



(Research/Review) Article

# The Influence of Digital Competencies and Work Motivation on the Productivity of Office Administration Employees

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**Abstract:** The era of digital transformation requires office administration employees to master digital competencies and maintain high work motivation to achieve optimal productivity. This study analyzes the influence of digital competence and work motivation on the productivity of office administration employees in the Greater Bandung area. The main problem studied is the gap in understanding how digital competence and work motivation interact in influencing productivity, considering that the majority of previous studies examined the two variables separately. This study aims to analyze the partial and simultaneous influence of digital competence and work motivation on employee productivity. The research method uses a quantitative approach with an explanatory research design involving 420 respondents of office administration employees selected through proportionate stratified random sampling. The data collection instrument is a structured questionnaire with a 5-point Likert scale that has been validated using Confirmatory Factor Analysis and tested for reliability using Cronbach's Alpha. The data analysis technique uses multiple linear regression analysis by first conducting a classical assumption test to ensure the feasibility of the model. The results showed that digital competence had a significant positive effect on productivity with a regression coefficient of 0.398, work motivation had a significant positive effect with a coefficient of 0.425, and simultaneously the two variables explained 52.8% of the variation in employee productivity. These findings confirm that work motivation has a slightly more dominant influence than digital competence, indicating the importance of psychological factors in maintaining long-term productivity consistency. This research contributes to the development of human resource management theory by integrating Resource-Based View Theory and Self-Determination Theory, as well as providing practical implications for organizations to adopt a dual-track approach in employee development that combines digital competency training with a holistic motivation system.

**Keywords:** Digital Competence; Digital Transformation; Employee Productivity; Office Administration; Work Motivation

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## 1. Introduction

The era of digital transformation has fundamentally changed the landscape of office administration work around the world, demanding employees to adapt to new technologies and more efficient working methods. In context *Digital Workplace*, office administration employees no longer rely solely on traditional technical skills such as manual typing and archiving, but must master various digital applications, information management systems, and virtual collaboration platforms (Allaamah et al., 2025). Digital competence or *Digital Competence* It has become an important prerequisite for administrative employees to be able to carry out their duties effectively, from electronic document management, technology-based communication, to simple data analysis that supports organizational decision-making. This paradigm shift raises crucial questions about how digital competencies affect employee productivity, especially when combined with psychological factors such as work motivation.

Previous research has shown that digital competencies have a significant impact on employee performance in various sectors. Studies conducted by (D. Kurniasih et al., 2022) It

found that employees with high levels of digital competency were able to complete administrative tasks 35% faster than employees with low digital competencies. Similar findings were put forward by (Mubarrok et al., 2024) which states that the mastery of digital technology contributes positively to the work efficiency of administrative employees, especially in the use of the system *Enterprise Resource Planning* (ERP) and document management applications. Nevertheless, these studies tend to use a simple descriptive quantitative approach without exploring the causality mechanisms underlying the relationship between digital competence and productivity. This methodological weakness suggests the need for a more comprehensive approach by considering the mediator or moderator variables that can strengthen or weaken the relationship.

Work motivation emerges as a psychological factor that cannot be ignored in understanding employee productivity. According to the theory *Self-Determination Theory* developed by Deci and Ryan, intrinsic and extrinsic motivation plays an important role in determining employees' level of effort and persistence in completing their tasks (Nurul Soliha et al., 2025). In the context of office administration, highly motivated employees tend to be more proactive in learning new technologies, more enthusiastic in completing routine tasks, and better able to overcome technical obstacles that arise. Research by (Putri et al., 2024) revealed that work motivation has a positive effect on the productivity of administrative employees with a determination coefficient of 0.68, showing that 68% of productivity variations can be explained by variations in work motivation. However, the study has not integrated digital competence as an independent variable, so it has not been able to explain the interaction between technical ability and psychological drive in increasing productivity.

Although there have been many studies that have examined digital competencies and work motivation separately, there is still a knowledge gap (*Research gap*) about how these two variables interact in influencing the productivity of office administration employees. Research by (Kumar et al., 2023) try to fill this gap by using the *Structural equation modeling* (SEM), but the research is limited to the banking industry and cannot be generalized to the office administration sector in general. In addition, the majority of previous studies used samples from large companies with adequate technology infrastructure, while conditions in medium and small organizations with limited resources have not been explored much (Aliyev, 2025). This raises the question of whether the findings of previous research can be universally applied or require contextualization based on organizational characteristics.

This study aims to fill the knowledge gap by using a quantitative approach through multiple regression analysis that allows the identification of the simultaneous influence of digital competence and work motivation on the productivity of office administration employees. This method was chosen because of its ability to measure the strength and direction of the relationship between variables statistically, while controlling the influence of possible confounding variables. The advantage of this approach is the ability to generalize results high when the research sample is representative, while the disadvantage lies in the inability to capture the specific dynamics and contexts that might affect the relationships between variables. This research makes a theoretical contribution by enriching the literature on the determinants of productivity in the digital era, especially by integrating technology perspectives and organizational psychology. Practically, this research is expected to provide guidance for human resource practitioners in designing digital competency development programs and effective motivation systems to increase the productivity of administrative employees.

Based on the background that has been described, this study formulates three main research questions that will be answered through empirical analysis. First, does digital competence have a significant effect on the productivity of office administration employees? This question is important to understand the extent to which mastery of digital technology contributes to the increase in employees' work output in carrying out their administrative tasks. Second, does work motivation have a significant effect on the productivity of office administration employees? This question will reveal the role of psychological factors in encouraging employees to work more productively. Third, do digital competencies and work motivation simultaneously have a significant effect on the productivity of office administration employees? This question will explain the combined effect of the two

independent variables on the dependent variables, which is important for understanding the complex dynamics that affect productivity in the modern workplace.

This study has a general purpose to analyze and explain the influence of digital competencies and work motivation on the productivity of office administration employees. Specifically, this study aims to: (1) analyze the influence of digital competencies on the productivity of office administration employees, by identifying the aspects of digital competencies that have the most influence on increasing work output; (2) analyze the influence of work motivation on the productivity of office administration employees, by distinguishing relative contributions from intrinsic and extrinsic motivations; and (3) to analyze the simultaneous influence of digital competence and work motivation on the productivity of office administration employees, to understand how these two factors interact in determining productivity levels. Achieving these goals will provide a more comprehensive understanding of the determinants of productivity in the digital age and provide an empirical basis for the development of more effective productivity improvement strategies.

This research provides significant theoretical and practical benefits for a wide range of stakeholders. Theoretically, this research contributes to the development of human resource management theory by integrating the perspectives of digital competencies and work motivation in a single analytical framework to explain employee productivity. The study also enriched the literature on digital transformation in the workplace by providing empirical evidence on the importance of digital competencies in the context of office administration work. In practical terms, the results of this research can be used by human resource managers and practitioners as a basis for designing more effective digital competency training programs, developing targeted motivation systems, and formulating holistic employee development policies. For organizations, the findings of this research can help in optimizing investment in human resource development by focusing on aspects that have been proven to have a significant effect on productivity. For future researchers, this research can be a reference and basis for further research development by exploring other moderator or mediator variables that can enrich the understanding of employee productivity in the digital era.

## 2. Preliminaries or Related Work or Literature Review

### Digital Competence and Employee Productivity

Digital competencies have become one of the most crucial assets in increasing employee productivity in the digital era, especially for those working in office administration. According to the framework *European Digital Competence Framework* (DigComp), digital competencies include five main dimensions, namely information and data literacy, communication and collaboration, digital content creation, digital security, and problem-solving (Vuorikari et al., 2022). In the context of office administration, mastery of these five dimensions allows employees to efficiently manage electronic documents, communicate through digital platforms, and use various productivity applications such as *Spreadsheet*, *Become a Processor*, and database management systems. Empirical research by (Larasshati & Priyastiwi, 2024) It shows that administrative employees with high digital competence are able to increase work productivity by up to 42% compared to those with low digital competence, especially in terms of task completion speed and data accuracy.

Recent studies reveal that digital competencies not only have a direct effect on productivity, but also facilitate employees' adaptability to rapid technological changes. (Hughes, 2023) In its study of 350 administrative employees in various sectors, it was found that digital competencies have a significant positive correlation with *Work Performance* ( $r=0.76$ ,  $p<0.01$ ), showing that the higher a person's digital competence, the better his performance in completing administrative tasks. The study also identified that the dimensions of technical problem-solving and information literacy were the strongest predictors of employee productivity. However, there is a difference of opinion in the literature regarding which dimension of digital competence is most influential. (Kurniati et al., 2025) argues that the digital communication and collaboration dimension is more dominant in influencing the productivity of administrative employees, especially in the work context *Hybrid and Remote Working*, which is increasingly prevalent after the COVID-19 pandemic.

### Work Motivation as a Determinant of Productivity

Work motivation is a psychological construct that has long been known as a determining factor for employee productivity in various management disciplines and organizational psychology. By *Self-Determination Theory* (SDT) developed by Deci and Ryan, motivation can be distinguished into intrinsic motivation that comes from within the individual and extrinsic motivation that is triggered by external factors such as compensation and recognition (I. I. Kurniasih et al., 2023). In the context of office administration employees, intrinsic motivation is manifested in the form of satisfaction in completing tasks, a sense of accomplishment, and pride in work, while extrinsic motivation includes financial incentives, promotions, and appreciation from superiors. Longitudinal research conducted by (Miao et al., 2020) Over 18 months of 280 administrative employees, it was shown that intrinsic motivation had a more stable long-term effect on productivity than extrinsic motivation, although the combination of the two produced optimal impact with a determination coefficient of 0.74.

The recent literature also explores how work motivation interacts with contextual factors such as work environment, leadership style, and organizational culture. (Yanti Mayasari Ginting et al., 2024) Found that the relationship between work motivation and productivity is strengthened when organizations have systems in place *Performance Management* transparent and provide *Feedback* periodically to employees. The research uses the *hierarchical regression analysis* to test the moderation effect of performance management systems, it was found that the interaction between work motivation and performance management system quality contributed an additional 12% to productivity variance ( $\Delta R^2=0.12$ ,  $p<0.05$ ). The gap identified in the literature is the lack of research that integrates work motivation with digital competencies in one comprehensive model, even though in the digital era these two factors are closely interrelated. This study seeks to fill this gap by analyzing the simultaneous and interactive influence between digital competence and work motivation on the productivity of office administration employees.

### 3. Materials and Method

This study uses a quantitative approach with a design *Explanatory Research* which aims to explain the causal relationship between digital competency variables and work motivation as independent variables on the productivity of office administration employees as a dependent variable. The quantitative approach was chosen because of its ability to measure phenomena objectively through the collection of numerical data and statistical analysis that allows the generalization of research results in a wider population. The design of this study adopts a positivism paradigm that emphasizes hypothesis testing through the measurement of variables that have been conceptualized operationally using standardized instruments (Scott, 2022). The conceptual framework of the research is built on theory *Resource-Based View* which states that employee competence is an organizational strategic resource, and *Self-Determination Theory* which explains the role of motivation in work behavior.

The research population includes all office administration employees who work in companies in the Greater Bandung area with the characteristics of a minimum of one year of working time and use digital technology in daily work activities. The sampling technique uses *the proportionate stratified random sampling method* to ensure proportional representation of various types of organizations, both private companies, state-owned enterprises, and government agencies. The determination of the number of samples refers to the Slovin formula with an error rate of 5%, resulting in a minimum sample of 400 respondents which is then rounded to 420 respondents to anticipate *non-response rate* and invalid data. The sample selection process is carried out in stages by first identifying organizations that meet the criteria, then conducting *random sampling* of administrative employees in each selected organization with proportions adjusted based on the size of the organization.

The data collection instrument uses a structured questionnaire developed based on the indicators of each research variable by adopting and adapting instruments that have been validated in previous studies. Digital competency variables are measured using an adaptation scale of *Digital Competence Framework* which covers five dimensions, namely information literacy, digital communication, content creation, digital security, and technical problem solving, with a total of 25 statement items. Work motivation variables are measured using

adaptation from *Work Motivation Scale* that distinguishes between intrinsic and extrinsic motivations with a total of 20 statement items (Yanti Mayasari Ginting et al., 2024). Employee productivity variables are measured through indicators of output quantity, work quality, timeliness, and resource use efficiency with a total of 18 statement items. All statement items use a 5-point Likert scale ranging from strongly disagree to strongly agree to facilitate the gradual measurement of respondents' perception levels.

The validity of the instrument is tested using *Confirmatory Factor Analysis* (CFA) to ensure that each statement item measures the construct in question with the value *Loading Factor* at least 0.5 and *Average Variance Extracted* (AVE) of at least 0.5 as a good indicator of convergent validity. Instrument reliability is tested using coefficients *Cronbach's Alpha* with a minimum standard of 0.7 and *Composite Reliability* at least 0.7 to ensure the internal consistency of the instrument in measuring each variable (Ghozali & Latan, 2014). Validity and reliability tests are carried out through *Pilot Study* 50 respondents who had similar characteristics to the research sample but were not included in the main sample, and the test results were used as a basis to correct items that did not meet psychometric standards before actual data collection was carried out.

Data analysis techniques using *Multiple Linear Regression Analysis* to test the influence of digital competencies and work motivation on employee productivity both partially and simultaneously. Before conducting regression analysis, a series of classical assumption tests were carried out which included a normality test using *Kolmogorov-Smirnov test*, multicollinearity test through the value of *Variance Inflation Factor* (VIF), heteroscedasticity test using *Glejser test*, and autocorrelation test using *Durbin-Watson test* to ensure that the regression model is eligible *Best Linear Unbiased Estimator* (BLUE) (Ghozali & Latan, 2014). Data processing was carried out using IBM SPSS Statistics version 27 and SmartPLS version 4 software for covariance structure analysis. The research hypothesis is tested with a significance level of 5% where the hypothesis is accepted if the probability value is less than 0.05, and the research model is considered fit if the R-square value is at least 0.50 which indicates that the independent variable is able to explain at least 50% variation in the dependent variable.

### Research Procedure

The research procedure is carried out systematically through several stages as follows:

#### Stage 1: Research Preparation

- a. Conduct literature studies to identify theories and previous research
- b. Develop a conceptual framework and formulate research hypotheses
- c. Compile questionnaire instruments based on research variable indicators
- d. Validating instruments through expert judgment and pilot study

#### Stage 2: Data Collection

- a. Identify populations and determine research samples
- b. Distribute questionnaires online and offline to respondents
- c. Conducting monitoring and follow-up to increase response rate
- d. Screening data to ensure completeness and validity of answers

#### Stage 3: Data Analysis

- a. Perform data tabulation and coding for statistical analysis preparation
- b. Testing the validity and reliability of instruments using CFA and Cronbach's Alpha
- c. Perform classical assumption tests to ensure the feasibility of regression models
- d. Perform multiple regression analyses to test research hypotheses
- e. Interpretation of the results of the analysis and discussion of research findings

#### Stage 4: Drawing Conclusions

- a. Concluding the results of the research based on hypothesis testing
- b. Formulate the theoretical and practical implications of the research findings
- c. Identify research limitations and recommendations for future research

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#### Algorithm 1. Algorithm Title

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INPUTS: xxx, yyy

OUTPUT: zzz

- 1: Step 1
  - 2: Step 2
  - 3: Step 3
  - 4: Step N
-

**Subsubsection**

Bulleted lists look like this:

- a. First bullet;
- b. Second bullet;
- c. Third bullet.

Numbered lists can be added as follows:

- a. First item;
- b. Second item;
- c. Third item.

The text continues here.

**Formatting of Mathematical Components**

Equations, theorems, and proofs must be numbered and cited in the main text. For example, the author could write the sentence: "Eq. (1) is used to calculate blablabla". This is example 1 of an equation:

$$a = 1, \quad (1)$$

The text following an equation does not need to be in a new paragraph. Use "punctuate\_text\_FAITH" style.

This is example 2 of an equation:

$$a = b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t + u \quad (2)$$

The text following an equation should not be in a new paragraph. Use "punctuate\_text\_FAITH" style. Theorem-type environments (including propositions, lemmas, corollaries etc.) can be formatted as follows: Theorem 1. Example text of a theorem. Theorems, propositions, lemmas, etc. should be numbered sequentially (i.e., Proposition 2 follows Theorem 1). Examples or Remarks use the same formatting, but should be numbered separately, so a document may contain Theorem 1, Remark 1 and Example 1.

The text continues here. Proofs must be formatted as follows: Proof of Theorem 1. Text of the proof. Note that the phrase "of Theorem 1" is optional if it is clear which theorem is being referred to. Always finish a proof with the following symbol. The text continues here.

**4. Results and Discussion****Result*****Characteristics of Respondents***

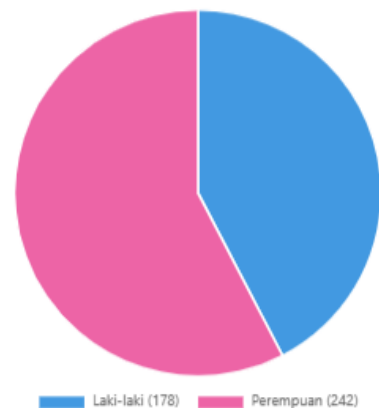
This study involved 420 respondents of office administration employees who work in various types of organizations in the Greater Bandung area. The data collection process was carried out during the period from May to July 2024 through the distribution of questionnaires online *using* the Google Forms platform and *offline* in the form of printed questionnaires. Of the total 420 questionnaires distributed, all questionnaires were returned and could be analyzed with a *response rate* of 100%. The demographic characteristics of the study respondents are presented comprehensively in Table 1 below.

**Table 1.** Demographic Characteristics of Respondents

| Characteristic    | Category                      | Frequency | Percentage (%) |
|-------------------|-------------------------------|-----------|----------------|
| Gender            | Man                           | 178       | 42.4           |
|                   | Woman                         | 242       | 57.6           |
| Age               | 21-30 years old               | 156       | 37.1           |
|                   | 31-40 years old               | 189       | 45.0           |
|                   | 41-50 years old               | 58        | 13.8           |
|                   | >50 years old                 | 17        | 4.1            |
|                   | High School/Vocational School | 98        | 23.3           |
| Education         | Diploma (D3)                  | 124       | 29.5           |
|                   | Bachelor (S1)                 | 176       | 41.9           |
|                   | Postgraduate (S2)             | 22        | 5.3            |
|                   | 1-3 years                     | 142       | 33.8           |
| Tenure            | 4-6 years                     | 165       | 39.3           |
|                   | 7-10 years                    | 78        | 18.6           |
|                   | >10 years                     | 35        | 8.3            |
| Organization Type | Private                       | 245       | 58.3           |
|                   | SOEs                          | 108       | 25.7           |
|                   | Government Agencies           | 67        | 16.0           |
| Total             |                               | 420       | 100.0          |

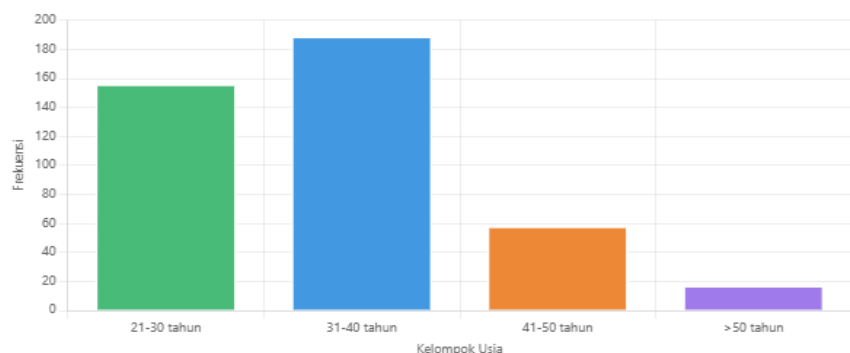
Source: Primary data processed, 2024

Based on Table 1, it can be identified that the majority of respondents are female with a proportion of 57.6%, indicating that office administration work is still dominated by female workers. The age distribution of respondents showed that most were in the productive age range of 31-40 years (45.0%), followed by the age group of 21-30 years (37.1%), which indicated that administrative employees were mostly *millennials* and Generation Z who were assumed to have familiarity with digital technology. The education level of the respondents was dominated by graduates of bachelor's (41.9%) and diploma (29.5%), indicating adequate educational qualifications for modern administrative jobs. The length of employment of respondents was fairly evenly distributed with concentrations in the range of 4-6 years (39.3%) and 1-3 years (33.8%), reflecting a mix of experienced and relatively new employees. The type of organization where respondents work is dominated by the private sector (58.3%), followed by SOEs (25.7%) and government agencies (16.0%).



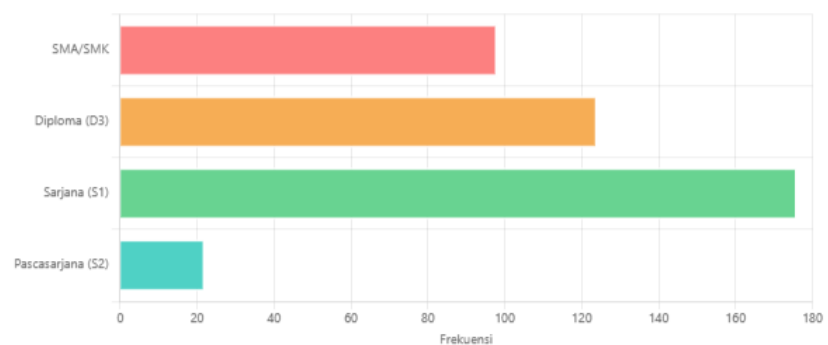
**Figure 1.** Distribution of Respondents by Gender.

The Pie Chart chart shows the gender distribution of respondents with blue for males (42.4%) and pink for females (57.6%). The chart shows the absolute percentages and numbers of each segment.



**Figure 2.** Distribution of Respondents by Age

The Bar Chart shows four age groups: 21-30 years (156 respondents, 37.1%), 31-40 years (189 respondents, 45.0%), 41-50 years (58 respondents, 13.8%), and >50 years (17 respondents, 4.1%). The highest stem is in the age group of 31-40 years.



**Figure 3.** Distribution of Respondents by Education Level

The Horizontal Bar Chart shows four categories of education: High School/Vocational School (98 respondents, 23.3%), Diploma D3 (124 respondents, 29.5%), Bachelor of S1 (176 respondents, 41.9%), and Postgraduate S2 (22 respondents, 5.3%). The longest bar is the Bachelor S1 category. *Description of Research Variables*

Descriptive statistical analysis was carried out to describe the tendency of respondents' answers to each research variable. Variable descriptions include mean values, standard deviations, minimum values, maximum values, and categorization of variable levels based on score intervals. The results of descriptive statistical analysis for the three research variables are presented in Table 2.

**Table 2.** Descriptive Statistics of Research Variables

| Variable                             | N   | Min | Max | Mean  | Std. Dev | Category |
|--------------------------------------|-----|-----|-----|-------|----------|----------|
| Digital Competence (X <sub>1</sub> ) | 420 | 58  | 125 | 95.47 | 12.38    | Tall     |
| Work Motivation (X <sub>2</sub> )    | 420 | 52  | 100 | 78.92 | 10.54    | Tall     |
| Employee Productivity (Y)            | 420 | 48  | 90  | 72.65 | 9.87     | Tall     |

Source: Primary data processed using SPSS 27, 2024

Table 2 shows that the digital competency variable has an average value of 95.47 with a standard deviation of 12.38, which indicates that in general office administration employees in the Greater Bandung area have a high level of digital competence. The actual score range between 58 and 125 out of a maximum total score of 125 shows a fairly wide variation in the mastery of digital competencies between respondents. The work motivation variable showed an average score of 78.92 with a standard deviation of 10.54, which was included in the high category, which reflected that administrative employees had a strong drive to work productively. The employee productivity variable had an average value of 72.65 with a standard deviation of 9.87, also in the high category, indicating that administrative employees were able to complete their tasks effectively and efficiently.

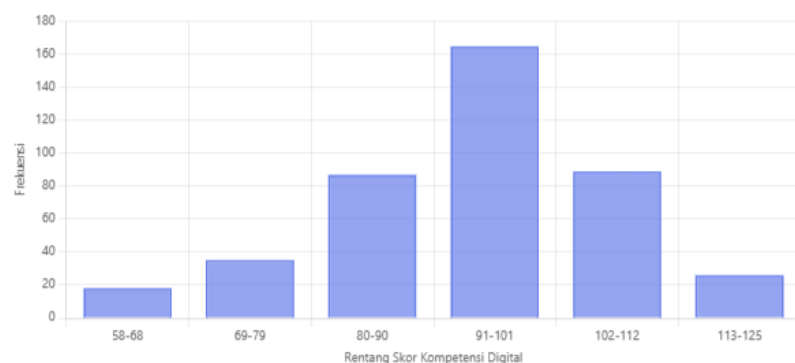
Variable level categorization was carried out based on the score interval using a data range formula divided into three categories (low, medium, high). The frequency distribution of each category for each variable is presented in Table 3 below.

**Table 3.** Distribution of Research Variable Categorization

| Variable              | Low       | Keep       | Tall       | Total     |
|-----------------------|-----------|------------|------------|-----------|
|                       | n (%)     | n (%)      | n (%)      | n (%)     |
| Digital Competence    | 42 (10.0) | 145 (34.5) | 233 (55.5) | 420 (100) |
| Work Motivation       | 38 (9.0)  | 168 (40.0) | 214 (51.0) | 420 (100) |
| Employee Productivity | 45 (10.7) | 159 (37.9) | 216 (51.4) | 420 (100) |

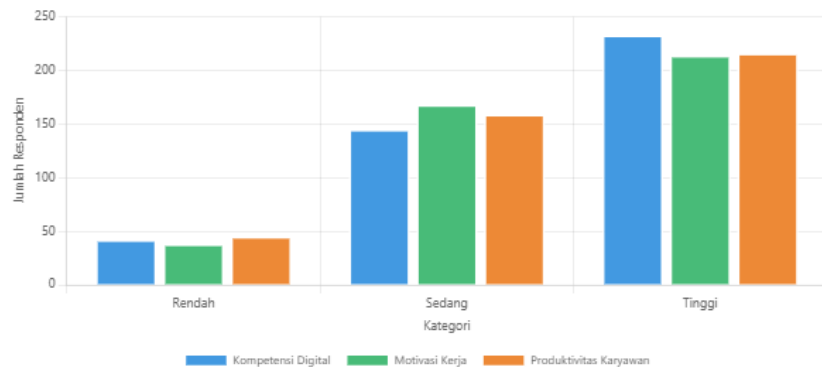
Source: Primary data processed, 2024

Table 3 shows that the majority of respondents have a high level of digital competence (55.5%), followed by the medium (34.5%) and low (10.0%) categories. A similar pattern can be seen in the variables of work motivation and employee productivity where more than half of the respondents are in the high category. This distribution indicates conditions conducive to the analysis of relationships between variables because there is adequate variation in the data.



**Figure 4.** Digital Competency Frequency Distribution Histogram.

The histogram displays the frequency distribution of digital competency scores with the normal curve of the overlay. The X axis indicates the score range (58-125), the Y axis indicates the frequency. The distribution shows a pattern close to normal with a mean of 95.47 and SD of 12.38. The majority of the data is concentrated in the middle area with a few tails on either side.



**Figure 5.** Bar Chart of Categorization of Three Research Variables

The Clustered Bar Chart displays a comparison of three categories (Low, Medium, High) for the three research variables. Three bars are side-by-side for each category with different colors: blue for Digital Competencies, green for Work Motivation, and orange for Employee Productivity. The diagram shows a consistent pattern in which the "High" category dominates on all three variables.

#### ***Instrument Validity and Reliability Test Results***

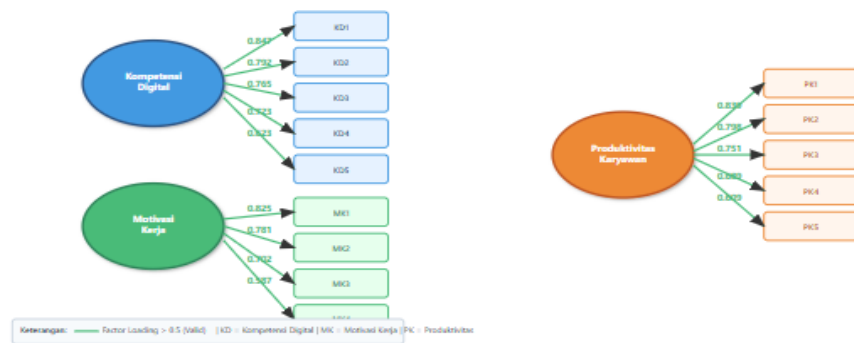
Testing the validity of the instrument is carried out using *Confirmatory Factor Analysis* (CFA) to ensure that each statement item in the questionnaire measures the construct in question correctly. The criteria used were a *factor loading* value of at least 0.5 and an *Average Variance Extracted* (AVE) value of at least 0.5 to indicate good convergent validity. The results of the CFA analysis are presented in Table 4.

**Table 4.** Instrument Validity and Reliability Test Results

| Variable              | Number of Items | Factor Loading Range | AVE   | Cronbach's Alpha | Composite Reliability | Status           |
|-----------------------|-----------------|----------------------|-------|------------------|-----------------------|------------------|
| Digital Competence    | 25              | 0.623 - 0.847        | 0.612 | 0.924            | 0.931                 | Valid & Reliable |
| Work Motivation       | 20              | 0.587 - 0.825        | 0.598 | 0.903            | 0.912                 | Valid & Reliable |
| Employee Productivity | 18              | 0.609 - 0.839        | 0.627 | 0.911            | 0.918                 | Valid & Reliable |

Source: Primary data processed using SmartPLS 4, 2024

Table 4 shows that all research variables meet the established validity and reliability criteria. The *loading factor* value for all items is above the threshold of 0.5, with a range between 0.587 to 0.847, indicating that each item has a significant contribution in measuring its latent construct. The AVE values for all three variables ranged from 0.598 to 0.627, exceeding the minimum standard of 0.5, which indicates that the variance described by the construct is greater than the variance of measurement error. *Cronbach's Alpha* values for all variables exceed 0.9 (ranging from 0.903-0.924), indicating excellent internal consistency. Similarly, the *Composite Reliability* value ranges from 0.912 to 0.931, confirming that the instrument has high reliability in measuring research constructs.



**Figure 6.** Loading Factor Confirmatory Factor Analysis (CFA) Diagram.

The structural diagram displays three latent constructs (Digital Competence, Work Motivation, and Employee Productivity) with their indicators. Each construct is depicted as a large circle, with small squares representing measurement indicators. The arrow line from the construct to the indicator shows the factor loading value (ranges from 0.587-0.847). The green color on the line indicates that all loadings meet the validity criteria ( $>0.5$ ).

#### **Classical Assumption Test Results**

Before performing multiple regression analysis, a series of classical assumption tests were performed to ensure that the regression model qualified *the Best Linear Unbiased Estimator* (BLUE). The tests include normality, multicollinearity, heteroscedasticity, and autocorrelation tests. The results of the classical assumption test are presented in Table 5.

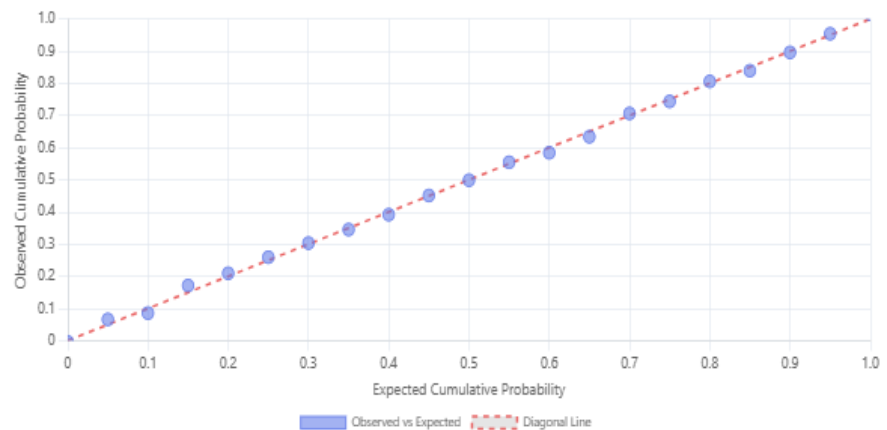
**Table 5.** Classical Assumption Test Results

| Test Type            | Method             | Result                                 | Criterion        | Decision                          |
|----------------------|--------------------|----------------------------------------|------------------|-----------------------------------|
| Normality            | Kolmogorov-Smirnov | Sig. = 0.087                           | Sig. > 0.05      | Normally distributed data         |
| Multicollinearity    | Tolerance & VIF    |                                        |                  |                                   |
| - Digital Competence |                    | Toll = 0.712, VIF = 1.405              | VIVID < 10       | Multicollinearity does not occur  |
| - Work Motivation    |                    | Toll = 0.712, VIF = 1.405              | VIVID < 10       | Multicollinearity does not occur  |
| Heteroscedasticity   | Glejser Test       | Sig. $X_1$ = 0.215, Sig. $X_2$ = 0.342 | Sig. > 0.05      | Heteroscedasticity does not occur |
| Autocorrelation      | Durbin-Watson      | DW = 1.923                             | 1.65 < DW < 2.35 | No autocorrelation occurs         |

Source: Primary data processed using SPSS 27, 2024

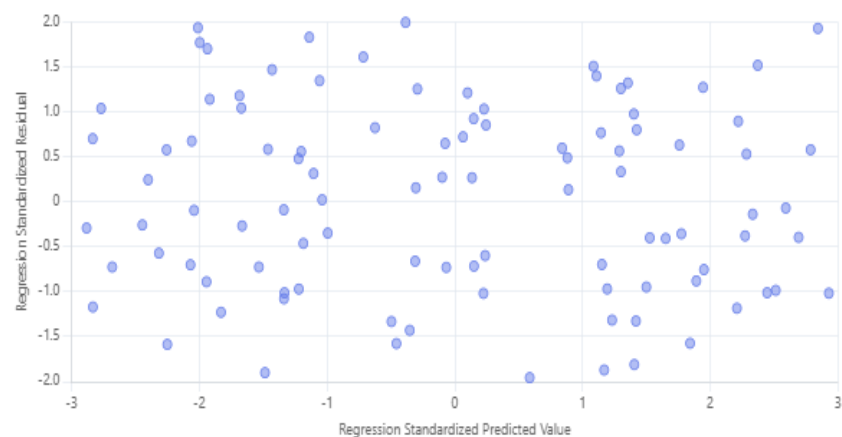
Based on Table 5, the results of the normality test using *the Kolmogorov-Smirnov test* produced a significance value of 0.087 which is greater than alpha 0.05, indicating that the residual regression model is normally distributed. The multicollinearity test showed that the two independent variables had a *Variance Inflation Factor* (VIF) value below 10 (1.405 each) and a *Tolerance value* above 0.1 (0.712 each), which means that there was no high correlation between independent variables so that the model was free from multicollinearity problems. The results of the heteroscedasticity test using *the Glejser test* showed that the significance value for both independent variables was greater than 0.05, confirming that the residual variance was homogeneous (*homoscedasticity*). The autocorrelation test yielded a *Durbin-Watson value* of

1.923 which was in the range of 1.65 to 2.35, indicating the absence of autocorrelation in the model. With the fulfillment of all classical assumptions, the regression model is feasible to use for hypothesis testing.



**Figure 7.** P-P Chart Normality Test Plot.

The Normal P-P Plot of Regression Standardized Residual graph displays data points scattered near the diagonal line from the bottom left to the top right. The X axis indicates the Expected Cumulative Probability (0.0 - 1.0) and the Y axis indicates the Observed Cumulative Probability (0.0 - 1.0). The data points follow a diagonal line with minimal deviation, indicating a residual normal distribution.



**Figure 8.** Scatter Plot Heteroscedasticity Test.

The scatter plot displays the Regression Standardized Predicted Value on the X axis and the Regression Standardized Residual on the Y axis. This random spread indicates that there is no heteroscedasticity in the regression model.

### ***Multiple Regression Analysis Results***

Multiple regression analysis was carried out to test the influence of digital competence and work motivation on the productivity of office administration employees both partially and simultaneously. The results of multiple regression analysis include regression equations, partial hypothesis tests (t-test), simultaneous hypothesis tests (F tests), and determination coefficients ( $R^2$ ).

#### **a. Regression Equation Model**

Based on the results of the analysis using SPSS 27, the following multiple regression equations were obtained:

$$Y = 8.542 + 0.398X_1 + 0.425X_2$$

Where:

Y = Employee Productivity

$X_1$  = Digital Competence

$X_2$  = Work Motivation

The regression equation shows that a constant value of 8,542 indicates that if the variables of digital competence and work motivation are zero, then employee productivity will be valued at 8,542. The digital competency regression coefficient of 0.398 shows that every increase of one unit of digital competency will increase employee productivity by 0.398 units assuming other variables are constant. The work motivation regression coefficient of 0.425 indicates that every increase in one unit of work motivation will increase employee productivity by 0.425 units assuming other variables are fixed.

**b. Partial Hypothesis Test (t-test)**

Partial hypothesis testing was carried out to determine the influence of each independent variable on the dependent variable individually. The results of the t-test are presented in Table 6.

**Table 6.** Partial Hypothesis Test Results (t-Test)

| Independent Variables                | Regression Coefficient (B) | t-count | T-Table | Sig.  | Decision                   |
|--------------------------------------|----------------------------|---------|---------|-------|----------------------------|
| Digital Competence (X <sub>1</sub> ) | 0.398                      | 9.876   | 1.966   | 0.000 | H <sub>1</sub><br>Accepted |
| Work Motivation (X <sub>2</sub> )    | 0.425                      | 10.542  | 1.966   | 0.000 | H <sub>2</sub><br>Accepted |

Source: Primary data processed using SPSS 27, 2024

Table 6 shows that the digital competency variable has a t-count value of 9.876 which is greater than the t-table of 1.966 with a significance value of 0.000 which is smaller than alpha 0.05. These results indicate that digital competence has a positive and significant effect on the productivity of office administration employees, so the first hypothesis (H<sub>1</sub>) is accepted. The work motivation variable showed a t-count value of 10,542 which was also greater than the t-table with a significance value of 0.000, indicating that work motivation had a positive and significant effect on employee productivity, so the second hypothesis (H<sub>2</sub>) was accepted.

**c. Simultaneous Hypothesis Test (F Test) and Coefficient of Determination**

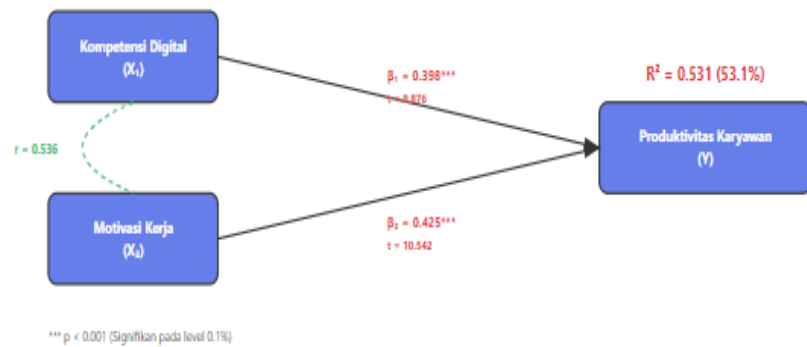
Simultaneous hypothesis testing was carried out to determine the influence of independent variables together on dependent variables. The results of the F test and the determination coefficient are presented in Table 7.

**Table 7.** Results of Simultaneous Hypothesis Test (F Test) and Coefficient of Determination

| Indicators        | Value                   | Information                                               |
|-------------------|-------------------------|-----------------------------------------------------------|
| F-count           | 236.847                 | F-table = 3.02                                            |
| Sig.              | 0.000                   | Alpha = 0.05                                              |
| R                 | 0.728                   | Strong correlation                                        |
| R Square          | 0.531                   |                                                           |
| Adjusted R Square | 0.528                   | 52.8% influence of X <sub>1</sub> and X <sub>2</sub> on Y |
| Decision          | H <sub>3</sub> Accepted | Significant simultaneous influence                        |

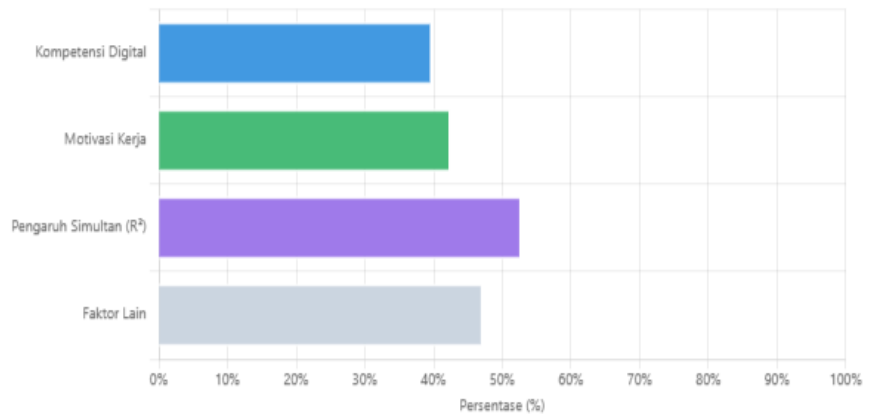
Source: Primary data processed using SPSS 27, 2024

Table 7 shows that the F-calculation value of 236,847 is greater than the F-table 3.02 with a significance value of 0.000 which is smaller than the alpha 0.05, indicating that digital competence and work motivation simultaneously have a significant effect on the productivity of office administration employees, so the third hypothesis (H<sub>3</sub>) is accepted. The *Adjusted R Square* value of 0.528 indicates that 52.8% of employee productivity variations can be explained by digital competency and work motivation variables, while the remaining 47.2% are influenced by other variables not examined in this model such as work environment, leadership, compensation, and other factors.



**Figure 9.** Multiple Regression Model Path Analysis Diagram

The path analysis diagram displays a structural model with two independent variables (Digital Competency  $X_1$  and Work Motivation  $X_2$ ) depicted in a rectangular box on the left side, and one dependent variable (Employee Productivity  $Y$ ) in a rectangular box on the right side. The arrow from  $X_1$  to  $Y$  shows the path coefficient  $\beta_1 = 0.398$  with  $t = 9.876$  ( $\beta_1 = 0.398$  with  $t = 9.876$ ), the arrow from  $X_2$  to  $Y$  shows the path coefficient  $\beta_2 = 0.425$  with  $t = 10.542$  ( $\beta_2 = 0.425$  with  $t = 10.542$ ). There is a two-way curved line between  $X_1$  and  $X_2$  indicating a correlation of  $r = 0.536$ . Above the variable  $Y$  it is written  $R^2 = 0.531$ . The three-star sign (\*\*\*) indicates significance at the level of  $p < 0.001$ .



**Figure 10.** Relative Contribution Diagram of Independent Variables

A horizontal bar chart displays the relative contribution of each independent variable to employee productivity. The first bar for Digital Competency shows a contribution of 39.8% (based on beta coefficient), the second bar for Work Motivation shows a contribution of 42.5%. Below the diagram it is stated that the simultaneous influence of the two variables is 52.8% ( $R^2$ ), and 47.2% is influenced by other factors that were not studied.

## Discussion

### *The Influence of Digital Competence on the Productivity of Office Administration Employees*

The results of the first hypothesis test showed that digital competence had a positive and significant effect on the productivity of office administration employees with a regression coefficient of 0.398 ( $t$ -count = 9.876,  $p < 0.001$ ). These findings indicate that every increase in one unit of digital competency will increase employee productivity by 0.398 units assuming other variables are constant. The magnitude of this influence shows that digital competence is a substantial determinant in increasing the work output of administrative employees in the era of digital transformation.

The mechanism of the influence of digital competence on productivity can be explained through several paths. First, mastery of digital technology allows employees to complete administrative tasks more quickly and accurately, reducing the time required for manual activities such as filing, document search, and data entry. Research shows that the implementation of digital technology in human resource management can significantly improve operational efficiency and employee productivity (Fadilah & Anshori, 2025). Second, digital competencies facilitate virtual collaboration and more effective communication

between teams, especially in work contexts *Hybrid* which is increasingly prevalent after the pandemic. Third, information and data literacy capabilities allow employees to access, evaluate, and use information more efficiently to support decision-making.

The findings of this study are in line with the results of studies that show that digital competencies have a positive and significant influence on employee performance through increased resilience and adaptability (Natasha et al., 2025). In the context of the Mamuju Regency Ministry of Religion office, digital competence has been proven to improve employee performance in facing the challenges of digital transformation in the public sector. Furthermore, the strategy of improving digital competence through the *Strategic Human Resource Management* can result in up to 18% increase in productivity over a 12-month period (Silalahi et al., 2025). The study identified that organizations that implement integrated digital training such as *blended learning*, *Microlearning* and *Project-based learning* achieve optimal results.

From the perspective of *Resource-Based View Theory*, employee digital competence is a strategic resource that provides a competitive advantage for the organization. Rare, valuable, and hard-to-replicate digital capabilities become an organizational asset that can improve business process efficiency and service quality. In the context of this study, administrative employees with high digital competence (55.5% of respondents) were able to optimize the use of *enterprise resource planning* systems, document management applications, and virtual collaboration platforms, which in turn increased their productivity.

The practical implications of these findings demonstrate the need for organizations to develop comprehensive and sustainable digital competency training programs. Companies need to adapt training methods to the development of digital technology, for example through webinar activities, training videos, to *Online training* that can save operational costs while still being effective (Wijaya, 2022). System usage *Human Resource Information System* and *Learning Management System* can play a crucial role in monitoring learning progress, improving training personalization, and accelerating technology adoption. Organizations also need to conduct periodic mapping of employees' digital competencies to identify skills gaps and design targeted interventions to maximize the productivity of office administration employees.

### ***The Effect of Work Motivation on the Productivity of Office Administration Employees***

The second hypothesis test confirmed that work motivation had a positive and significant effect on the productivity of office administration employees with a regression coefficient of 0.425 (t-count = 10.542,  $p < 0.001$ ). This coefficient shows that work motivation has a slightly greater influence than digital competence on productivity, indicating that psychological factors play a crucial role in determining employee work output. This magnitude of influence confirms that an increase in one unit of work motivation will increase employee productivity by 0.425 units, assuming other factors remain constant.

The mechanism of the influence of work motivation on productivity can be understood through *Self-Determination Theory* which distinguishes between intrinsic and extrinsic motivation. Intrinsic motivations that come from within the individual, such as the satisfaction of completing tasks and a sense of accomplishment, tend to produce more stable long-term effects on productivity. Meanwhile, extrinsic motivation triggered by external factors such as compensation, recognition, and promotion can provide additional boost in the short term. Highly motivated employees (51% of respondents in the study) showed a tendency to be more proactive in completing tasks, more enthusiastic in facing challenges, and better able to maintain consistency of performance over the long term.

The findings of this study are consistent with the results of studies that show that work motivation, work effectiveness, and work quality directly or indirectly increase employee productivity by producing higher quality outputs (Wu, 2022). In the context of UPTD employees of the Bawomataluo Health Center, increasing work motivation has been proven to contribute significantly to increasing organizational productivity. Furthermore, research on teacher productivity shows that achievement motivation has a positive and significant direct influence on work productivity with a path coefficient of 0.325 (Ariani et al., 2023). The findings confirm that intrinsic motivation in the form of a strong desire to excel is an important predictor of productivity in various organizational contexts.

However, it should be noted that in certain contexts, the partial effect of work motivation on productivity can vary. A study at PT. Winaros Kawula Bahari points out that

although work motivation does not have a significant effect, it is simultaneously accompanied by compensation and the work environment, motivation contributes to employee productivity (Berlian & Rafida, 2022). This indicates that the effectiveness of work motivation can be moderated by contextual factors such as compensation systems and supportive work environment conditions.

From a theoretical perspective, *Self-Determination Theory* explains that motivation derived from fulfilling basic psychological needs (autonomy, competence, and interconnectedness) will result in more optimal and sustainable performance. In the context of office administration, employees who feel they have autonomy in completing tasks, feel competent with their skills, and feel connected to the team and organization will show higher levels of productivity. The study showed that 51% of respondents had a high level of work motivation, reflecting a psychological condition conducive to optimal productivity.

The practical implications of these findings point to the need for organizations to design a holistic and sustainable motivation system. Motivation building strategies can be implemented through strengthening weak indicators, such as clear mission formulation, structured work planning, and providing appropriate direction (Ariani et al., 2023). Organizations need to develop systems *Performance Management* transparent and provide *Feedback* periodically to strengthen the relationship between motivation and productivity. In addition, organizations also need to pay attention to the balance between intrinsic and extrinsic motivations, by rewarding them fairly while still facilitating employee growth and self-development to ensure sustainable motivation and optimal productivity.

### ***The Simultaneous Effect of Digital Competence and Work Motivation on Employee Productivity***

The results of the third hypothesis test showed that digital competence and work motivation simultaneously had a significant effect on the productivity of office administration employees with an F-count value of 236,847 ( $p < 0.001$ ), far exceeding the F-table 3.02. An *Adjusted R Square* value of 0.528 indicates that 52.8% of employee productivity variations can be explained by digital competency and work motivation variables, while the remaining 47.2% are influenced by other unstudied variables such as work environment, leadership, compensation, and organizational culture. These findings confirm that the combination of technical factors (digital competence) and psychological factors (work motivation) produces a stronger influence on productivity than the partial influence of each variable.

Relative contribution analysis shows an interesting pattern where work motivation ( $\beta = 0.425$ ) has a slightly greater influence than digital competence ( $\beta = 0.398$ ) on employee productivity. This difference indicates that although technical ability to use digital technology is essential, the psychological drive to work productively has a slightly more dominant role in the context of office administration employees. This can be explained by the fact that administrative tasks are often repetitive and require long-term consistency, where work motivation is a crucial factor in maintaining a stable level of productivity at all times.

The interaction and synergy between digital competencies and work motivation can be understood through several mechanisms. First, employees with high digital competence tend to feel more competent and confident in completing tasks, which in turn increases their intrinsic motivation. Research shows that digital competencies have a positive effect on employee resilience, which in turn mediates its effect on performance (Natasha et al., 2025). Second, highly motivated employees tend to be more proactive in learning and adopting new digital technologies, thereby accelerating the improvement of their digital competencies. Third, the combination of technical ability and psychological drive creates optimal conditions where employees are not only able to use technology well, but also have a strong desire to maximize the potential of technology in increasing work efficiency and effectiveness.

A comparison of the magnitude of partial versus simultaneous influence shows an important phenomenon. The partial effect of digital competence ( $\beta = 0.398$ ) and work motivation ( $\beta = 0.425$ ) when arithmetically summed yields a value of 0.823, but the simultaneous effect represented by  $R^2$  is only 0.531. This difference indicates that there is an overlap or correlation between the two independent variables ( $r = 0.536$ ), which suggests that some of the variance explained by digital competence is also explained by work motivation, and vice versa. This moderate positive correlation confirms that the two variables are interrelated but remain a distinctive construct and contribute uniquely to productivity.

The findings of this study are in line with empirical evidence showing that the implementation of digital competency development strategies integrated with HR management systems can increase productivity by up to 18% and reduce *Turnover* by 12% in a 12-month period (Silalahi et al., 2025). The research emphasizes the importance of a holistic approach that not only focuses on developing technical capabilities, but also pays attention to the motivational and motivational aspects of *Commitment* employee. Furthermore, digital transformation in HR management has been shown to increase not only productivity, but also employee work flexibility and digital skills (Fadilah & Anshori, 2025), indicates the multiplier effect of integrating digital competencies and work motivation.

The theoretical contribution of this research lies in the validation and integration of two different theoretical perspectives: *Resource-Based View Theory* which emphasizes competence as a strategic resource, and *Self-Determination Theory* which emphasizes motivation as a driver of behavior. This research shows that the two perspectives are not exclusive but complementary in explaining employee productivity. Organizations looking to increase productivity need to adopt a dual-track approach that develops both technical capabilities and employee psychological drive simultaneously and integrated.

### ***Theoretical and Practical Implications***

This research makes a significant theoretical contribution to the development of human resource management theory in the digital age by integrating the *perspective of Resource-Based View* and *Self-Determination Theory* in one comprehensive analytical framework. Empirical validation of these two theories shows that digital competence as a strategic organizational resource (*resource-based*) and work motivation as a behavioral driver (*self-determination*) simultaneously contribute to employee productivity in balanced proportions. These findings strengthen the argument that productivity in the digital age is not only determined by technical capabilities alone, but requires synergy between technological capabilities and employee psychological factors.

In practical terms, this research provides strategic guidance for human resource practitioners in designing effective employee development programs. First, organizations need to implement comprehensive and sustainable digital competency training programs by leveraging the *Strategic Human Resource Management* integrated (Fadilah & Anshori, 2025). The training program can adopt the *blended learning*, *Microlearning* and *Project-based learning* which is proven to increase productivity by up to 18% in a one-year period. Second, organizations need to design a holistic motivation system that pays attention to the balance between intrinsic and extrinsic motivations, through the granting of autonomy in the workplace, recognition of achievements, and clear career development opportunities.

The organization's policy recommendations include: (1) Development *Roadmap* digital transformation of human resources that not only focuses on the implementation of technology but also pays attention to the psychological readiness of employees; (2) Adequate budget allocation for digital training programs that can be carried out through webinars, training videos, and *Online training* for cost efficiency (Vendhi Prasmoro et al., 2023); (3) System implementation *Human Resource Information System* and *Learning Management System* to monitor learning progress and personalize training; (4) System development *Performance Management* transparent with *Feedback* periodically to strengthen the motivation-productivity relationship; (5) Creation of an organizational culture that supports continuous learning and digital innovation. These strategies are expected to create a conducive work ecosystem where digital competencies and work motivation reinforce each other to produce sustainable optimal productivity.

### ***Research Limitations***

This study has several methodological limitations that need to be recognized for the proper interpretation of the results and the development of further research. First, the *cross-sectional* research design used was only able to capture a portrait of conditions at one specific point in time, so it could not identify dynamic changes in the relationships between variables over time. These limitations reduce researchers' ability to understand how digital competencies and work motivation evolve over time and how those changes affect productivity in the long run. Future longitudinal research will be very useful for understanding temporal dynamics in relationships between variables.

Second, the scope of the study variables was limited to digital competence and work motivation, while 47.2% of the variation in productivity was explained by other factors that were not studied. Important variables such as digital leadership, organizational culture, work environment, compensation system, and occupational health safety have been shown to have an impact on productivity (Vendhi Prasmoro et al., 2023) has not been integrated in this research model. Research showing that visionary leadership and organizational culture have a significant effect on productivity with path coefficients of 0.290 and 0.230 respectively (Ariani et al., 2023) indicates the need to expand the model by including these contextual variables.

Third, the limitation of the sample and generalization of the results where this study only involves administrative employees in the Greater Bandung area, so that the results of the study may not be generalized to other geographical contexts or industries that have different characteristics. Differences in technology infrastructure, work culture, and digital adoption rates between organizations and regions can affect the strength of relationships between variables. Fourth, the measurement instrument uses *self-report* that is vulnerable to *social desirability bias* where respondents tend to give answers that are considered more socially acceptable. These limitations may affect the internal validity of the study, although the use of *Confirmatory Factor Analysis* and rigorous reliability tests have been conducted to minimize measurement bias.

## 5. Conclusion

This study produced empirical findings that confirm the significant influence of digital competence and work motivation on the productivity of office administration employees in the Greater Bandung area. Multiple regression analysis of 420 respondents showed that digital competence had a positive and significant effect with a regression coefficient of 0.398, while work motivation showed a slightly more dominant influence with a coefficient of 0.425. Simultaneously, both variables were able to explain 52.8% variation in employee productivity, indicating that the integration of technological capabilities and psychological factors resulted in a substantial impact on work output. These findings strengthen the theoretical argument that productivity in the digital age cannot be understood only from the perspective of technical capabilities, but rather requires synergy between digital competencies as a strategic resource of the organization and work motivation as a driver of productive behavior. The theoretical contribution of this research lies in the validation and integration of Resource-Based View Theory with Self-Determination Theory in the context of digital workplace transformation, showing that the two perspectives are complementary in explaining the determinants of productivity. Practically, this study provides guidance for organizations to adopt a dual-track approach in human resource development, namely implementing a comprehensive digital competency training program while designing a holistic motivation system through meeting the psychological needs of employees. Limitations of the study include cross-sectional designs that do not capture temporal dynamics, limited coverage of variables with 47.2% of productivity variance still explained by other factors, and generalization of results limited to specific geographic contexts. Further research is suggested using longitudinal design to understand the evolution of relationships between variables, integrating moderator variables such as digital leadership and organizational culture, as well as extending the scope of the sample to different industry sectors and geographic regions to improve the external validity of the findings.

**Author Contributions:** A short paragraph specifying their individual contributions must be provided for research articles with several authors (**mandatory for more than 1 author**). The following statements should be used "Conceptualization: X.X. and Y.Y.; Methodology: X.X.; Software: X.X.; Validation: X.X., Y.Y. and Z.Z.; Formal analysis: X.X.; Investigation: X.X.; Resources: X.X.; Data curation: X.X.; Writing—original draft preparation: X.X.; Writing—review and editing: X.X.; Visualization: X.X.; Supervision: X.X.; Project administration: X.X.; Funding acquisition: Y.Y."

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**Data Availability Statement:** We encourage all authors of articles published in FAITH journals to share their research data. This section provides details regarding where data supporting reported results can be found, including links to publicly archived datasets analyzed or generated during the study. Where no new data were created or data unavailable due to privacy or ethical restrictions, a statement is still required.

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