

Lecturer competence, work environment, work motivation and career development: evidence from the Faculty of Agriculture, Universitas Muhammadiyah Sumatera Utara

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ABSTRACT

Lecturer career development is an important component of human resource management in higher education, yet career advancement may not depend solely on individual competence and work motivation. This study examines the relationships of lecturer competence and work environment with work motivation and career development at the Faculty of Agriculture, Universitas Muhammadiyah Sumatera Utara (UMSU). A quantitative approach with a causal-associative design was employed. The population consisted of 52 active lecturers, all of whom were included through a census sampling technique. Data were collected using a structured Likert-scale questionnaire and analyzed using multiple linear regression in two analytical models. The first model examined competence and work environment as predictors of work motivation, while the second examined competence, work environment, and motivation as predictors of career development. The findings show that competence has a positive and significant relationship with lecturer motivation ($\beta = 0.858$; $p < 0.001$), while work environment also has a positive and significant relationship with motivation ($\beta = 0.144$; $p = 0.029$). Together, the two predictors explain 91.2% of the variance in motivation. In contrast, competence, work environment, and motivation do not show statistically significant relationships with career development. The second model explains 18.8% of the variance in career development. The findings suggest that lecturer motivation is closely associated with individual competence and the work environment, whereas career development may involve additional organizational and academic factors beyond those examined in this study.

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1. INTRODUCTION

Human resource management in higher education is closely related to the capacity of lecturers to perform the three pillars of higher education, namely education, research, and community service. Lecturer competence and the organizational environment in which academic work is conducted may shape how lecturers perceive and perform their roles. At the same time, career development

represents a broader outcome because academic advancement is generally associated not only with individual capability but also with institutional procedures, professional achievements, academic requirements, and opportunities for advancement.

Work motivation is an important behavioral dimension in this context. Lecturers with adequate knowledge, skills, professional attitudes, and mastery of their academic fields may have greater confidence in performing their responsibilities. From the perspective of Self-Determination Theory, the satisfaction of psychological needs, including the need for competence, is associated with the development of autonomous motivation (Deci & Ryan, 2000; Ryan & Deci, 2020). In the workplace, competence therefore represents more than technical ability; it may also influence how individuals experience their work and their willingness to engage in organizational activities.

The work environment represents another organizational factor relevant to lecturer motivation. Physical facilities, interpersonal relationships, workplace comfort, and organizational conditions may influence how lecturers experience their daily work. Previous research has associated supportive work environments and job characteristics with work motivation (Liu et al., 2022). In higher education, the quality of the working environment is particularly relevant because academic work requires interaction, autonomy, research support, teaching facilities, and sustained professional engagement.

Career development, however, represents a different dimension from work motivation. A lecturer may possess high competence and motivation without necessarily experiencing immediate career advancement. Academic career progression can involve requirements concerning functional positions, academic credits, research and publication activities, community service, and institutional career policies. Consequently, relationships that are evident for motivation may not necessarily be reproduced for career development.

This distinction creates an important empirical issue. Competence and work environment may be directly related to lecturers' motivation, while their relationship with career development may depend on additional organizational and academic mechanisms. Previous studies have reported positive relationships between competence, work environment, motivation, and employee outcomes, but findings concerning lecturer career development remain context-dependent. Differences in institutional systems, academic promotion mechanisms, professional development opportunities, and respondent characteristics may contribute to different empirical patterns.

The Faculty of Agriculture, Universitas Muhammadiyah Sumatera Utara (UMSU), provides a relevant setting for examining this issue. Lecturers are required to maintain their competence while simultaneously fulfilling teaching, research, and community service responsibilities. The institution also needs to provide an environment that supports academic activities and professional development. However, the extent to which competence and work environment are associated with lecturer motivation and career development cannot be assumed to be identical.

Based on this problem, the present study examines two related empirical models. The first model evaluates the relationship of lecturer competence and work environment with work motivation. The second evaluates whether competence, work environment, and work motivation are statistically associated with lecturer career development. Rather than assuming that motivation automatically functions as a mediator, the study treats motivation as an outcome in the first model and as a predictor in the second model. This approach allows the two outcomes to be examined separately while avoiding an unsupported claim of mediation.

The study is expected to contribute empirical evidence concerning the distinction between factors associated with lecturer motivation and factors associated with lecturer career development. This distinction is important for higher education management because increasing motivation and facilitating career advancement may require different organizational interventions.

2. METHOD

2.1 Research Design

This study employed a quantitative approach with a causal-associative research design to examine the relationships among lecturer competence, work environment, work motivation, and career development. The study was conducted at the Faculty of Agriculture, Universitas Muhammadiyah Sumatera Utara (UMSU), Medan, North Sumatra, Indonesia.

The research framework consisted of two analytical models. The first model examined the effects of competence and work environment on lecturer motivation. The second model examined the effects of competence, work environment, and motivation on lecturer career development.

Accordingly, motivation was treated as an outcome variable in the first model and as a predictor of career development in the second model. This study did not test an indirect or mediation effect; therefore, motivation was not statistically interpreted as a mediating variable.

2.2 Population and Sample

The population consisted of all 52 active lecturers at the Faculty of Agriculture, UMSU. Because the population was relatively small and all members of the population were included as respondents, this study employed a total sampling or census approach. Thus, the final sample consisted of 52 lecturers.

2.3 Research Variables and Measurement

The study examined four variables: competence (X1), work environment (X2), motivation (Y1), and career development (Y2). Data were collected using a structured questionnaire with a Likert-type response scale.

Lecturer competence was operationalized through indicators relating to job knowledge, job skills, ability to complete assigned tasks, professional attitude, and mastery of the academic field. Work environment was represented by work comfort, work facilities, workplace relationships, work security, and workspace conditions.

Work motivation was measured through indicators relating to work spirit, responsibility, discipline, achievement orientation, and work enthusiasm. Career development was represented by promotion opportunities, training, career advancement, clarity of career paths, and competency development.

2.4 Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis began with descriptive statistics to describe respondents' perceptions of each research variable using mean and standard deviation values.

Multiple linear regression analysis was subsequently conducted using two models. The first regression model examined the effects of competence and work environment on lecturer motivation:

$$Y1 = \alpha + \beta_1 X1 + \beta_2 X2 + \varepsilon \quad (1)$$

where Y1 represents lecturer motivation, X1 represents competence, X2 represents work environment, α is the constant, β represents the regression coefficient, and ε represents the error term.

The second regression model examined the effects of competence, work environment, and motivation on lecturer career development:

$$Y2 = \alpha + \beta_1 X1 + \beta_2 X2 + \beta_3 Y1 + \varepsilon \quad (2)$$

where Y2 represents career development.

Individual effects were evaluated using the t-test at a significance level of 5% ($\alpha = 0.05$). A relationship was considered statistically significant when the p-value was below 0.05. The coefficient of determination (R^2) and adjusted R^2 were used to assess the explanatory power of each regression model.

2.5 Research Hypothesis

H1: Competence influences lecturer motivation.

H2: The work environment significantly influences lecturer motivation.

H3: Competence significantly influences lecturer career development.

H4: The work environment significantly influences lecturer career development.

H5: Motivation significantly influences lecturer career development.

3. RESULTS AND DISCUSSION

3.1 Descriptive Statistics of Research Variables

Descriptive statistics are used to provide a general overview of respondents' perceptions of the research variables.

Table 1. Descriptive Statistics of Research Variables

Variables	N	Mean	Std. Deviation	Category
Competence (X1)	52	4,477	0,523	Very high
Work environment (X2)	52	4,348	0,524	High
Motivation (Y1)	52	4,508	0,531	Very high
Career Development (Y2)	52	4,207	0,586	High

Table 1 shows that all variables have average values above 4.00. This indicates that lecturers at the UMSU Faculty of Agriculture have high levels of competence, work environment, motivation, and perceptions of career development.

3.2 The Influence of Competence and Work Environment on Motivation

Table 2. Regression Results of Competence and Work Environment on Motivation

Variables	Beta Coefficient	t-count	Sig.
Competence (X1)	0,858	15,432	0,000
Work Environment (X2)	0,144	2,256	0,029

Model Summary

R	R ²	Adjusted R ²
0,955	0,912	0,908

The regression equation obtained is:

$$Y_1 = 0,041 + 0,858X_1 + 0,144X_2$$

The coefficient for competence is positive and statistically significant ($\beta = 0.858$; $p < 0.001$). The work environment coefficient is also positive and statistically significant ($\beta = 0.144$; $p = 0.029$). The R^2 value of 0.912 indicates that the two predictors jointly account for 91.2% of the observed variance in work motivation in this sample. The adjusted R^2 is 0.908. The magnitude of the competence coefficient is substantially larger than that of the work environment. Within this model, competence therefore has the stronger statistical association with work motivation.

3.3 The Influence of Competence, Work Environment, and Motivation on Career Development

Table 3. Regression Results of Competence, Work Environment and Motivation on Career Development

Variables	Beta Coefficient	t-count	Sig.
Competence (X1)	-0,143	-0,305	0,761
Work environment (X2)	0,419	1,832	0,072
Motivation (Y1)	0,214	0,442	0,660

Model Summary

R	R ²	Adjusted R ²
0,434	0,188	0,137

The regression equation obtained is:

$$Y_2 = 2,060 - 0,143X_1 + 0,419X_2 + 0,214Y_1$$

The R^2 value of 0.188 indicates that only 18.8% of the variation in career development can be explained by competence, work environment, and motivation.

3.4 Hypothesis Testing Summary

Table 4. Summary of Hypothesis Testing Results

Hypothesis	Statement	Results
H1	Competence influences motivation	Accepted
H2	The work environment influences motivation	Accepted
H3	Competence influences career development	Rejected
H4	The work environment influences career development	Rejected
H5	Motivation influences career development	Rejected

3.5 Discussion

3.5.1 The Influence of Competence on Lecturer Motivation

The results of the study showed that competence had a positive and significant effect on lecturer motivation ($\beta = 0.858$; $p = 0.000$). This finding indicates that increasing job knowledge, skills, task completion abilities, professional attitudes, and field mastery will increase lecturers' motivation in carrying out the Tri Dharma of Higher Education. The results of this study are in line with Self-Determination Theory (SDT), which explains that the need for competence is one of the main factors shaping a person's intrinsic motivation. Individuals who feel competent tend to have higher motivation in completing their work. This finding also supports the research of Zulfikar et al. (2021) which found that competence has a positive influence on the motivation and performance of university lecturers.

In the context of the UMSU Faculty of Agriculture, high lecturer competence reflects the ability to manage learning, research, and community service, thereby encouraging the emergence of higher work motivation.

3.5.2 The Influence of Work Environment on Lecturer Motivation

The results of the study showed that the work environment significantly influenced lecturer motivation ($\beta = 0.144$; $p = 0.029$). This finding suggests that a comfortable, safe work environment with adequate facilities and good interpersonal relationships can increase lecturer motivation. According to Liu et al. (2021), job characteristics and a supportive work environment will enhance individual psychological needs, thereby increasing work motivation. Research by Hakim et al. (2024) at Indonesian universities also found that the work environment has a strong relationship with lecturers' motivation and quality of work life.

The results of this study reinforce the view that the success of higher education organizations depends not only on individual competencies, but also on the quality of the work environment provided.

3.5.3 The Influence of Competence on Lecturer Career Development

The results of the study indicate that competence does not significantly influence lecturers' career development ($p = 0.761$). This finding differs from the research of Wahyuningsih et al., which found that competence significantly influences lecturers' career development at private universities in Indonesia. This insignificance indicates that lecturers' career development is not only determined by individual competence but is also influenced by various external factors such as: Institutional policies, Functional position requirements, Credit points, Scientific publications, and Academic promotion opportunities. Santoso's (2025) research shows that lecturers' career development is more influenced by institutional support, publication incentives, and professional development programs than by individual competence alone.

3.5.4 The Influence of the Work Environment on Lecturers' Career Development

The results showed that the work environment did not significantly influence lecturers' career development ($p = 0.072$). Even if lecturers feel comfortable working, this does not necessarily result in academic promotion. The lecturer career system in Indonesia is largely determined by meeting administrative and academic requirements set by the government and universities.

These findings support recent research which states that lecturer career development is a complex process and is influenced by organizational systems and academic policies.

3.5.5 The Influence of Motivation on Lecturer Career Development

The results showed that motivation did not significantly influence lecturers' career development ($p = 0.660$). This finding suggests that high motivation does not necessarily translate into accelerated career development if it is not accompanied by measurable academic achievements such as scientific publications, research, community service, and functional position credits.

The results of this study differ from those of Jordan et al. (2025), who found that motivation mediated the influence of competence on lecturer career development. This difference in results may be due to respondent characteristics, job promotion systems, and career policies in place at different institutions.

4. CONCLUSION

This study examined two related models concerning lecturer motivation and career development at the Faculty of Agriculture, Universitas Muhammadiyah Sumatera Utara. The findings demonstrate different empirical patterns for the two outcomes. First, lecturer competence has a positive and statistically significant association with work motivation. Second, work environment also has a positive and statistically significant association with work motivation. Together, the two variables explain 91.2% of the variance in work motivation in the research sample. In contrast, competence, work environment, and work motivation do not show statistically significant relationships with career development. The second model explains 18.8% of the variance in career development. These results indicate that factors associated with lecturer motivation are not necessarily sufficient to explain differences in career development. The managerial implication is that efforts to strengthen lecturer motivation can focus on competence development and the creation of a supportive work environment. Career development, however, should be addressed through a broader human resource management perspective that considers academic and organizational mechanisms beyond the variables examined in this study. This study is limited by its focus on 52 lecturers from a single faculty and institution and by the cross-sectional nature of the data. Consequently, the findings should not be generalized to all lecturers or higher education institutions without considering differences in institutional context. Future studies should examine broader samples and incorporate additional factors that may explain lecturer career development.

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