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Lecturer Performance Optimization: Uncovering the Secret of Productivity in the Academic World

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Abstract:

The focus of research in the context of this factor analysis is to identify and explore the dimensions that affect the work productivity of lecturers at Mercu Buana University Jakarta, Indonesia. This study aims to identify the main dimensions that affect the work productivity of lecturers at Mercu Buana University Jakarta. This research uses a quantitative approach with a descriptive type of research. The data collection technique used in this study was a questionnaire. The data analysis technique used in this study is Exploratory Factor Analysis (EFA), which has several critical steps. The results showed that crucial dimensions affect the work productivity of lecturers at Mercu Buana University Jakarta. Factor analysis shows a significant relationship between variables such as quality of work results, efficiency, effectiveness, and how lecturers work in the university environment. The relationship structure between these variables illustrates the essential components that play a role in understanding the work productivity of lecturers. These findings provide deeper insight into the factors that influence lecturer performance in the academic environment of Universitas Mercu Buana Jakarta.

Keywords: *Lecturer Work Productivity, Factor Analysis, Quality of Work Results*

Abstrak:

Fokus penelitian dalam konteks analisis faktor ini adalah untuk mengidentifikasi dan mengeksplorasi dimensi-dimensi yang mempengaruhi produktivitas kerja dosen di Universitas Mercu Buana Jakarta, Indonesia. Penelitian ini bertujuan untuk mengidentifikasi dimensi utama yang mempengaruhi produktivitas kerja dosen di Universitas Mercu Buana Jakarta. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis penelitian deskriptif. Teknik pengumpulan data yang digunakan dalam penelitian ini adalah angket. Teknik analisis data yang digunakan dalam penelitian ini adalah Exploratory Factor Analysis (EFA) dengan beberapa langkah kritis. Hasil penelitian menunjukkan bahwa terdapat dimensi krusial yang mempengaruhi produktivitas kerja dosen di Universitas Mercu Buana Jakarta. Analisis faktor menunjukkan hubungan yang signifikan antar variabel seperti kualitas hasil kerja, efisiensi, efektivitas, dan cara kerja dosen di lingkungan universitas. Struktur hubungan antara variabel-variabel tersebut menggambarkan komponen-komponen penting yang berperan dalam memahami produktivitas kerja dosen. Temuan ini memberikan wawasan yang lebih mendalam tentang faktor-faktor yang mempengaruhi kinerja dosen di lingkungan akademik Universitas Mercu Buana Jakarta.

Kata Kunci: *Produktivitas Kerja Dosen, Analisis Faktor, Kualitas Hasil Kerja*

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INTRODUCTION

As a formal educational institution, higher education strives to prepare graduates to meet market needs by providing professional experts (Paudel, 2021). Universities are complex organizations that carry out activities through education and teaching, research, and public services that are interrelated to build institutional progress in higher education (Giesenbauer & Müller-Christ, 2020). In this context, establishing partnerships between universities and graduate user industries has the potential for significant economic growth in a nation, considering that the quality of knowledge generation and talent derived from universities can increase industrial productivity. Furthermore, universities generally have agendas centred on producing graduates and employers who can be employed. However, specific goals vary and usually include employable graduates, engaging in meaningful and valuable research results that can be recommended to education and industry policymakers while influencing public policy, offering lifelong learning opportunities, involvement in industry-sponsored projects, and giving birth to good citizens in the community.

In Indonesia, higher education is implemented by the government and the private sector, namely state universities (PTN) and private universities (PTS) (Rahmawati & Saputra, 2022). The role of Higher Education as a place for learning process activities is to produce humans who have academic abilities and are skilled in their fields, in line with the demands of industry needs. Lecturers are educators and scientists whose job is to develop knowledge, technology, and art (Kartika et al., 2023).

So, lecturers must have optimal work productivity (Anisimova et al., 2020). The work productivity of lecturers in private universities is still low, education and teaching have not been carried out professionally, lecturer research products are considered not to meet expectations, and lecturers' spiritual intelligence, intellectual intelligence, and social intelligence are still low (Wahyudi, 2022). It was further revealed that the factor that triggers the low productivity of lecturers at private universities is that the policy of planning and preparing lecturers by lecturer training institutions still needs to be stronger and pay attention to aspects of needs assessment or mapping. The development of lecturer work productivity has not been handled professionally according to needs, ignoring student needs; The management strategy for increasing lecturer work productivity has not been well coordinated; Management aspects and the development of professional work productivity of lecturers continuously fail to provide rewards and punishments, thus affecting the productivity of lecturers' professional work at private universities (Yulianti et al., 2020).

The role of lecturers as the primary implementers of education in Higher Education, which operationally is the leading implementer in the management of higher education, dramatically determines its success. For this reason, lecturers must actively make breakthroughs and innovations in managing and

implementing the Tri Darma (Samsudin et al., 2021). Lecturers play an important role in determining the smoothness and success of the educational process implemented through their duties and functions (Basalamah & As'ad, 2021). So, lecturers are required to have professional work productivity, motivation, and high performance. Work productivity is an essential factor that impacts increasing job satisfaction. The work productivity of lecturers, as the main element in the management of universities, is an indicator that needs significant attention in analyzing the management of universities (Tyagi et al., 2020).

Productivity can be seen from two dimensions, namely, the individual dimension and the organizational dimension (Budiharso & Tarman, 2020). The productivity of the individual dimension is about individual personality characteristics, such as the mental attitude that life today must be better than yesterday and tomorrow must be better than today.

Lecturer work productivity is essential in improving Higher Education, which has a strategic role and functions in preparing quality human resources, namely having knowledge and mastery of technology, being adaptive, creative, innovative, and personality (Benevene et al., 2020). Strategic roles and functions can only be realized by upgrading the system and making various policy programs that are constructive and adaptive, in line with the dynamics of society (Afrianty et al., 2022).

The work productivity of lecturers determines the quality of higher education and graduates because lecturers have high authority in implementing the tri dharma of higher education as a measure of the higher education control process (Garg et al., 2021). Transformational leadership and policies on labour pay to productivity have a significant relationship (Ahya et al., 2021). The work productivity of lecturers lies in academic levels, academic position qualifications, teaching experience, research experience, and community service. Lecturer work productivity is influenced by many factors, such as facilities, leadership style, performance, ability to create opportunities, willingness to create, organizational environment, academic culture that is directly related to the main tasks of the institution, and work stress (Purwanto et al., 2023).

Research has often been done before. Among other things, it explains that in previous research that has been conducted, several studies examine the determinants of lecturer work productivity. These studies aim to analyze the factors that affect the work productivity of lecturers and provide a better understanding of this topic (Kadarisman et al., 2022). In addition, another study examined the effect of age and working period on lecturer work productivity. The study involved faculty employees and analyzed how these factors might affect their productivity. The results of this study can provide a better understanding of the relationship between age, length of service, and work productivity of lecturers. Another relevant research discusses factors that affect the lecturer's work environment (Nabella et al., 2022). This research includes an analysis of the work environment and how factors such as team support, facilities, and organizational culture can affect the work productivity of lecturers. This research can provide valuable insights into factors that can be considered to increase the work productivity of lecturers (Hapsari et al., 2021).

In this study, the novelty lies in a comprehensive approach that explores the unique factors that affect the work productivity of lecturers in the specific academic environment of Universitas Mercu Buana Jakarta. By highlighting the interaction between the internal policies of universities, the academic experience of lecturers, and the dynamics of the work environment, this study seeks to provide a deeper understanding of the specific factors that contribute to lecturer productivity, providing critical new insights for improving the efficiency and quality of higher education at these institutions.

RESEARCH METHODS

This research uses a quantitative approach with a descriptive type of research. The quantitative approach allows collecting numerically measurable data to analyze and present information in numbers or statistics (Taherdoost, 2022). Meanwhile, this type of descriptive research aims to describe the characteristics or phenomena observed without influencing or changing the research subject. In this case, the study aims to describe the dimensions that affect the productivity of lecturers' work without manipulating the variables.

The data collection technique used in this study was a questionnaire. The questionnaire was compiled and distributed to 100 Mercu Buana University Jakarta lecturers. The questionnaire consists of 5 indicators designed to explore information related to dimensions that affect the work productivity of lecturers. Primary data were collected through responses given by respondents to the questions listed in the questionnaire (Arndt et al., 2022).

The data analysis technique used in this study is Exploratory Factor Analysis (EFA), which has several critical steps (Goretzko et al., 2021). First, the sample size adequacy test was performed using Kaiser Meyer Olkin's Measure of Sampling Adequacy (KMO - MSA) and Bartlett's Test of Roundness. If the data is considered sufficient for factor analysis, the next step is factor analysis using Principal Component Analysis (PCA) with the varimax rotation method. The varimax rotation method is used to clarify the relationship between uncorrelated factors, providing a better understanding of the dimensions that affect the work productivity of lecturers (Shrestha, 2021).

RESULTS AND DISCUSSIONS

Data Analysis of Determinants of Lecturer Work Productivity

EFA (Exploratory Factor Analysis) analysis is a powerful instrument to understand complex relationships between many variables in measuring lecturer work productivity. In this case, Table 1 serves as a validity indicator, displaying anti-image correlation values for each item that measures the productivity of lecturer work. The affirmation that each item has an anti-image correlation value that exceeds the threshold of 0.5 highlights the high accuracy and validity of the data used in the analysis. With confidence in the quality of the data prepared, the next step in EFA's analysis becomes more attractive, allowing for a deeper investigation of dimensions of lecturer work productivity that may not have been seen in previous explanations.

Table 1. Anti Image Correlation

		Quality of Work	Quality of Work	Work Efficiency	Work Effectiveness	How it Works
Anti-image Correlation	Quality of Work	**0.682a**	0.439	0.253	0.139	0.059
	Quality of Work	0.439	**0.709a**	0.132	0.150	0.092
	Work Efficiency	0.253	0.132	**0.667a**	0.139	0.044
	Work Effectiveness	0.139	0.150	0.139	**0.638a**	0.463
	How it Works	0.059	0.092	0.044	0.463	**0.665a**

a. Measures of Sampling Adequacy(MSA)

The data is an anti-image correlation value between variables that measure lecturer work productivity. Anti-image correlation is used in factor analysis to evaluate the measurement quality or construct validity of each related item or indicator. In the given table, the diagonal (from top left to bottom right) shows the correlation between each variable, which is always 1 (the perfect correlation value between a variable and itself). Meanwhile, values outside the diagonal are correlations between two different variables. High correlation values, close to or exceeding 0.5, indicate a strong relationship between the measured variables. In this context, it is seen that all variables are related to each other with varying degrees of correlation. For example, the variable Quality of Work Results has a significant correlation with the variables Work Efficiency (0.253), Work Effectiveness (0.139), and How to Work (0.059). However, it is essential to note that further analysis is needed to obtain a more in-depth interpretation, such as exploratory factor analysis (EFA) or regression analysis, to understand the relationship between these variables more comprehensively in the context of lecturer work productivity.

After the validity test, the next stage in EFA is the sample size adequacy test based on KMO-MSA and the Bartlett roundness test. As seen in Table 2, this study had a KMO-MSA of 0.674, while the Barlett unanimity test was significant at a significance level of 5 percent. Based on these two criteria, this study has sufficient samples to be analyzed using EFA. Therefore, the step can be continued further.

Table 2. Kaiser-Meyer-Olkin Measure of Sampling Adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.674
Bartlett's Test of Sphericity	Approx. Chi-Square	98.974
	Df	10
	Say.	.000

The Kaiser-Meyer-Olkin (KMO) and Bartlett tests are used in data analysis to evaluate sample fit and correlation structure between variables. The KMO test result shows a value of 0.674, which indicates a decent match rate for factor analysis. KMO values above 0.5 are generally considered suitable for continuing

factor analysis, and values of 0.674 indicate that the data used are relatively suitable for factor analysis. Meanwhile, the results of the Bartlett test showed an approximate Chi-Square value of 98.974 with a degree of freedom (df) of 10 and significance (Sig.) of 0.000. Significant results in the Bartlett test reject the null hypothesis, which states that the correlation matrix is an identity matrix (without correlation between variables). This indicates a significant relationship between the variables used in the analysis, justifying factor analysis or other techniques that rely on correlation between variables.

In this study, factor extraction was carried out using PCA. His findings are shown in the scree plot in Figure 1, which represents the sum of factors extracted based on Eigenvalue > 1.

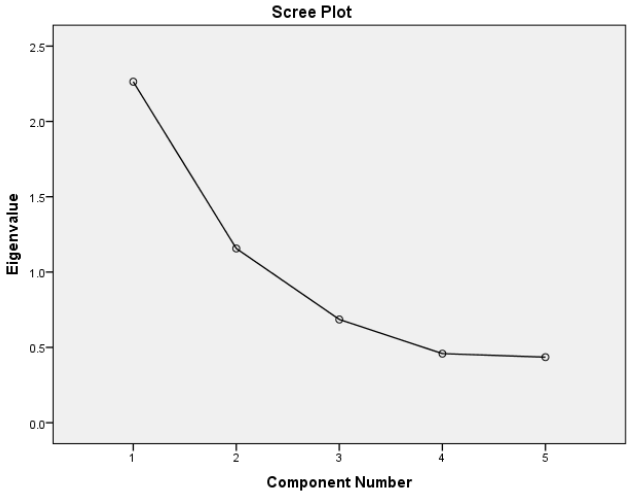

Figure 1. Scree Plot for Factors Extraction

The results of factor extraction based on the Eigenvalue presented in Table 3 reinforce the existence of two factors identified in this analysis. The first factor has an Eigenvalue of 2.264, while the second has an Eigenvalue of 1.157. One of the criteria considered in factor extraction is the cumulative total Variance. The minimum total value of cumulative Variance acceptable in EFA is sixty per cent. In this study, the total Variance that five factors can explain reached 68.405 per cent.

Table 3. Varian Total Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.264	45.272	45.272	2.264	45.272	45.272
2	1.157	23.134	68.405	1.157	23.134	68.405
3	.685	13.710	82.115			
4	.459	9.175	91.290			
5	.436	8.710	100.000			

Extraction Method: Principal Component Analysis.

The table displays the initial Eigenvalues and extraction results in the factor analysis that has been performed. Eigenvalues are values that describe how much

Variance each factor has successfully extracted from the data tested. In this analysis, preliminary results showed five factors with different Eigenvalues. The first factor has the highest Eigenvalue of 2.264, which explains about 45.272% of the total Variance. Then, the second factor has an Eigenvalue of 1.157, explaining about 23.134% of the total Variance.

Furthermore, although there were three other factors with lower Eigenvalues (0.685, 0.459, and 0.436), only the first two were used in further analysis. Both factors can explain about 68.405% of the total Variance, which signifies a significant contribution to the information generated from this factor analysis. These factors were chosen because they have relatively higher Eigenvalue values and can account for most of the Variance in the analyzed data.

The rotation method using varimax is performed to determine the loading factor of each item and categorize the items that build each factor. Hinkin (1998) states that the loading factor is more significant than 0.4. The first component or factor consists of five items, namely items number 1, 2, 3, 4, and 5. The second component or factor consists of five items, including items number 1, 2, 3, 4, and 5. A component or factor consists of two items. The loading factor details of each item are presented in Table 4, while the details of the items in each dimension are shown in Table 5.

Table 4. Rotated Component Matrix[a]

Rotated Component Matrix[a]		
	Component	
	1	2
Quality of Work	.758	.328
Quality of Work	.690	.397
Work Efficiency	.799	-.186
Work Effectiveness	.090	.863
How it Works	.125	.815

Table 5. Dimensions of Financial Behavior

Component Score Coefficient Matrix		
	Component	
	1	2
Quality of Work	0.425	.054
Quality of Work	0.366	.114
Work Efficiency	0.561	-.290
Work Effectiveness	0.124	.545
How it Works	0.091	.506
Extraction Method: Principal Component		

The Rotated Component Matrix table shows the rotation factor coefficients between the observed variable and the two components of the factor analysis results. This coefficient shows how strong the relationship between each variable and each component is after rotation is performed. In the table, the variables Quality of Work Results and Quality of Work Results show a significant

correlation with Component 1, with coefficients of about 0.758 and 0.690, respectively. Meanwhile, Work Efficiency is highly correlated with Component 1 (0.799), while Work Effectiveness and Work Methods correlate more with Component 2 (0.863 and 0.815). A positive coefficient indicates a unidirectional relationship between a variable and a component, while a negative coefficient signifies an inverse relationship between a variable and a related component. These results provide an idea of the relationship between the variables used in the analysis and the components extracted after factor rotation is carried out.

The "Component Score Coefficient Matrix" table displays the component score coefficients for each variable against the two components resulting from the factor analysis. This coefficient describes the contribution of each variable to the components that have been extracted. In the table, the coefficient value shows the weight or contribution of each variable to both components of the factor analysis results. For example, the Work Quality variable has a contribution of 0.425 in Component 1 and 0.054 in Component 2. The Work Efficiency variable has the most significant contribution in Component 1 (0.561) and the negative contribution in Component 2 (-0.290). While the variables Work Effectiveness and How to Work have a more significant contribution in Component 2 (0.545 and 0.506, respectively) but a smaller contribution in Component 1. This explanation explains how much each variable influences or contributes to each component of the factor analysis results. This coefficient helps to understand the relative influence of the observed variable on the components formed in the factor analysis.

Determinants of Lecturer Work Productivity

The results of the analysis conducted using EFA (Exploratory Factor Analysis) in this study showed several important information related to the work productivity of lecturers. First, in the initial analysis stage, the validity of items that measure the productivity of lecturers' work is evaluated by utilizing anti-image correlation. All items show anti-image correlation values above 0.5, indicating the validity of those items. Next, after confirming the validity of the item, proceed with the sample size adequacy test using the KMO-MSA (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) and Bartlett roundness test.

The results of these two tests suggest that the study had sufficient samples to continue the analysis with EFA (Finch, 2020). EFA is performed using PCA (Principal Component Analysis) to extract the factors contained in the data. The findings of this analysis are supported by a scree plot that shows the number of factors produced based on eigenvalue values greater than 1. The results of factor extraction showed two significant factors from this analysis, with each factor having a significant eigenvalue: 2.264 for the first factor and 1.157 for the second factor.

Another criterion considered is cumulative total Variance, which in this study could explain about 68.405% of the total Variance. After that, the rotation method uses varimax to determine the factors that contain each item and group items into these factors. The results showed that the first factor consisted of five items related to the quality of work results, while the second one reflected the work process. At the final stage, the extracted factors are labelled based on the dimensional contents reflected in each factor. Thus, in this study, the dimensions

of lecturer work productivity are grouped into work results, work processes, and work methods. The findings of this analysis illustrate that the work productivity of lecturers in this study has three main dimensions, each of which is reflected in aspects of the quality of work results, work processes, and work methods. Thus, this study presents a deep understanding of the aspects that affect the work productivity of lecturers, which can be the basis for further research and development in this field.

This study identifies crucial dimensions that affect the work productivity of lecturers in specific academic environments, namely Mercu Buana University Jakarta. This identification provides an in-depth understanding of the aspects that affect the work productivity of lecturers, providing a foundation for the development of research and development in the field of education.

CONCLUSION

This study aims to identify the dimensions that determine the productivity of lecturers' work. Through factor analysis, five main factors that underlie the work productivity of lecturers have been identified, which are labelled as follows: quantity of work, quality of work, effectiveness at work, efficiency at work, and how to work. The recommendation for future research is to conduct a more detailed and in-depth description of each identified dimension of productivity. This allows a more comprehensive understanding of the true meaning of the quantity of work, the quality of work, effectiveness in work, work efficiency, and how to work in the context of lecturer work productivity.

In addition, it is recommended to compare productivity results between study level groups, which can provide additional insight into differences in factors that affect the productivity of lecturers at different levels of education. This step can help in a deeper understanding of the factors that support or hinder lecturers' work productivity based on their level of education. In further research, it would be helpful to explore the relationship between the identified dimensions of productivity and other variables that may explain the consequences of lecturer work productivity. This can help broaden understanding of the factors that can affect the work productivity of lecturers in various educational contexts and situations.

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