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The Influence of Information Technology-Based Career Competencies and Management on the Work Effectiveness of Lecturers at Gorontalo State University

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Abstract

This study aims to determine the influence of information technology-based career competencies and management on the work effectiveness of lecturers at Gorontalo State University. The approach in this study is quantitative. The research method is expost facto and correlational research design. The sample in the study was 92 people. The data analysis technique used is SEM-PLS. The results of the study showed that the SEM-PLS equation for community satisfaction was $\hat{Y} = \alpha + 0.681X + 0.231Z + \varepsilon$ with a determination coefficient of 71.80% and for service quality, namely $Z = \alpha + 0.642X + \varepsilon$ with a determination coefficient of 41.30%. The results of the hypothesis testing are (1) the competence of lecturers has a positive and significant effect on information technology-based career management at Gorontalo State University. (2) lecturer competence has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University. (3) information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University. (4) lecturer competence through information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University. So that information technology-based career management is able to become a good intervening variable which means that information technology-based

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career management becomes a strategic bridge that strengthens the impact of competence on the achievement of tridharma performance.

Keywords: Work Effectiveness; Lecturer; Tridharma; Career Management; Competence

INTRODUCTION

A university's performance can be measured through a variety of key performance indicators (KPIs) that include important aspects of academic operations and achievement. In the main performance indicators (KPIs), there are several points related to the effectiveness of lecturers' work. IKU 3 focuses on lecturers with off-campus activities in terms of research and community service. IKU 4 assesses the contribution of lecturers in the certificate of competence, while IKU 5 measures the quality and quantity of scientific publications produced by lecturers. These three indicators are very important because they reflect how lecturers contribute to the achievement of the university's mission in the fields of education, research, and community service.

The effectiveness of lecturers' work in meeting these three indicators is a measure of the success of universities in achieving their academic and social goals. Effective lecturers are able to manage their time, resources, and skills well to achieve optimal results and support the achievement of the university's vision and mission (Adiawaty, 2020; Sulistyaningrum & Diana, 2025). The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education includes the ability of lecturers to carry out the three main tasks of higher education, namely education and teaching, research, and community service.

Lecturer competence is one of the main factors that affect the effectiveness of lecturers' work. These competencies include an in-depth understanding of the material, pedagogical skills, and the ability to conduct research and community service (Sudira, 2016; Prasojo et al., 2023). Lecturer competence is a combination of knowledge, skills, and attitudes needed to carry out higher education tasks well. This is reflected in the ability to teach, manage classes, and contribute to the tridharma of higher education, which is directly influenced by the level of competence possessed (Riyadi, 2015). This ability is important not only to maintain academic standards, but also to produce innovations in the curriculum as well as quality scientific work (Handayani et al., 2023).

In addition to lecturer competence, another factor is career management where Career management is the process of planning and managing an individual's career

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journey to achieve professional and personal goals. According to Zaini (2017), lecturer career management requires a systematic approach that allows the development of potential and competency mapping to be in line with the vision of the institution. Furthermore, a career management system based on information technology is now considered important in supporting lecturers in designing and monitoring their professional development. These systems allow for more accurate and transparent access to performance data, which ultimately contributes to increased work effectiveness (Kusumawardhani et al., 2023).

Gorontalo State University (UNG) was chosen as the research location because of its important role in the higher education system in Gorontalo and Indonesia in general. UNG has a great responsibility in providing quality education, conducting research, and contributing to the development of society. By focusing on the effectiveness of lecturers' work in the implementation of the Tridharma, this research is expected to provide useful insights for UNG in improving the quality of education and lecturer performance. In addition, the selection of UNG is also based on the need to evaluate and improve the career management system and faculty competencies to support the achievement of the university's academic and social goals.

One of the problems faced is that there are several lecturers who have not met the quality standards and quantity of expected work results, as evidenced by the receipt of lecturer remuneration that is not optimal. The achievement of organizational goals is often hampered by lecturer competency issues, which directly affect the effectiveness of their work. Lecturers who are less skilled in innovative teaching methods, the use of digital technology for learning, or in conducting relevant research, can cause the quality of graduates to decline and scientific publications to be minimal. Of the total 1,023 lecturers, 65.69% or 672 people have earned doctoral degrees, while 34.31% or 351 lecturers have master's education qualifications. From the perspective of lecturer work effectiveness, the high number of doctoral qualified lecturers is a positive indication in achieving the institution's academic goals, because lecturers with doctoral education tend to have better quality work results, are able to produce high-quality research, and can more actively contribute to the development of science. On the other hand, the number of master's lecturers who is still quite significant indicates the need to strengthen the qualification improvement program so that work effectiveness, especially in terms of quality and quantity of academic work, can be more optimal.

Based on academic positions, most lecturers at UNG are in the position of Lecturer (36.46%), followed by Expert Assistants (28.84%), Head Lecturers (18.57%), Lecturers

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(9.19%), and Professors (6.94%). This condition reflects challenges in achieving indicators of lecturers' work effectiveness, especially in terms of quality and punctuality. With the majority of lecturers in the positions of Lecturers and Expert Assistants, UNG faces challenges in producing consistently high-quality academic work. Higher academic positions, such as Head Lecturer and Professor, are generally associated with better academic performance and productivity as well as higher job satisfaction. Therefore, UNG needs to improve information technology-based career management to facilitate the timely development of lecturer competencies, increase the quantity of academic work, and increase job satisfaction which has an impact on the performance of university organizations.

The problem of lecturer performance effectiveness often arises when there is a discrepancy between the expectations of the institution and the realization of performance shown by lecturers in various aspects. For example, in terms of achieving goals, there are still lecturers who have not fully met the tridharma targets of higher education, both in terms of teaching, research, and community service. In terms of the quality of the work, the quality of teaching materials, scientific publications, and learning methods applied do not fully reflect optimal academic standards. Furthermore, the quantity of work results is also an obstacle when the workload of lecturers is high but the results achieved are inadequate, such as the low number of publications or the lack of innovation in the learning process. Punctuality problems often occur in the completion of administrative tasks, the collection of grades, or the preparation of academic reports that do not correspond to the specified deadline. In addition, low lecturer job satisfaction due to work environment factors, excessive administrative burden, or inadequate reward system also negatively impact their enthusiasm and productivity.

LITERATURE REVIEW

Work Effectiveness

According to Susanto (2013: 41), work effectiveness is an evaluation criterion for measuring the success of a policy or planning compared to the expected consequences or results. So the work results achieved with the planning goals must be synchronized, because it is an indicator of the effectiveness of work in an office or organization. Indicators of lecturer work effectiveness according to Admosoeprapto, (2016) are the achievement of goals, the quality of work results, the quantity of work results, punctuality and job satisfaction.

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Lecturer Competence

According to Marwansyah in Rodlian (2012:19), lecturer competence is a combination of knowledge, skills, attitudes, and other personal characteristics needed to achieve success in work. Indicators of lecturer competence according to Sutrisno in Ceswirdani et al., (2017: 204) are knowledge, skills and work attitudes.

Information Technology-Based Career Management

Information technology-based career management is a career management and development system that utilizes digital technology to increase the efficiency and effectiveness of the process of planning, implementing, and evaluating individual career paths (Hutapea, 2016). In higher education, the application of career information systems allows lecturers to develop long-term career plans based on academic and research performance indicators documented in digital platforms (Widodo et al., 2021). Technology-based career management indicators according to Sunyoto (2012: 175) are career planning, career development, career counseling and career decision-making.

METHODOLOGY

The approach in this study is quantitative. The research method is expost facto and correlational research design. The sample in the study was 92 people. The data analysis technique used is SEM-PLS. The following is the equation of SEM-PLS analysis, namely the equation with variable *intervening* (Hartono, 2011: 156) is as follows:

1) Stage 1 Testing

$$Z = \alpha 1 + \beta 1X + \varepsilon$$

2) Stage 2 Testing

$$Y = \alpha 2 + \beta 1X + \beta 2Z + \varepsilon$$

Information:

Y = The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education

α = Constant

β = Variable coefficient

X = Lecturer competence

Z= Information technology-based career management

ε = Error Rate

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RESULTS AND DISCUSSION

Research Results

This study is a quantitative research by distributing questionnaires to 92 respondents who meet the standard of calculation of the research sample. Before distributing the questionnaire to 92 respondents or lecturers, the questionnaire was previously tested on 30 lecturers outside the research sample. The questionnaire usage rate is 100%, namely 92 distributed and returned and can be used as many as 92 questionnaires.

Prerequisites for Analysis (Outer Model)

a. Convergent Validity

Convergent Validity is a test to assess whether an indicator is capable of explaining a variable. The criteria for this test are an Outer Loading value of > 0.5. The description of the outer loading of each variable is described as follows:

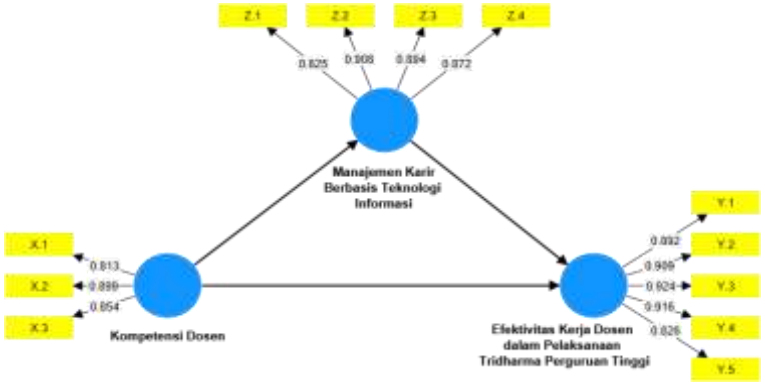


Figure 1: Outer Loading

Based on the results of the above test, the results were obtained that there is no variable indicator whose outer loading value is below 0.5. So that all indicators are declared feasible or valid for research use and can be used for further analysis.

b. Discriminant Validity

Discriminant Validity is looking at and comparing between discriminant validity and the square root of average extracted (AVE). The value of good discriminant validity and for the expected AVE value is > 0.5. The results of the analysis can be summarized in the following table:

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Table 1: Discriminant Validity Results

Variable	AVE	Standard	Status
Lecturer competence	0.733	0.5	Valid
Information technology-based career management	0.766	0.5	Valid
The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education	0.800	0.5	Valid

Source: PLS Processing, 2025

Based on the table above, the results of the AVE score were obtained from the competency variables of lecturers in information technology-based career management and lecturer work effectiveness in the implementation of the Tridharma of Higher Education > 0.5. Thus, it can be stated that each variable has a good discriminant validity.

c. Composite Reliability

Composite Reliability is an index that shows how much a measuring device can be trusted to be relied upon. Data that has a composite reliability > 0.6 has high reliability. The results of the Composite Reliability test are presented in the following table:

Table 2: Composite Reliability Results

Variable	Composite Reliability	Standard	Status
Lecturer competence	0.891	0.6	Reliable
Information technology-based career management	0.929	0.6	Reliable
The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education	0.952	0.6	Reliable

Source: PLS Processing, 2025

Based on the results of the above data processing, it can be seen that the Cronbach's alpha value of each research variable > 0.6. Thus these results can show that each of the study variables has met the requirements of Cronbach's alpha value, so it can be concluded that the overall variable has a high level of reliability.

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d. Cronbach's Alpha

The reliability test with the composite reability above can be strengthened by using Cronbach's alpha value. A variable can be declared reliable or meet Cronbach's alpha if it has a Cronbach's alpha value > 0.6. The following is the Cronbach's alpha value of each variable:

Table 3: Cronbach's Alpha results

Variable	Cronbach's Alpha	Standard	Status
Lecturer competence	0.818	0.6	Reliable
Information technology-based career management	0.898	0.6	Reliable
The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education	0.937	0.6	Reliable

Source: PLS Processing, 2025

Based on the results of the above data processing, it can be seen that the composite reliability value of all research variables > 0.6. These results show that each variable has met the composite reliability so that it can be concluded that the entire variable has a high level of reliability.

1. Inner Model

Path coefficient evaluation is used to show how strong the effect or influence of independent variables is on dependent variables. While coefficient determination (R-Square) is used to measure, how much endogenous variables are influenced by other variables. The results of the analysis are presented in the form of the following figure:

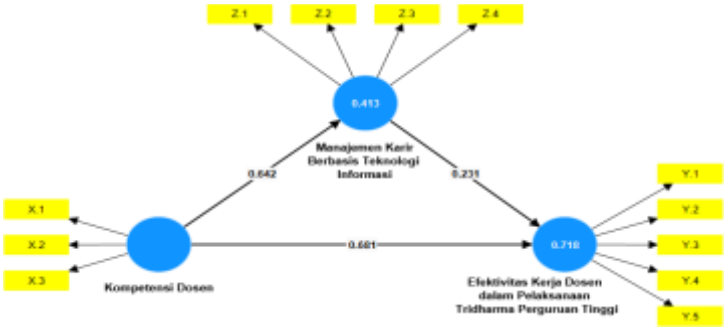


Figure 2: PLS Algorithm

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Based on the image above, the overall results of R Square can be described as follows:

Table 4: R Square Results

No.	Variable	Variable Z	Variable Y		Total Impact
			Immediately	Indirect	
1	Lecturer competence	0,642	0,681	0,148	0,829
2	Information technology-based career management		0,231		
Simultaneous Determination		**0,413**	**0,718**		

Source: PLS Processing, 2025

Based on the table above, the results of the determination can be described as follows:

a. The Influence of Lecturer Competence on Information Technology-Based Career Management

Overall, it can be interpreted that the R Square value is 0.413 which means that 41.30% of the influence of lecturer competence on information technology-based career management at Gorontalo State University. The result of the determination coefficient of 41.30% shows that the relationship between these variables is quite substantial. The value of the determination coefficient, if it is associated with the test of the analysis prerequisites (*inner model*), then the equation meets the test of model goodness (*Goodness of Fit*). While the remaining 58.70% was influenced by other variables outside the research model, as argued by Hina & Dominic (2020); Kaewsaiha & Chanchalor (2021); Al-Nuaimi & Al-Emran (2021); Zhou et al., (2022) namely (1) leadership support and commitment, (2) ICT infrastructure reliability and platform accessibility, (3) digital career policy, (4) HR data integration, (5) compliance and information security, (6) training. and (7) organizational culture.

b. The Influence of Lecturer Competence and Information Technology-Based Career Management on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education

Overall, it can be interpreted that the R Square value is 0.718 which means that 71.80% of the influence of lecturer competence and information technology-based career management on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University. The result of the

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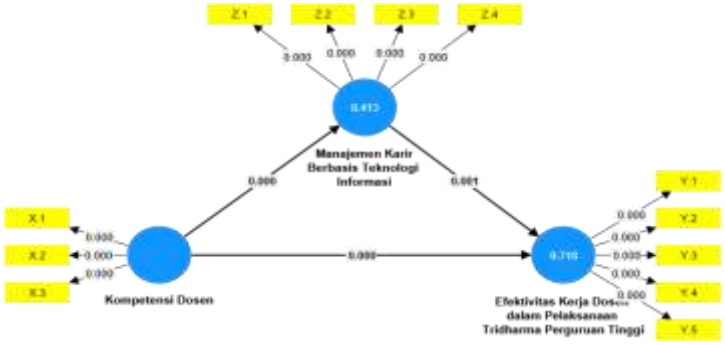
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determination coefficient of 71.80% shows that the relationship between these variables is in the substantial realm. The value of the determination coefficient, if it is associated with the test of the analysis prerequisites (*inner model*), then the equation meets the test of model goodness (*Goodness of Fit*). While the remaining 28.20% is influenced by other variables outside the research model, as argued by Johari et al., (2018); Atieno et al., (2022) namely (1) institutional leadership and policy support, (2) availability of resources and infrastructure, (3) work-life balance, and (4) collaborative organizational culture.

The results for each variable were obtained that the most dominant variable had an influence on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education, namely lecturer competence of 68.10%, then the variable of information technology-based career management of 23.10%. The individual quality of lecturers is the main determinant of the effectiveness of the Tridharma, while the support of an IT-based career system acts as an additional lever. In practical terms, improving education, research, and service competencies, including digital literacy, will have the most tangible impact, then strengthened by transparent, data-driven, and integrated digital career governance. The implication is that policy priorities should be focused on building lecturer capacity, along with improving HRIS/LMS and structuring workloads so that the adoption of the system is more meaningful. Provide ongoing mentoring.

2. Hypothesis Testing Results

The results of hypothesis testing in the form of structural equations can be presented in the following figure:



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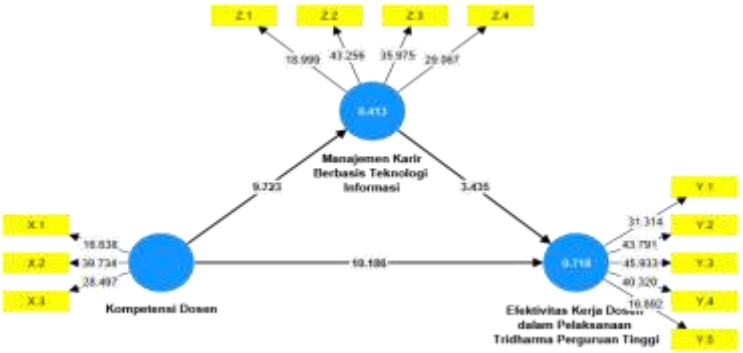


Figure 3: Hypothesis Testing Results (p-Value & t-Value)

Based on the image above, the results of hypothesis testing can be described. The research hypothesis can be declared acceptable if the P-Values value < 0.05. For more detailed results, hypothesis testing is classified in the following description:

a. Direct Influence

The results of hypothesis testing for direct influence can be presented in the following table:

Table 5: Direct Influence Hypothesis Testing Results

Yes	Exogenous	Endogenous	Hypothesis	t-Value (p-Value)	Decision
1	Lecturer competence	Information technology-based career management	Positive influence and significant	9,723 (0,000)	H1 Accepted
2	Lecturer competence	The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education	Positive influence insignificant	10,186 (0,000)	H2 Accepted
3	Information technology-based career management	The effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education	Positive influence and significant	3,435 (0,001)	H3 Accepted

Source: PLS Processing, 2025

Based on the direct influence hypothesis testing table above, the results of the analysis can be described as follows:

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1) **The influence of lecturer competence on information technology-based career management**

The t-statistical value of the influence of lecturer competence on information technology-based career management was obtained with a probability value (P-value) of 0.000. The P-value is smaller than the probability value of 0.05 (0.000<0.05), then Ha1 is accepted which means that the competence of lecturers has a positive and significant effect on information technology-based career management at Gorontalo State University.

2) **The Influence of Lecturer Competence on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education**

The t-statistical value of the influence of lecturer competence on information technology-based career management was obtained with a result of 10.186 with a probability value (P-value) of 0.000. The P-value is smaller than the probability value of 0.05 (0.000 < 0.05), then Ha2 is accepted which means that the competence of lecturers has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University.

3) **The Influence of Information Technology-Based Career Management on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education**

The t-statistical value of the influence of information technology-based career management on information technology-based career management was obtained with a result of 3.435 with a probability value (P-value) of 0.000. The P-value is smaller than the probability value of 0.05 (0.001 < 0.05), so Ha3 is accepted which means that information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University.

b. Indirect Influence

The results of hypothesis testing for indirect influences can be presented in the following table:

Table 6: Indirect Influence Hypothesis Testing Results

Yes	Exogenous	Mediation	Endogenous	Coefficient Line	t-Value (p-Value)	Decision
1	Competence of the apparatus Police	Information technology-	The effectiveness	0,829	3,446 (0.001)	H4 Accepted

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		based career management	of lecturers' work in the implementation of the Tridharma of Higher Education			

Source: PLS Processing, 2025

The t-statistic value of the influence of the indirect influence of lecturer competency variables is 3.446 with a probability value (P-value) of 0.000. The P-value is smaller than the probability value of 0.05 (0.001 < 0.05), then Ha4 is accepted which means that lecturers' competence through information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University.

DISCUSSION

The Influence of Lecturer Competence on Information Technology-Based Career Management at Gorontalo State University

The results of the descriptive test found that overall the percentage of achievement scores for lecturer competency variables at Gorontalo State University was in the good category. This shows that most lecturers have met the professional competency standards needed in carrying out the duties and responsibilities of the tridharma of higher education. Lecturers have adequate abilities in terms of knowledge, attitudes, and professional skills needed to support work effectiveness. This competency is important because it is directly correlated with the quality of graduates, research productivity, and academic contributions to society. Even though it is in good condition, for the lecturer skill indicator, there are still several aspects that are in the criteria that are quite good. This shows that there are still aspects in the realm of skills, such as mastery of learning technology, skills in digital-based scientific publications, classroom management skills based on Learning Management System (LMS), or skills in cross-disciplinary collaboration that are not optimal for some lecturers. So that higher education institutions need to take strategic steps so that lecturers' competencies are not only good conceptually but also qualified in application.

The results of the first hypothesis test found that lecturer competence had a positive and significant effect on information technology-based career management at Gorontalo

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State University by 64.20%. Positive and significant influence means that improving lecturers' competence, both in terms of knowledge, skills, and professional attitudes, has a direct impact on more structured and technology-based career management. Competent lecturers are more likely to adapt to the digital career management system and utilize it for targeted self-development.

Wicaksono (2023) said that lecturers who have a high level of competence are more committed to managing their academic careers through technology-based systems, which ultimately improve the performance and retention of lecturers at the institution. Lecturers who have knowledge and skills in the field of information technology more easily interact with digital platforms such as SISTER, BKD Online, and other career development applications. As stated by Subriadi et al. (2016), the low competence of lecturers towards technology can be an obstacle to the adoption of a digital career management system, so there is a need for continuous training to improve academic digital literacy. In line with that, Badaruddin and Daud (2022) also emphasized that the strategic development of lecturer competencies can increase the effectiveness of the career system and strengthen the position of lecturers in long-term academic development.

With the increasing demands of digitalization in human resource management in the academic environment, mastery of technology by lecturers is a must. Competent lecturers can utilize digital systems to access career training, planning for functional position promotions, and achieving tridharma performance. Indrayani (2014) emphasized that information technology competence greatly determines the success of academic information system integration, including in the management of lecturers' careers. Furthermore, Muhajirin et al. (2023) underlined that strengthening competencies in the field of information technology not only accelerates campus digital transformation, but also increases lecturers' opportunities to reach the peak of their academic careers in a structured manner. Therefore, the development of lecturer competencies must be made an institutional priority in order to be able to answer the increasingly complex challenges of digital career management.

These results are in line with the statement from Khairuddin and Rosidah (2022) who show that lecturers with good information technology skills adapt faster in the process of entering career data through digital management systems. In addition, pedagogic skills combined with mastery of information systems support the acceleration of administrative and digital portfolio-based functional positions (Maulana & Fadhli, 2023). The competence of lecturers has a significant influence in supporting digital career management in the university environment. The professional, technological, and managerial competence of a

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lecturer is an important foundation in optimizing an information technology-based career management system. Lecturers who have mastery of technology and digital communication skills are able to access and manage career information systems more efficiently. Therefore, improving lecturer competence needs to be carried out comprehensively so that the integration of information technology in career management can run optimally and accountably.

The Influence of Lecturer Competence on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education at Gorontalo State University

The results of the second hypothesis test found that lecturer competence has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 68.10%. Positive and significant influence means that the higher the competence of the lecturer, the more effective their performance will be in carrying out education, research, and service. Lecturers who master their scientific fields and have high pedagogic, andragogic and academic integrity skills are able to improve the quality of the tridharma consistently and measurably.

Suryani (2020) stated that the professional competence of lecturers significantly affects the achievement of lecturers' work effectiveness indicators, especially in the aspects of research and teaching at private and public universities. Lecturers with high competence tend to be more adaptive in facing academic challenges and are better able to maximize their roles as educators, researchers, and community servants. Yustiana and Rahayu (2019) emphasized that lecturer competence makes a real contribution to the quality and effectiveness of the learning carried out, which ultimately increases the achievement of the tridharma. In addition, Hasibuan and Nasution (2022) stated that the effectiveness of the tridharma can be achieved optimally when lecturers are equipped with time management skills, mastery of information technology, and a high academic work ethic. Competencies that include the ability to design tridharma programs and evaluate their implementation are important components in strengthening the role of lecturers in institutions. Increasing work effectiveness will be very possible when lecturers have a strong and continuous competency foundation.

This result is in line with the statement from Saparuddin and Nasrullah (2022), lecturers who have mastery of scientific substance and good teaching skills tend to be more productive in compiling teaching materials, carrying out interactive lectures, and

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producing quality scientific papers. This is also strengthened by Mulyani and Hasan (2021) who stated that the work effectiveness of lecturers increases along with their ability to plan and implement tridharma programs systematically and measurably. The competence of lecturers plays a vital role in the implementation of the Tridharma of Higher Education, which includes education, research, and community service. Pedagogic, professional, social, and personality competencies directly affect the effectiveness of the implementation of the three pillars. Thus, the competence of lecturers is the main indicator in assessing the success of higher education institutions in producing quality and contributory graduates.

The Influence of Information Technology-Based Career Management on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education at Gorontalo State University

The results of the descriptive test on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education found that overall the percentage of achievement scores for the variable of lecturers' work effectiveness in the implementation of the Tridharma of Higher Education at Gorontalo State University was in the good category. This shows that the implementation of tridharma activities has been carried out consistently and meets the standards set by institutions and national regulations of higher education. In education and teaching, this means that lecturers have shown good performance in designing and delivering learning materials, utilizing relevant learning methods, and conducting appropriate learning evaluations. In the research aspect, lecturers are considered active in conducting research activities, producing scientific papers, and contributing to the development of science. Meanwhile, in the dimension of community service, lecturers have been involved in various programs that are solutive and relevant to local and national needs. The achievement of this good category can also be associated with adequate system support, both in terms of managerial, institutional policies, and the use of information technology. Nevertheless, this achievement does not mean that there is no room for improvement. The effectiveness of lecturers' work needs to continue to be improved through strengthening individual capacity, providing tridharma support resources, and improving indicator-based performance evaluation systems that are more measurable and adaptive to changing times, including the integration of digital technology in all aspects of the tridharma. That way, Gorontalo State University can continue to encourage the quality of lecturers who are not only good, but also superior and competitive at the national and international levels.

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The results of the descriptive test on information technology-based career management found that overall the percentage of achievement scores for information technology-based career management variables at Gorontalo State University was in the category of quite good. This shows that the institution's efforts in applying information technology to support the management and career development of lecturers are on the right track, although there is still room for improvement. The existence of a digital-based career management system can increase transparency, efficiency, and accessibility of data related to professional development, promotion of functional positions, training, and recording of lecturers' performance in carrying out the tridharma. One aspect that still needs to be improved is career counseling services, which should be an important part of helping lecturers plan, evaluate, and adjust their career direction to scientific developments and institutional needs. In addition, career decision-making also requires special attention, especially in terms of providing data-based information, the use of technology-based decision support systems, and the active involvement of lecturers in designing their career roadmaps. Limitations in these two aspects can cause lecturers to lack proper guidance in choosing an academic career path that suits their competencies, which can ultimately have an impact on low work effectiveness and contribution to the achievement of the tridharma targets of higher education. Therefore, optimizing lecturer career management through strengthening the role of information technology is not only administrative, but must also be directed to support the development of individual potential strategically and sustainably.

The results of the third hypothesis test found that information technology-based career management had a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 23.10%. Positive and significant influence means that the implementation of a career management system supported by information technology makes it easier for lecturers to plan, monitor, and evaluate their career achievements. This has an impact on improving the performance of the tridharma because lecturers have a clearer and data-based development direction and the implementation of the Tridharma in accordance with the PO BKD set by the Ministry of Education and Science.

The application of information technology-based career management has been proven to have a positive and significant influence on the effectiveness of lecturers' work in implementing the Tridharma of Higher Education. This system makes it easier for lecturers to plan career paths, monitor performance achievements, and adjust self-development steps to institutional targets. The integration of information technology such as the SISTER application, BKD Online, and digital-based academic platforms has helped

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create transparency in reporting and performance evaluation. This allows lecturers to focus more on improving the quality of the tridharma because all administrative processes have been digitized. Indrayani (2014) emphasized that the management of ICT-based academic information systems increases the effectiveness of the implementation of the tridharma by providing accurate, fast, and integrated access to data, thereby encouraging lecturers to be more productive in education, research, and service.

The significant influence of IT-based career management on work effectiveness can also be seen in lecturer career development planning. With a data-driven system, lecturers can design a career roadmap that is in accordance with the capacity and targets of the tridharma. Tolle et al. (2024) show that the use of information technology is able to support the career improvement and performance of lecturers in a measurable manner, especially in publication, teaching, and service. Furthermore, Nashrullah et al. (2025) stated that the innovation of digital-based lecturer coaching strategies makes career development more efficient, transparent, and oriented towards the effectiveness of the tridharma. These two studies confirm that digital career management systems not only facilitate administration, but also play a strategic role in increasing the effectiveness of the tridharma

These results are in line with the statement from Hidayat et al., (2019), the use of an effective management information system directly contributes to increasing lecturer productivity through time efficiency, speed of data access, and ease of reporting on tridharma performance. This is strengthened by research by Sorongan et al., (2022) which shows that the digital profile of lecturers that is integrated into the information system facilitates the process of mapping competencies and assignments that are more on target. Information technology-based career management provides significant support for the effectiveness of lecturers' work, especially in carrying out the duties of the Tridharma of Higher Education which includes education, research, and community service. The application of an integrated information system helps lecturers in compiling, monitoring, and evaluating work achievements in real time. Therefore, information technology is not just an administrative tool, but a strategic catalyst in encouraging the effectiveness of lecturers' work.

The Influence of Lecturer Competence Through Information Technology-Based Career Management on the Effectiveness of Lecturers' Work in the Implementation of the Tridharma of Higher Education at Gorontalo State University

The results of the fourth hypothesis test found that the competence of lecturers through information technology-based career management has a positive and significant

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effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 82.90%. So that information technology-based career management is able to become a good intervening variable which means that information technology-based career management becomes a strategic bridge that strengthens the impact of competence on the achievement of tridharma performance. Information technology-based lecturer career management is a systemic approach in managing academic career paths that integrates digital applications as a supporting instrument in administrative processes, professional development, and long-term career planning. With the presence of a web-based system, such as the one implemented at Gorontalo Polytechnic, the promotion proposal process can be carried out more transparently and efficiently, while making it easier for lecturers to file their performance data (Hermawanto, 2024). On the other hand, AI-based approaches have also begun to be used to equip lecturers in preparing career documents such as curriculum vitae that are more adaptive to the needs of the industry and the times (Hasanah & Saputri, 2025). Thus, information technology is not only an administrative tool, but also a strategic catalyst in forming a responsive, modern, and performance-based lecturer career management ecosystem.

IT-based career management strengthens the impact of lecturer competencies because it facilitates career counseling, monitoring, and evaluation of tridharma performance. This is in line with Suheri (2017) who shows that a technology-based lecturer performance monitoring system helps increase the effectiveness of academic decision-making and accelerate the achievement of the tridharma. Badaruddin and Daud (2022) said that competency-based career development with digital support significantly increases the productivity of the tridharma of lecturers, especially in scientific publications and service. Thus, the competence of lecturers supported by IT-based career management plays a dual role: strengthening individual performance while maintaining the sustainability of the quality of higher education institutions.

The results of the latest study confirm that the competence of lecturers mediated by information technology-based career management results in higher tridharma work effectiveness compared to without digital intermediaries. Sukamti et al. (2023) emphasized that lecturers' competence will be maximized if supported by ICT developments that accelerate tridharma services, including research and service. In line with that, Nashrullah et al. (2025) stated that digital career development strategies can be a significant intervening variable because they optimize the influence of competence on academic performance. Thus, IT acts as a strategic bridge that ensures that lecturers' competencies

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are truly converted into tridharma effectiveness, in line with higher education quality standards.

This result is in accordance with the statement from Badaruddin and Daud (2022) that technology-based career management is an important bridge in absorbing and distributing competencies so that they are effective in tridharma activities. Putriana et al. (2025) underlined that career development based on a digital system provides greater space in the development of lecturer professionalism which has a direct impact on increasing the effectiveness of the tridharma. The development of lecturer competencies not only has a direct impact on work effectiveness, but also plays a big role when it is associated with career management that is structured and integrated with information technology. The competence of lecturers is the basis for improving the quality of the implementation of the Tridharma of Higher Education. However, without a career management system that is adaptive to technological developments, competency optimization is often hampered. According to Asdiany et al., (2022), the use of information technology in career management strengthens the position of competence as a core element that affects institutional performance, especially in higher education. Furthermore, Syukur and Suhaeb (2025) stated that digital career development strategies supported by high competence have been proven to increase lecturer satisfaction and performance, including in research, teaching, and community service in the career management system as an effort to ensure the sustainability of effective and competitive tridharma performance.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the research and discussion, several research conclusions can be drawn as follows:

1. Lecturer competence has a positive and significant effect on information technology-based career management at Gorontalo State University by 64.20%. Positive and significant influence means that improving lecturers' competence, both in terms of knowledge, skills, and professional attitudes, has a direct impact on more structured and technology-based career management. Competent lecturers are more likely to adapt to the digital career management system and utilize it for targeted self-development.
2. The competence of lecturers has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 68.10%. Positive and significant influence means that the higher the competence of the lecturer, the more effective their performance will be

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in carrying out education, research, and service. Lecturers who master their scientific fields and have high pedagogic, andragogic and academic integrity skills are able to improve the quality of the tridharma consistently and measurably.

3. Information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 23.10%. Positive and significant influence means that the implementation of a career management system supported by information technology makes it easier for lecturers to plan, monitor, and evaluate their career achievements. This has an impact on improving the performance of the tridharma because lecturers have a clearer and data-based development direction and the implementation of the Tridharma in accordance with the PO BKD set by the Ministry of Education and Science.
4. The competence of lecturers through information technology-based career management has a positive and significant effect on the effectiveness of lecturers' work in the implementation of the Tridharma of Higher Education at Gorontalo State University by 82.90%. So that information technology-based career management is able to become a good intervening variable which means that information technology-based career management becomes a strategic bridge that strengthens the impact of competence on the achievement of tridharma performance.

The recommendation emphasizes the synergy of four parties to accelerate the digital transformation of academic careers at Gorontalo State University. Lecturers need to proactively improve their competencies through IT-based training, workshops, and development, utilizing digital career management systems for planning, evaluation, tridharma reflection, feedback collection, and achievement reporting. The Personnel Bureau is expected to strengthen the role of facilitators with integrated, personalized, and accessible services, including digital career counseling, performance monitoring, and professional development information portals. University leaders must formulate strategic policies, invest in IT infrastructure, integrate performance appraisals, and establish technology-based career development units with clear governance and key performance indicators. The Ministry of Higher Education, Science, and Technology is encouraged to align national policies, provide consistent, inclusive, and equitable regulatory support, technical, funding, and standardized digital training programs for lecturers in all universities.

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