-level academic rank, while 13.5% hold the rank of Assistant Professor (Asisten Ahli). A significant proportion, 31.2%, are Lecturers (Lektor), followed by 22.4% who are Senior Lecturers (Lektor Kepala). However, only 3.4% of respondents have achieved the rank of Professor (Guru Besar), highlighting a stark gap between entry-level and top-tier academic positions.

These findings highlight structural challenges within the academic hierarchy of Islamic Higher Education Institutions (IHEIs) in Jambi. The high proportion of entry-level "Tenaga Pengajar" suggests limited career progression opportunities for many lecturers. Meanwhile, the low percentage of Professors points to significant barriers to reaching the highest academic ranks, potentially impacting research productivity, institutional prestige, and academic growth. Addressing these challenges requires targeted initiatives, such as career development programs and incentives, to support lecturers' upward mobility and strengthen the academic structure of IHEIs.

Measurement and Structural Model

The evaluation of the measurement model ensures the reliability and validity of the constructs used in this study. Initially, the work-life balance variable consisted of six indicators. However, during the measurement model evaluation, two indicators (WLB3 and WLB4) were identified as having outer loading values below the acceptable threshold of 0.7. As a result, these indicators were removed as part of the refinement process to improve the overall reliability and validity of the measurement model. After the removal, the model was re-specified and re-evaluated, resulting in a final measurement model with four valid indicators (WLB1, WLB2, WLB5, WLB6) that adequately represent the construct.

Figure 1 illustrates the outer model for the work-life balance construct after refinement. This visualization highlights the relationships between the remaining indicators and the latent variable, along with their respective outer loading values, which exceed the minimum threshold for indicator reliability.

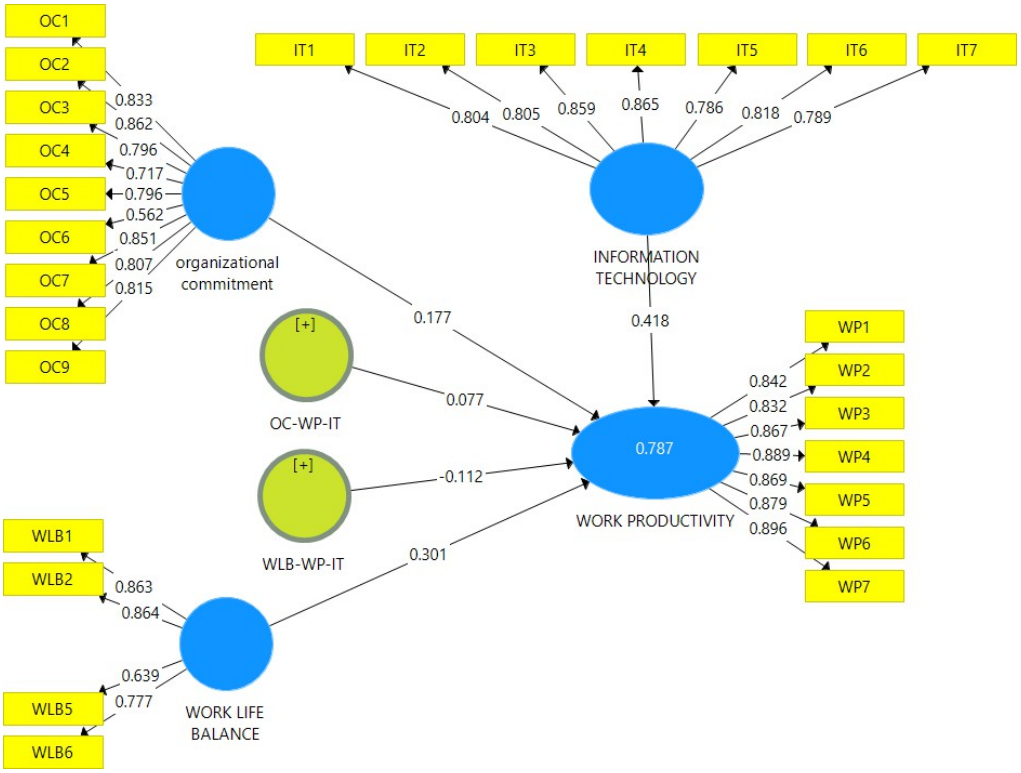


Figure 1. Outer Model Visualization

The results of the outer model evaluation are summarized in Table 2, which provides a detailed overview of the outer loading values, Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and the status of each indicator. After refinement, the CR value increased to 0.91, indicating high internal consistency, while the AVE value improved to 0.66, confirming sufficient convergent validity. These results demonstrate the robustness of the measurement model following the refinement process.

Table 2. Outer Model Evaluation for Work-Life Balance

Variable	Indicator Code	Outer Loading	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Organizational Commitment	OC1	0.833	0.922	0.935	0.619
	OC2	0.862			
	OC3	0.796			
	OC4	0.717			
	OC5	0.796			
	OC6	0.562			
	OC7	0.851			
	OC8	0.807			
	OC9	0.815			
Work-Life Balance	WLB1	0.863	0.796	0.868	0.626
	WLB2	0.864			
	WLB5	0.639			
	WLB6	0.777			
Work Productivity	WP1	0.842	0.945	0.955	0.753
	WP2	0.832			
	WP3	0.867			
	WP4	0.889			
	WP5	0.869			
	WP6	0.879			

	WP7	0.896			
Information Technology	IT1	0.804	0.918	0.934	0.670
	IT2	0.805			
	IT3	0.859			
	IT4	0.865			
	IT5	0.786			
	IT6	0.818			
	IT7	0.789			

This refinement process, also referred to as scale purification in SEM-PLS, ensures the measurement model is statistically robust and theoretically sound. The decision to remove WLB3 and WLB4 was guided by their weak contributions to the construct, as evidenced by their low outer loading values, which compromised the reliability and validity of the overall model. By retaining only the four valid indicators, the final model adequately captures the theoretical dimensions of work-life balance without compromising its integrity.

The refined measurement model serves as a robust foundation for testing the structural model, which evaluates the relationships between latent variables and tests the hypotheses proposed in this study.

Structural Model Evaluation Results (R-Square). Following the validation of the measurement model (outer model), the structural model was evaluated to examine the relationships between constructs and the model's predictive power. One of the primary metrics used in this evaluation is the R-Square (R^2) value, which indicates the proportion of variance in the endogenous variable explained by the exogenous variables in the model. Table 3 presents the R-Square (R^2) value for the endogenous variable, Work Productivity, providing insights into the explanatory power of the model.

Table 3. R-Square (R^2) Values

Endogenous Variable	R-Square Value	Interpretation
Work Productivity	0.782	The model explains 78.2% of the variance in Work Productivity.

The R-Square (R^2) value of 0.782 demonstrates that the model possesses strong predictive power, explaining 78.2% of the variance in the Work Productivity variable. This indicates that the exogenous variables—Organizational Commitment, Work-Life Balance, and Information Technology—significantly contribute to understanding the factors influencing lecturer productivity. This result highlights the robustness and relevance of the structural model for exploring determinants of productivity within the context of Islamic Higher Education Institutions.

Predictive Relevance (Q^2) and Goodness-of-Fit (GoF) Index. The subsequent step involves calculating the Q^2 value, which serves to determine the predictive relevance of the research model based on the observational data. A model is considered to have satisfactory predictive relevance if $Q^2 > 0$. Using the formula:

$$Q^2 = 1 - \prod(1 - R^2)$$

The Q^2 value is calculated as follows:

$$Q^2 = 1 - ((1 - 0.666^2) \times (1 - 0.666^2))$$

$$Q^2 = 0.888$$

The resulting Q^2 value of 0.888 indicates that the model exhibits strong predictive relevance, as it exceeds the threshold of 0.

To assess the overall fit of the model, the Goodness-of-Fit (GoF) Index was also calculated. The GoF Index evaluates the adequacy of the model fit, with a GoF value exceeding 0.36 indicating a strong model fit. Using the formula:

$$GoF = \sqrt{(AVE \times R^2)}$$

and substituting the average AVE:

$$AVE = (0.647 + 0.737 + 0.785 + 0.610) / 4 = 0.695$$

and the average R^2:

$$R^2 = (0.666 + 0.666) / 2 = 0.666$$

The calculation is as follows:

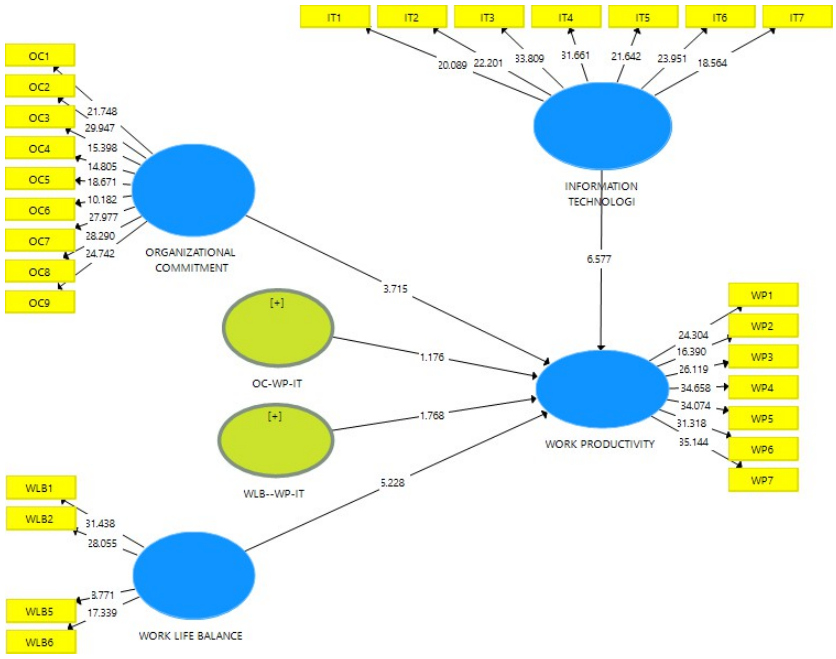
$$GoF = \sqrt{(0.695 \times 0.666)} = 0.680$$

The GoF value of 0.680 confirms that the model achieves a high level of feasibility and a strong overall fit.

Hypothesis Testing

Structural Model Analysis. The structural model was tested to examine the direct relationships and the moderating role of information technology among the variables. The model includes five hypotheses, capturing the effects of organizational commitment and work-life balance on productivity, as well as the moderating influence of information technology. Figure 3 illustrates the inner model and highlights the tested relationships.

Figure 3. Inner Model Visualization



The results of the hypothesis testing are detailed in Table 5, presenting the path coefficients, t-statistics, p-values, and interpretations for all hypotheses.

Table 5. Hypothesis Testing Results

Hypothesis	Path	Path Coefficient (β)	t-Statistic	p-Value	Result
H1: Organizational commitment positively affects productivity.	Organizational Commitment → Productivity	0.418	3.715	0.000	Supported

H2: Work-life balance positively affects productivity.	Work-Life Balance → Productivity	0.077	5.228	0.240	Not supported
H3: Information technology positively affects productivity.	Information Technology → Productivity	0.177	6.577	0.000	Supported
H4: Information technology moderates the relationship between organizational commitment and productivity.	Organizational Commitment × IT → Productivity	-0.112	1.176	0.078	Not supported
H5: Information technology moderates the relationship between work-life balance and productivity.	Work-Life Balance × IT → Productivity	0.301	1.768	0.000	Supported

Note: The critical TTable value at a 95% confidence level (two-tailed) with 99 degrees of freedom is 1.984.

Key Findings

1) H1: Organizational commitment has a significant positive effect on productivity ($\beta = 0.418$, $t = 3.715$, $p < 0.05$), emphasizing that lecturers' loyalty and engagement contribute to enhanced performance in teaching, research, and administrative tasks.
2) H2: Work-life balance positively influences productivity ($\beta = 0.077$, $t = 5.228$, $p = 0.240$), though the effect is not statistically significant, highlighting the need for additional strategies to manage personal and professional responsibilities effectively.
3) H3: Information technology directly improves productivity ($\beta = 0.177$, $t = 6.577$, $p < 0.05$), underscoring the critical role of digital tools and infrastructure in supporting lecturers' tasks.
4) H4: Information technology moderates the relationship between organizational commitment and productivity ($\beta = -0.112$, $t = 1.176$, $p = 0.078$), but this effect is not statistically significant, suggesting limited amplification of commitment's positive effects through IT.
5) H5: Information technology also moderates the relationship between work-life balance and productivity ($\beta = 0.301$, $t = 1.768$, $p = 0.000$), indicating that IT enhances the positive impact of balance through its adoption and utilization.

These findings confirm the centrality of organizational commitment, work-life balance, and information technologyin driving lecturer productivity, particularly in the context of Islamic Higher Education Institutions (IHEIs). However, they also highlight areas for further research, particularly in exploring the nuanced moderating effects of IT.

Discussion

Organizational Commitment and Work Productivity

The results of the PLS-SEM analysis indicate that organizational commitment has a significant positive effect on work productivity ($\beta = 0.418$, $t = 3.175$, $p < 0.05$), supporting Hypothesis 1. This finding highlights that lecturers with higher levels of organizational commitment tend to exhibit greater productivity in their roles. The dimensions of organizational commitment—affective commitment, normative commitment, and continuance commitment—play a crucial role in shaping this positive relationship, as conceptualized by Meyer and Allen's (1991) framework (J. P. , & A. N. J. Meyer, 1991).

This significant effect can be explained by the increased motivation, satisfaction, and engagement that organizational commitment fosters among lecturers. Employees who feel emotionally connected to their institution (affective commitment), morally obligated to remain (normative commitment), or aware of the costs associated with leaving (continuance commitment) are more likely to contribute effectively to teaching, research, and administrative responsibilities. These results align with prior research, including studies by Albrecht and Wang (2023), and van der Ross et al. (2022), which highlight the role of perceived organizational

support and engagement in enhancing academic staff productivity, even under challenging conditions such as the COVID-19 pandemic (Albrecht et al., 2023; van der Ross et al., 2022).

Recent studies have further corroborated these findings. For instance, Wang and Hou (2023) found that affective commitment is positively associated with innovative behaviors among employees, with work engagement playing a mediating role (Wang & Hou, 2023). Similarly, Tett and Meyer (1993) demonstrated that organizational commitment is negatively correlated with turnover intentions and actual turnover, highlighting its importance for employee retention (TETT & MEYER, 1993). Afsar and Umrani (2020) also emphasized the role of affective commitment in mediating the relationship between transformational leadership and innovative work behavior (Afsar & Umrani, 2019). Moreover, Weng and McElroy (2012) showed that normative commitment significantly predicts participation in professional development activities, reinforcing the moral obligation felt by employees to grow within their organization (Weng & McElroy, 2012). Finally, Jaros (1997) established that continuance commitment is negatively associated with turnover intentions, underscoring the role of perceived costs in influencing employee decisions to remain with their institutions (Jaros, 1997). These studies collectively reinforce the pivotal role of organizational commitment in enhancing various facets of academic productivity and employee engagement.(Asutay et al., 2022; Nabhan & Munajat, 2023)

In the specific context of Islamic Higher Education Institutions (IHEIs), where organizational values are deeply rooted in cultural and religious principles, fostering organizational commitment is paramount. Aligning institutional goals with individual values enables lecturers to internalize the institution's mission, ultimately leading to higher productivity. To further enhance organizational commitment and maximize its impact on productivity, initiatives such as structured mentorship programs, continuous professional development opportunities, and effective recognition systems can be implemented strategically. These approaches not only reinforce the alignment between personal and organizational values but also create an environment that motivates lecturers to contribute more meaningfully to teaching, research, and administrative responsibilities (Asutay et al., 2022; Nabhan & Munajat, 2023).

Work-life Balance and Work Productivity

The PLS-SEM analysis indicates that work-life balance shows a positive but statistically insignificant effect on work productivity ($\beta = 0.077$, $t = 5.228$, $p = 0.240$), suggesting that while managing professional and personal responsibilities is important, its direct influence on productivity is not strong enough to be statistically supported. This indicates that additional strategies may be needed to strengthen the role of work-life balance in enhancing productivity.

Although Hypothesis 2 is not statistically supported, this finding aligns with the Work-Life Balance Frameworkproposed by Greenhaus and Beutell (1985), which emphasizes the importance of minimizing role conflicts—time-based, strain-based, and behavior-based—as a key strategy for improving performance (Greenhaus & Beutell, 1985a). However, the practical impact of this framework may vary depending on organizational and cultural factors, particularly in resource-constrained environments like Islamic Higher Education Institutions (IHEIs).

Recent studies have explored similar dynamics. For example, a meta-analysis by Marecki (2024) found that the implementation of work-family reconciliation measures positively impacts employee well-being, which indirectly enhances job performance (Marecki, 2024).

Similarly, Tejero et al. (2021) highlighted that hybrid working models, which promote work-life balance, improve employee productivity and efficiency (Tejero et al., 2021). However, these studies emphasize that organizational support and effective integration of work-life initiatives are critical to achieving meaningful results. Additionally, research by

Verma et al. (2021) demonstrated that while flexibility in work arrangements enhances employee well-being, its impact on productivity often depends on how effectively organizations implement and support such initiatives (Verma et al., 2024).

In the context of IHEIs, achieving work-life balance is particularly challenging given the dual demands of professional and spiritual obligations. The results of this study suggest that without sufficient organizational support, the positive effects of work-life balance on productivity may not be fully realized. Initiatives such as flexible work arrangements, remote teaching options, and time management training remain crucial. However, their success depends on developing a supportive organizational culture that consistently prioritizes employee well-being and reduces unnecessary stressors. This aligns with findings by Marecki (2023), which emphasize that employees who maintain a balanced lifestyle are more motivated and productive, provided their organizations create an enabling environment performance (Marecki, 2024; Powell et al., 2019).

Information Technology Positively Affects Productivity

The PLS-SEM analysis reveals that information technology has a significant positive effect on work productivity ($\beta = 0.177$, $t = 6.577$, $p < 0.05$), supporting Hypothesis 3. This result highlights the critical role of IT adoption in enhancing lecturers' productivity by streamlining workflows, facilitating communication, and improving access to academic resources. These findings align with the Technology Acceptance Model (TAM) proposed by Davis (1989), which posits that perceived ease of use and perceived usefulness are pivotal factors influencing technology adoption and its impact on performance (Davis, 1989). In the context of Islamic Higher Education Institutions (IHEIs), IT tools such as Learning Management Systems (LMS), digital communication platforms, and collaborative software empower lecturers to efficiently manage teaching, research, and administrative tasks, ultimately supporting institutional goals.

The positive relationship between information technology and productivity is attributed to its ability to streamline workflows, facilitate effective communication, and provide access to advanced teaching and learning resources. For instance, the use of Learning Management Systems (LMS) enables lecturers to efficiently organize course materials, manage student assessments, and foster interactive learning environments. Recent studies have demonstrated that IT adoption significantly enhances professional efficiency and overall job performance. For example, a study by Dell'Acqua et al. (2024) found that integrating AI tools into academic workflows increased task efficiency and quality (Dell'Acqua et al., 2023). Similarly, research by Ding and Ma (2024) highlighted that effective IT utilization in educational settings leads to improved job satisfaction and performance (Ding, 2024). Furthermore, Hartzmark and Shue (2024) emphasized the importance of well-designed IT systems in promoting sustainable and productive work practices (Hartzmark & Shue, 2023).

n the context of Islamic Higher Education Institutions (IHEIs), information technology serves as a critical enabler for lecturers to address challenges associated with limited resources and the growing demands for online learning. By streamlining workflows and improving access to teaching and learning resources, IT empowers lecturers to manage their academic responsibilities more efficiently. To further enhance these benefits, investments in IT infrastructure, comprehensive training programs, and user-friendly systems are essential. This aligns with recent studies emphasizing the role of IT in fostering collaboration, adaptability, and overall institutional effectiveness. For instance, Al-Emran et al. (2016) found that effective IT integration in higher education enhances collaborative learning and adaptability among faculty members (Al-Emran et al., 2016). Similarly, Al-Samarraie and Saeed (2018) highlighted that user-friendly IT systems contribute significantly to improved teaching methodologies and resource management in educational institutions (Al-Samarraie & Saeed,

2018). Furthermore, a study by Alhabeeb and Rowley (2018) demonstrated that targeted IT training programs increase lecturers' proficiency and confidence in utilizing digital tools, thereby enhancing productivity (Alhabeeb & Rowley, 2018)

Practical implications of these findings include prioritizing the development of robust IT ecosystems within Islamic Higher Education Institutions (IHEIs). Institutions should focus on providing reliable internet connectivity, modern hardware and software, and comprehensive training programs to equip lecturers with the skills necessary to effectively utilize technology in their professional tasks. Additionally, fostering a technology-driven environment that encourages the seamless integration of IT tools can significantly enhance institutional performance. By addressing these priorities, IHEIs not only support lecturers in achieving their productivity goals but also strengthen their overall academic and administrative competitiveness in the increasingly digital education landscape.

Information Technology Moderates the Relationship Between Organizational Commitment and Productivity

The PLS-SEM analysis indicates that information technology does not significantly moderate the relationship between organizational commitment and work productivity ($\beta = -0.112$, $t = 1.176$, $p = 0.078$), suggesting that the hypothesized amplification effect is not supported statistically. While the moderating role of IT was expected to strengthen the positive relationship, the findings indicate a limited or even negative influence of IT as a moderator in this context.

These results challenge assumptions based on the Technology Acceptance Model (TAM) (Davis, 1989) and its extensions by Venkatesh and Bala (2008), which propose that IT adoption enhances organizational and individual outcomes. The negative moderating effect observed in this study may be attributed to inadequate IT integration, lack of user adaptation, or insufficient support from organizational leadership, which can undermine the potential benefits of IT tools in enhancing productivity. In the specific context of Islamic Higher Education Institutions (IHEIs), cultural and institutional constraints may also play a role in limiting the efficacy of IT as a moderator.

Although this result does not statistically support Hypothesis 4, prior studies have emphasized the potential of IT to improve workflows and resource accessibility. For example, a study by Syarifin and Atmaja (2023) highlighted the importance of a supportive organizational culture in leveraging IT to enhance job performance (Syarifin & Atmaja, 2023). Furthermore, IT adoption in IHEIs has been shown to aid institutional preparedness for change, particularly in integrating knowledge management practices and improving academic processes (Hamdani, 2023). These insights suggest that the successful moderating role of IT requires more than infrastructure—it necessitates cultural alignment, targeted training, and strong organizational support.

Practical implications include the need for IHEIs to reevaluate their IT integration strategies and address barriers that may hinder the effective use of technology as a moderator. For instance, investing in user-friendly IT systems, providing regular training programs, and fostering a technology-friendly culture could help maximize the potential benefits of IT. Additionally, modernizing infrastructure and aligning IT initiatives with organizational objectives are essential steps toward optimizing productivity. Studies have demonstrated that tailored IT training positively influences both organizational commitment and individual performance, underscoring the importance of aligning technological investments with lecturers' needs and institutional goals (Kerravala, 2023).

Information Technology Moderates the Relationship Between Work-Life Balance and Productivity

The PLS-SEM analysis demonstrates that information technology significantly moderates the relationship between work-life balance and work productivity ($\beta = 0.301$, $t = 1.768$, $p < 0.05$), supporting Hypothesis 5. This finding indicates that the positive impact of work-life balance on productivity is strengthened when lecturers effectively utilize information technology. IT tools such as Learning Management Systems (LMS), digital scheduling software, and online collaboration platforms enable lecturers to manage both personal and professional responsibilities more efficiently. By reducing time-related and communication barriers, these technologies enhance lecturers' ability to balance their roles, thereby boosting productivity in teaching, research, and administrative tasks. These results emphasize the critical role of IT in bridging work-life balance and productivity, aligning with the broader objectives of modern educational institutions (Cabaleiro-Cerviño, 2020; Timotheou et al., 2023).

This moderation effect is consistent with the Technology Acceptance Model (TAM) (Davis, 1989) and related research by Venkatesh et al. (2003), which highlight how IT adoption facilitates role management and enhances performance (Davis, 1989; Venkatesh & Bala, 2008). Lecturers who achieve work-life balance are better equipped to leverage IT tools such as remote teaching platforms, Learning Management Systems (LMS), and digital collaboration tools, reducing the strain of conflicting demands and improving overall productivity. These technologies enable more effective communication, streamlined task management, and improved accessibility to educational resources, further empowering lecturers to perform efficiently in both their professional and personal roles (Edo, 2023; Ghavifekr, 2015).

Research highlights the pivotal role of information technology (IT) in mitigating work-life conflicts by providing flexibility in task execution and communication. For instance, Day et al. (2012) found that organizational support for ICT significantly reduces stress and burnout while enhancing productivity, enabling employees to better balance their professional and personal responsibilities (Day et al., 2012). In higher education, tools such as Learning Management Systems (LMS), digital communication platforms, and online collaboration software allow lecturers to manage teaching, research, and administrative tasks more effectively. This integration reduces time-related barriers and improves overall productivity. Similarly, Edo and Egwurugwu (2023)emphasized that leveraging IT resources in educational institutions creates a supportive environment that bridges work-life balance and enhances institutional success (Edo, 2023).

In the context of Islamic Higher Education Institutions (IHEIs), where lecturers often navigate the dual demands of professional and spiritual obligations, information technology (IT) serves as a pivotal tool in fostering a flexible and supportive work environment. By implementing IT solutions tailored to their unique needs, such as Learning Management Systems (LMS), virtual collaboration platforms, and digital communication tools, institutions can empower lecturers to effectively balance their work and personal responsibilities. This integration not only enhances work-life balance but also contributes to improved job satisfaction and overall performance. A study examining the role of technology in enhancing the work-life balance of lecturers found that appropriate use of IT resources can significantly reduce workload and stress, thereby promoting a healthier balance between professional and personal life (Gupta et al., 2025). Furthermore, research indicates that constant access to technology, when managed effectively, can mitigate burnout and support faculty well-being in higher education settings (Morales-Spier, 2024). Therefore, strategic adoption of IT within IHEIs is essential for enabling lecturers to meet their academic and institutional goals while maintaining personal well-being.

To enhance lecturers' digital skills and support work-life integration, Islamic Higher Education Institutions (IHEIs)should prioritize investments in IT infrastructure and provide comprehensive training programs. A study evaluating a university-wide digital skills program found that such initiatives significantly improve faculty members' ability to effectively utilize digital tools, thereby enhancing their productivity (Raji & Dommett, 2024). Additionally, implementing IT-driven policies, such as flexible working arrangements and remote access solutions, can further support lecturers in balancing professional and personal responsibilities. Research indicates that flexible work arrangements improve employee well-being and ensure sustainable social development (Alsulami et al., 2022). By adopting these strategies, IHEIs can foster a supportive work environment that promotes sustained productivity and aligns with the unique needs of their academic staff.

Theoretical Implications

This study provides significant theoretical contributions by advancing the understanding of organizational commitment, work-life balance, and information technology as critical drivers of productivity in the context of Islamic Higher Education Institutions (IHEIs). The findings enrich the Theory of Organizational Commitment (Meyer & Allen, 1991) by demonstrating that while organizational commitment positively affects productivity, the moderating effect of information technology is not statistically significant. This suggests that technological interventions alone may not amplify the effects of commitment without addressing other contextual factors, such as organizational culture or leadership support (J. P. , & A. N. J. Meyer, 1991). This integration underscores the dynamic interplay between individual commitment and technological enablers, offering a nuanced perspective that extends existing theories into the digital era.

Additionally, this research contributes to the Work-Life Balance Framework (Greenhaus & Beutell, 1985) by showing that work-life balance does not significantly enhance productivity in this context. This finding challenges the framework's generalizability in resource-constrained academic environments, suggesting that additional mediating factors, such as emotional well-being or organizational support, may be required to realize the benefits of work-life balance. However, the study highlights that when supported by IT, work-life balance initiatives have the potential to address role conflicts effectively. This underscores the critical role of flexible work arrangements and technological adaptability in mitigating role conflicts, especially within academic institutions.

The study also applies the Technology Acceptance Model (TAM) (Davis, 1989) and its extensions (Venkatesh & Bala, 2008) to explore the transformative impact of IT adoption (Davis, 1989; Venkatesh & Bala, 2008). The findings reveal that IT not only directly enhances productivity but also strengthens the effects of work-life balance on performance. However, the limited impact of IT as a moderator for organizational commitment suggests that TAM's effectiveness may depend on how well technological initiatives align with organizational values and objectives in complex settings such as IHEIs. This provides a broader understanding of TAM's application in environments where resource limitations demand innovative technological interventions to sustain productivity.

Finally, the integration of these theoretical frameworks into a comprehensive model presents a novel contribution to the literature. The nuanced findings regarding IT's moderating role emphasize the need for future research to investigate additional variables, such as institutional support or leadership, that may enhance the effectiveness of IT in academic settings. The moderation effect of IT emphasizes the critical role of digital transformation in contemporary workplace dynamics, particularly in academic institutions. These implications provide a robust foundation for future research to explore the interplay between organizational, personal, and technological factors across diverse educational and professional contexts.

Practical Implications

This study provides valuable practical implications for leaders and policymakers in Islamic Higher Education Institutions (IHEIs) aiming to enhance lecturer productivity through organizational, personal, and technological strategies. The significant positive relationship between organizational commitment and productivity underscores the importance of fostering a culture of loyalty and engagement. Practical interventions, such as recognition programs, structured mentorship, and clear career advancement pathways, can strengthen lecturers' commitment, leading to improved performance across teaching, research, and administrative tasks.

However, the findings indicate that work-life balance does not have a statistically significant direct effect on productivity. This suggests that while supportive workplace environments are still necessary, institutions may need to adopt additional strategies to maximize the impact of work-life balance on productivity. Flexible work policies, such as remote teaching options and adaptive scheduling, remain crucial to reducing work-life conflicts and promoting well-being. Combining these policies with programs that address emotional well-being and job satisfaction may further enhance their effectiveness. Creating such supportive environments ensures that lecturers can balance their dual obligations while contributing to institutional goals.

The study also highlights the critical role of information technology (IT) as a direct enabler of productivity. Investing in digital infrastructure, such as reliable hardware and software, high-speed internet, and user-friendly learning management systems (LMS), is essential. Institutions should offer comprehensive IT training programs to help lecturers adapt to technological advancements, ensuring that they can fully leverage IT tools to meet academic demands efficiently. These investments empower lecturers to enhance their productivity and align their efforts with broader institutional goals.

Additionally, while IT does not significantly moderate the relationship between organizational commitment and productivity, its role in supporting workflows and communication remains critical. Institutions should focus on integrating IT tools into daily academic processes, ensuring that technological solutions are aligned with organizational objectives. Inclusive digital transformation tailored to lecturers' specific needs can address both personal and professional challenges, fostering a supportive and flexible environment. These strategies enable sustained productivity, contribute to academic excellence, and enhance the institutional competitiveness of IHEIs in the global educational landscape.

Limitations and Future Research

Despite its contributions, this study has several limitations that provide avenues for future research. First, the study is contextually limited to Islamic Higher Education Institutions (IHEIs) in Jambi Province, which may restrict the generalizability of the findings to other regions or types of institutions. Expanding the scope to include diverse geographical locations and educational systems would enable broader applicability of the results. Additionally, the cross-sectional design used in this study captures relationships between variables at a single point in time, limiting the ability to infer causality. Future research employing longitudinal designs could provide deeper insights into how organizational commitment, work-life balance, and IT adoption evolve over time and their sustained impact on productivity. This is particularly important for understanding the dynamics of work-life balance, which was found to have no significant direct effect on productivity in this study.

Second, while this study focuses on organizational commitment, work-life balance, and IT adoption, other potentially influential factors, such as leadership style, organizational culture, and emotional intelligence, remain unexplored. Incorporating these variables could help clarify why IT failed to significantly moderate the relationship between organizational

commitment and productivity. A more comprehensive model that integrates these additional factors could offer a holistic understanding of the drivers of productivity in academic settings. Furthermore, the reliance on self-reported data from lecturers introduces the risk of common method bias and social desirability effects. Future research should include a mix of subjective and objective performance measures, such as publication output, teaching evaluations, and administrative efficiency, to enhance the robustness of the findings.

CONCLUSION

Finally, the role of information technology (IT) as a moderator was explored broadly in this study. Future research could delve deeper into specific dimensions of IT, such as the adoption of artificial intelligence (AI), machine learning, or advanced analytics, to better understand their unique contributions. Additionally, the interplay between IT and contextual factors, such as organizational support and digital readiness, should be investigated to explain the limited moderating effect of IT observed in this study. Addressing these limitations will not only strengthen the findings but also open new pathways for exploring strategies to improve productivity in diverse educational and professional contexts.

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