



## The Influence of the Digital Era on the Transformation of Personnel Administration Policy at SMP Negeri I Gebang

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### Abstract:

**Background.** Advances in digital technology, including the management of staff in educational institutions, have led to significant changes in various aspects of life. For effective and open employee management, the use of IT-based systems has become important in the modern era. As formal educational institutions, schools are unaffected by these digital advancements, which include attendance data management, performance appraisals, employee promotions and mutations, and monitoring of teacher performance data.

**Aims.** This study aims to analyze the influence of the digital era on the transformation of personnel administration policies at SMP Negeri 1 Gebang. The research approach used was *ex-post facto* quantitative, with a population and sample of 21 teachers taken using census techniques. Data collection through Likert scale questionnaires and documentation, Jamovi software is used to analyze the data.

**Methods.** The research approach employed was an *ex-post facto* quantitative study, with a population and sample of 21 teachers selected using census techniques. Data collection was conducted through Likert scale questionnaires and documentation. Jamovi software was used to analyze the data.

**Result.** The results of descriptive statistical analysis showed that the average score of digital administration policy was 30.4 and teacher performance was 16.0, with a relatively homogeneous data distribution. The instrument's reliability test yielded a *Cronbach's Alpha of 0.847*, which is in the category of very reliable. The validity test, conducted using Pearson correlation, revealed a strong and significant positive relationship ( $r = 0.755$ ;  $p < 0.001$ ).

**Conclusion.** A simple linear regression analysis yielded an equation  $Y = -2.119 + 0.595X$  with a coefficient of  $b = 0.595$  and  $p < 0.001$ , which means that there is a positive and significant influence between the digital era and the transformation of personnel administration policies. A coefficient of determination ( $R^2$ ) of 0.570 indicates that digital era variables can explain 57% of the variation in personnel administration policy transformation.

**Implementation.** This study concludes that the application of digital technology contributes significantly to changes in personnel administration policies, encouraging more efficient, transparent, and accountable processes in the school environment.

**Keywords:** digitalization, employee administration, digital transformation, education policy, linear regression



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## INTRODUCTION

Advances in digital technology, including the management of staff in educational institutions, have led to significant changes in various aspects of life. For effective and open employee management, the use of IT-based systems has become important in the modern era. As formal educational institutions, schools are unaffected by these digital advancements, which include attendance data management, performance appraisals, employee promotions and mutations, and monitoring of teacher performance data. SMP Negeri 1 Gebang is one of the schools that manages employees digitally. (Tapscott, 2015) (Gunawan, 2021; R. R., R. C. U. Putra et al., 2020)

The facts that occur show that many schools, especially those in the regions, have not utilized information technology evenly. The implementation of digital policies faces many challenges. Some of these challenges include a lack of digital literacy among employees, limited infrastructure, and a fear of change. According to research, the use of digital technology in schools continues to face structural and cultural challenges. How do effective staff management policies affect this issue? On the contrary, Rahmawati (2020) found that change management and digital training are essential for digitizing personnel administration. (Notanubun, 2019) (Wijayanto, 2021) (Rahmawati, 2020)

Previous research has primarily been descriptive and has not investigated the causal relationship between the digital age and the transformation of personnel administration policies, particularly in the context of junior high schools. This shows that this study differs significantly. This research focuses on an (São Paulo, São Paulo, 2021) *Ex-post facto approach*, which focuses on the relationship between changes in personnel administration policies and digital age variables (as independent variables). The focus of this research is an *ex-post facto* approach, which focuses on the relationship between digital age variables (as independent variables) and changes in personnel administration policies (as dependent variables). This method allows testing of influences that have occurred without involving direct variables. This research aims to improve the theoretical understanding of the relationship between digitalization and the transformation of administrative digital policies. In addition, this study aims to provide data-driven recommendations to school principals, teachers, personnel managers, and policy makers working in primary and secondary education institutions. Therefore, this research has strategic value in helping the education sector experience digital transformation in a more flexible and sustainable direction. Considering the above background, the purpose of this study is to determine whether the use of digital transformation has an impact on teacher personnel administration policies at SMP Negeri 1 Gebang. The formulation of the research problem is as follows:

1. The relationship between digitalization and the dimension of personnel administration policy for teachers at SMP Negeri 1 Gebang
2. How digital transformation improves administrative effectiveness and efficiency

## **LITERATURE REVIEW**

### **Theories about the Digital Age (Variable X)**

The digital era is characterized as a phase of societal progress marked by the pervasive dominance of information and communication technology in nearly every aspect of life, including the administrative management of organizations. Explains that digitalization enables a major transformation in the organization through the application of information technology to improve efficiency, effectiveness, and decision-making processes. Digitalization facilitates more structured, fast, and transparent personnel administration management in the context of education. (Tapscott, 2015) (Gunawan, 2021) In addition, the implementation of management information systems in schools helps manage data on attendance, performance appraisals, and other administrative tasks. This enables the realization of modern educational governance that is responsive to technological advances.

### **Theory on the Transformation of Personnel Administration Policy (Variable Y)**

Personnel administration policy transformation refers to efforts to modify the rules, procedures, and practices of human resource management in educational institutions to enhance efficiency, transparency, and accountability. The use of personnel information systems improves the speed and accuracy of decision-making and helps change administrative policies to be more sophisticated, responsive, and technology-based. Simplification of administrative procedures, the use of real-time data, and increased accountability through well-documented systems are all examples of policy transformation. Therefore, it is expected that the implementation of digital-based policies will lead to changes focused on improving public services, including how to supervise staffing in educational institutions. (Y., & A. W. Putra, 2020) (Westerman, 2011)

### **School Employee Management**

Included in personnel administration is planning, organizing, implementing, and supervising all activities related to the management of education personnel. The school's staffing policies include appointments, performance appraisals, professional development, teacher rotation, and promotion. Digitization of employee administration allows access to employee information systems (SIMPEG), teacher management applications, and integration with Dapodik, e-Performance, and other central systems. (Syaiful Sagala, 2010)

### Previous Research and Research Differences

Previous research has mostly looked at aspects of information system implementation or user perception, without examining causal relationships statistically. For example, the study did not investigate the impact of technology on policy, only discussing how teachers view the use of technology in the workplace. As a result, the study used a quantitative approach (Suryaningrum, 2021) *ex-post facto* to fill the gap. This study tries to fill this gap by identifying and analyzing the causal relationship that occurs between the digital era and the transformation of personnel administration policies.

### METHOD

This study uses an *ex-post facto* quantitative approach. *Ex-post facto* research aims to uncover causal relationships between variables; In these cases, the free variable appears before the data is collected, and the author does not make any changes directly. The focus of the research is on how the digital age, or free variables, influence policy change. Therefore, the authors would not have direct control over the independent variables in *ex-post facto* research. The design of this research is described as follows: (Hermawan, 2019)

$$X \rightarrow Y$$

Information:

X : Digital age

Y : personnel administration transformation policy

→ : Influence

This study involved 21 teachers from SMP Negeri 1 Gebang. According to. Census or sample genus is the data collection method used. According to. Documentation and questionnaire dissemination are two methods of data collection. The likert scale of 1-4 is used as a research tool. Where H0 (Hypothesis Zero): The digital era does not make a significant contribution to explaining changes or variations in employee administrative policies at SMP Negeri 1 Gebang. Ha (Alternative Hypothesis): The digital era has made a significant contribution to explaining changes or variations in employee administrative policies at SMP Negeri 1 Gebang. (S Nana, 2007) (Scott, 2020)

**DISCUSSION**

The results of the study were analyzed by quantitative method, the informants consisted of 21 teachers at SMPN 1 Gebang,

**Table 1**  
**List of statements distributed on the questionnaire**

NO	Statement	Variable X/Y	Indicators	Likert scale
1	Digital administration policy has improved my work efficiency	X (Digital Age)	Work efficiency	Scale 1-4
2	The digital administration system used at SMPN 1 Gebang is easy to use.	X (Digital Age)	Ease of use	Scale 1-4
3	Digital administrative policies have increased my administrative workload.	X (Digital Age)	Workload impact	Scale 1-4
4	I feel that the digital administration policy has improved the quality of service	X (Digital Age)	Quality of service	Scale 1-4
5	I have received adequate training to use the digital administration system.	X (Digital Age)	Training/ Mentoring	Scale 1-4
6	Digital administration policies have increased the transparency of administrative management	X (Digital Age)	Transparency	Scale 1-4
7	I feel that digital administration policies increase the accountability of administrative management	X (Digital Age)	Accountability	Scale 1-4
8	The digital administration system has increased my work productivity.	X (Digital Age)	Work productivity	Scale 1-4

9	Digital administration policies have improved data security.	X (Digital Age)	Data security	Scale 1-4
10	The digital administration policy improves the image of SMPN 1 Gebang in the eyes of the public.	X (Digital Age)	Image of the institution	Scale 1-4
11	The digital administration policy has improved the efficiency of my working time.	X (Digital Age)	Time efficiency	Scale 1-4
12	Digital administration policies improve the quality of managed data	X (Digital Age)	Data quality	Scale 1-4
13	The digital administration system has improved communication between teachers and education staff.	X (Digital Age)	Internal communication	Scale 1-4
14	The digital administration policy has increased my job satisfaction.	Y (Transformation of Personnel Administration Policy)	Job satisfaction	Scale 1-4
15	Digital administration policy increases the effectiveness of the implementation of the duties of teachers and education personnel	Y (Transformation of Personnel Administration Policy)	Effectiveness of task execution	Scale 1-4

**Table 2**  
**Questionnaire Likert Scale Score Results**

Respondents	X (Total Score)	Y (Total Score)
1	32	20
2	30	15
3	30	14
4	38	20
5	31	20
6	28	15
7	30	15
8	30	15
9	30	15
10	38	20
11	30	15
12	30	15
13	30	15
14	28	15
15	30	15

16	29	15
17	30	16
18	27	15
19	30	18
20	28	13
21	30	15

Source : Research Results, 2025

Table 2 shows the total results of the two main variables of this study: Digital Administration Policy (X) and Teacher Performance (Y). The score of variable X ranges between 27 and 38, while variable score Y ranges between 13 and 20. This data provides an initial idea of how teachers view the digital administrative policies used, as well as how strongly it relates to their perceptions of their own performance. To gain a better understanding of these initial findings, descriptive statistical analysis and correlations will be performed.

**Table 3**  
**Descriptive Statistics of Research Variables**

Descriptions		
	TOTAL_X	TOTAL_Y
<b>N</b>	21	21
<b>Missing</b>	0	0
<b>Mean</b>	30.4	16.0
<b>Median</b>	30	15
<b>Standard deviation</b>	2.75	2.17
<b>Minimum</b>	27	13
<b>Maximum</b>	38	20

Source : Research Results, 2025

Table 3 shows the descriptive statistical results for the variables of Digital Administration Policy (Total\_X) and Teacher Performance (Total\_Y). The average Total\_X score of 30.4 with a standard deviation of 2.75 shows that teachers' perceptions tend to be positive towards digital policies, with a relatively homogeneous distribution of data. Meanwhile, an average Total\_Y score of 16.0 with a standard deviation of 2.17 indicates that the teacher's performance level is relatively good, but with smaller variations. There are differences in the level of acceptance and respondents' perception of the two variables, which is indicated by the minimum and maximum values of each variable. . (Sunarto, 2019)

**Table 4**  
**Validity Test between Variables X and Y**

Correlation Matrix			
		TOTAL_X	TOTAL_Y
Total_X	Pearson's r	—	
	Df	—	
	p-value	—	
Total_Y	Pearson's r	0.755	—
	Df	19	—
	p-value	<.001	—

Source : Research Results,2025

Table 4 shows the results of the Pearson correlation test between the variables of Digital Administration Policy (Total\_X) and Teacher Performance (Total\_Y). The value of the correlation coefficient is  $r = 0.755$ , and the value of p-value is 0.001. These results show a strong and statistically significant relationship between teachers' perceptions of digital administrative policies and their performance. In other words, the more positive the teacher's perception of the digital administration policy, the better the expected teacher performance.

**Table 5**  
**Reliability Regression Test**

Scale Reliability Statistics	
	Cronbach's $\alpha$
Scale	0.847

Source : Research Results,2025

Table 5 shows how Cronbach's Alpha coefficient is used to assess internal reliability and consistency. Overall, the results of the analysis of Cronbach's alpha value of 0.847, which is in the very reliable category ( $\alpha \geq 0.70$ ), show that questionnaire tools are generally feasible to measure research variables. According to the item's analysis, the Alpha value increases to 0.957 when Total\_X is removed; in contrast, the Alpha value drops to 0.595 when Total\_Y

is removed, indicating that the Digital Administration Policy variable exhibits very high internal consistency. The results showed that, overall, both variables still met the reliability requirements for this study. However, the instrument for variable X appeared to be more reliable than the instrument for variable Y.

**Table 6**  
**Linear Regression Test**

Model Coefficients - TOTAL_Y				
Predictor	Estimate	ONE	t	p
Intercept	-2.119	3.623	-0.585	0.566
Total_X	0.595	0.119	5.020	<.001

Source: Research Results,2025

Table 6 presents the results of the linear regression coefficient calculation. The independent variable Total\_X has a coefficient of 0.595 and a p-value of < 0.001, showing a positive and significant influence on the dependent variable Total\_Y. This means that every one-point increase in the perception of digital administration policies is projected to increase the teacher's performance score by 0.595 points. Although the intercept value is not statistically significant, the focus of interpretation lies on the significant influence of the Total\_X variable.

**Table 7**  
**Determination Test**

Model Fit Measures		
Type	R	R <sup>2</sup>
1	0.755	0.570

Note. Models estimated using a sample size of N=21

Source: Research Results,2025

Table 7 shows the results of the Model Fit Measures analysis conducted on simple linear regression. There is a strong correlation between teacher performance and digital administration policy, as indicated by an R value of 0.755 and an R-squared value of 0.570. This score indicates that views on digital administrative policies account for 57% of teacher performance differences, while another 43% are attributed to other factors. This supports the hypothesis that digital administration policies have a significant impact on improving teacher performance.

## CONCLUSION

The purpose of this study is to evaluate the influence of the digital era on changes in personnel administration policies at SMP Negeri 1 Gebang. The results of simple linear regression analysis showed that the digital era (variable X) contributed 57% to changes in personnel administration policies (variable Y). In other words, the application of digital technology is responsible for 57% of personnel administration policy changes, while 43% of administrative policy changes. These results are based on the regression equation  $Y = -2.119 + 0.595X$ , in which the determination coefficient ( $R^2$ ) = 0.570 is obtained. The value of the regression coefficient of the independent variable is 0.595, and the significance value of p is 0.001. This means that the personnel administration policy transformation score will increase by 0.595 points with every 1-point increase in the digital administrative policy perception score. In addition, the Pearson correlation test found a value of  $r = 0.755$  ( $p < 0.001$ ), indicating a significant positive relationship between the two variables. The results show that digitalization has a strong and positive relationship with various aspects of personnel administration policies, such as efficiency, transparency, and accountability, as well as improving the quality of data management and personnel services. On the other hand, the answer to the second problem formulation shows that digitalization can improve the efficiency and effectiveness of implementation. Digitalization not only changes the way it works, but also makes policies more in line with the needs of schools. Therefore, it can be concluded that the implementation of digital administration policies significantly helps change personnel administration policies to be more efficient, transparent, and flexible. However, to achieve full success, this step still needs to work together with other elements that support it.

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