

The Influence of the Use of Information Technology on Employee Performance in Class I Correctional Institutions in Makassar

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ABSTRACT

Employee performance reflects how well the goals of an agency or institution have been achieved, including aspects of quality, quantity, accuracy, work results, and level of independence. Therefore, this study was conducted to examine the influence of information technology on the performance of employees in the Makassar Class I Correctional Institution. The study uses a quantitative approach with bivariate analysis. The findings of the study show that the indicators of the variables of information technology and employee performance are in a very satisfactory category. The results of the product moment correlation analysis indicate a strong relationship between the use of information technology and the level of employee performance. In addition, the results of simple linear regression strengthen these findings by showing the positive and significant influence of information technology on employee performance. Quantitatively, the use of information technology in the Makassar Class I Correctional Institution achieved a score of 90%, while employee performance achieved a score of 96%; both scores fall within the very satisfactory category. Information technology recorded a 59.1% contribution to employee performance. Thus, the results of this study offer an in-depth look at the importance of the application of information technology in improving the quality of employee performance in correctional institutions, as well as providing a strong basis for the formulation of more appropriate and strategic policies in the future. This study not only provides empirical evidence of the positive influence of information technology on employee performance but also highlights the unique context of correctional institutions as a public service environment where digitalization faces structural and cultural barriers. The results have influenced the development of ICT-based performance management in the public sector, especially in correctional administration.

Keywords: Employee Performance; Information; Technology

INTRODUCTION

The organization sets work goals or objectives, and employee performance reflects individual contributions in achieving them. Various factors, including independence, effectiveness, quality, accuracy, and quantity, influence performance. Information technology has a very crucial role in supporting the performance of employee services because it allows employees to access information quickly and facilitates communication (Andi, 2019; Berliana MS et al., 2025; Hafeez et al., 2019; Suprianto et al., 2024). With this convenience, information technology can affect employee performance in various aspects, such as productivity, effectiveness, and work accuracy. All employees in an organization have an obligation to have a positive impact through superior performance and it is important to know that the performance of an organization depends on the performance of its employees. "Employee performance measurement is used as an assessment of the success or failure of activities, programs and policies in accordance with the goals and objectives that have been set" (Jamaluddin et al., 2025; Mustafa et al., 2023; Sapitri et al., 2024; Taliang et al., 2023).

Effective organizational performance is determined by the extent to which individual workers and their teams work well, which can be measured through quality, quantity, accuracy, results, and independence. Considering current advancements, the use of information technology aims to support various needs and developments in an office, ultimately leading to positive impacts.

Information technology improves employee performance by accelerating processes, increasing accuracy, and optimizing work efficiency. Computer systems and communication technologies accelerate work processes and turn time-consuming tasks into faster and more efficient ones. Additionally, quick and easy access enables employees to make more informed decisions. "Information technology globally is to help solve problems with high creativity and make humans more effective in utilizing it" (Joseph, 2021; Saleh et al., 2019; Sutrisno et al., 2023). However, the impact produced does not stop at that point, the use of information technology is also a challenge that requires employees to have the ability to adapt to technological advances that now are developing significantly. Training and mastery of information technology devices are important so that the benefits can be optimal, therefore supported by optimal labor and with quality devices, it can also produce good performance.

Despite the increasing use of information technology in public institutions, few studies have examined its impact within correctional settings, where digital infrastructure, security protocols, and bureaucratic structures intersect. This creates a contextual gap that differentiates correctional institutions from other public organizations. Therefore, this study aims to fill that gap by examining how the adoption of information technology influences measurable indicators of performance such as quality, accuracy, quantity, and independence.

Government agencies naturally require employees with sufficient information technology skills for the application and operation of this technology. The use of information technology enhances operational performance, and when combined with qualified equipment and effective practices, it can yield satisfactory results for government agencies. To understand the impact of information technology on employee performance, an analysis of the influence of information technology is essential to explore the extent to which technology can contribute to increasing productivity, work quality, and employee satisfaction in the workplace.

The topic of the use of information technology is one of the relevant and intriguing issues to be researched further, especially in relation to improving employee performance. To address this, the study is titled "The Influence of Information Technology Use on Employee Performance in Class I Correctional Institution Makassar," aiming to examine how information technology use affects the performance of staff in the correctional institution.

METHOD

A quantitative approach was implemented in this study to collect and process numerical data through statistical techniques, thereby allowing researchers to identify patterns and relationships that are relevant to the research problem. The quantitative method is a research approach based on the positivism paradigm, which is used to study phenomena through a specific population or sample. The data collection process is carried out using structured research instruments, while data analysis is carried out statistically to test the hypotheses that have been formulated previously. This approach allows researchers to measure the variables studied and analyze the causal relationships between them objectively. Through a quantitative approach, this study aims to find out the extent of the influence of information technology on employee performance.

This study applied a type of bivariate analysis to identify and test the relationship and influence between variables of information technology use and employee performance in Class I Makassar Correctional Institution. In this study, information technology was positioned as an independent variable (X), while employee performance was a dependent variable (Y).

Independent variables, namely information technology, are measured through six main indicators: hardware, software, databases, IT procedures, networks, and human resources. Meanwhile, the dependent variable, namely employee performance, includes five indicators, namely work quality, work quantity, punctuality, performance effectiveness, and level of independence in carrying out tasks.

This study involved a population of 35 employees who use information technology in the Makassar Class I Correctional Institution. The sampling technique used is probability sampling, with a simple random sampling approach, which is a random sampling method without considering differences in strata or certain characteristics in the population. The determination of the number of samples was carried out by referring to the Krejcie and Morgan tables, where the population (N) was 35 people, resulting in a sample size (S) of 32 people. Data collection in this study was carried out through several techniques, namely filling out questionnaires, direct observation, documentation, and interviews. In this process, researchers play the role of the main instrument that ensures the validity and reliability of data obtained from the field.

The methods for collecting and analyzing data in line with the research objectives include direct observation, completing questionnaires, and conducting additional observations. This study requires specific test stages or steps for inferential statistical analysis. Inferential statistical analysis in this study includes several stages, namely the data normality test, Pearson Product Moment correlation analysis, hypothesis testing, and simple linear regression analysis. Normality tests are used to establish if the data is normally distributed before doing more advanced analysis. Correlation analysis aims to measure the strength and direction of the relationship between independent and dependent variables, while hypothesis testing is performed to test the correctness of the initial conjecture that has been formulated. Furthermore, simple linear regression analysis is used to find out how much information technology variables influence employee performance.

RESULT AND DISCUSSION

This section presents the results of data analysis conducted with the aim of improving one's comprehension of the influence of the use of information technology on employee performance. The analysis is conducted systematically to address the problem formulation and test the previously established hypothesis.

Information Technology

Information technology is a form of development in the field of information that plays an important role in supporting the implementation of daily tasks, both in terms of obtaining, managing, and distributing information effectively and efficiently. This study measures information technology variables using six main indicators, each of which represents an important component of the information system. First, hardware includes all physical components of the computer that support work activities. Second, software refers to the data and programs that run on the computer to manage various operational functions. Third, databases, which are collections of data that are systematically arranged and interrelated, function as a storage center for information that can be accessed and managed efficiently. Fourth, procedures are a series of steps or instructions designed to consistently carry out information technology-based work processes. Fifth, a network is a communication system that connects computers and enables the exchange and distribution of data within the work environment. The sixth element is humans, who serve as the primary operators, developers, and managers of the information technology system. The six indicators are further analyzed through data processing, whose results will be presented in the form of a table to provide a clearer picture of the level of information technology use by employees:

Table 1: Results of Descriptive Analysis of Information Technology Variables

No	Indicator	n	N	%	Category
1	Hardware	429	480	89	Highly Optimal
2	Software	276	320	86	Highly Optimal
3	Basic data	285	320	89	Highly Optimal
4	Procedure	303	320	95	Highly Optimal
5	Network	280	320	88	Highly Optimal
6	Human	298	320	93	Highly Optimal
Total	1871		2080	90	Highly Optimal

Source: SPSS Data Processing Application

The table above shows the results of annihilation in each indicator. 1) The hardware variable, which pertains to information technology use, is categorized as very optimal. As a result, employees have a good understanding of how to operate hardware tools; for instance, they can adjust the ideal monitor position based on face distance, even if there is damage to the printer. Thus, the hardware indicator aligns with the standard for understanding information technology use. 2). Software, categorized at the level of applications, is highly effective. The score achieved was 276 out of a total of 320; this indicates that employees who mastered application usage, including comprehensive knowledge of Microsoft Office Word shortcuts and basic formulas in Microsoft Excel, were marked accordingly. 3). The database is in the very optimal category, with a score of 285 out of a total of 320. This means that only archivists and employees who select the assessment scale can access the e-archive. The always-on Google Drive statement used to store archives has adequate storage, 4). The procedure, is in the very optimal category with a total score of 303 out of a total score of 320. Based on this, it is characterized by good effectiveness and compliance with the use and management of information technology, for example, such as understanding how to perform periodic maintenance on the printer and knowing the ideal brightness for the monitor when working indoors well, 5). Network, the achievement score is 280 out of a total score of 320 which is included in the very optimal category, this is characterized by a very smooth network speed in the office, and the network can only be accessed by employees, and 6). Humans, the achievement of a score of 298 out of a total score of 320 and is included in the category of very optimal, this is characterized by employee skills in various aspects which include the skills of effectiveness and operational success of information technology in the organization, for example, always relearning if they do not understand how the use of computers works, and are able to complete task of using the computer well.

The results of the descriptive analysis of the information technology variables, which include the mean values and standard deviations of each indicator, can be seen in the table 2 as a form of systematic data presentation:

Table 2: Average Analysis Results and Standard Deviation of Information Technology Variables

	N	Min	Max	Mean	Standar of deviation
Information Technology	32	47	65	58,50	4,072
Valid N (listwise)	32				

Source: SPSS Data Output

Table 2 shows that information technology can be concluded that the average respondent answer score is 58.50 which shows that the average score produced from all respondents is 58.50 which means that it is a middle value that describes the respondent's answer or assessment in the context analyzed while the standard deviation obtained is 4.072. Information technology indicators used to obtain the data include hardware, software, databases, procedures, networks, and humans.

The implementation of information technology in government agencies needs to be accompanied by adequate quality of employee performance in carrying out their duties through the use of information technology devices. Optimal performance, if supported by employee competence and adequate technological infrastructure, will have a positive impact on the achievement of maximum work results. "With the advancement of information technology today, we can take advantage of various features and functions easily. From processing text, images, videos, to multimedia, everything can be accessed and used with a single click" (Asril et al., 2025; De Vega et al., 2025; Eliwa et al., 2022; Sanjaya et al., 2025; Strayhorn, 2006). This technology allows us to work more efficiently in writing, drawing, editing photos, playing videos, and analyzing data.

The indicators used, as well as hardware indicators based on this study, show that the application of hardware by employees of the Makassar Class I Correctional Institution is in the category Very good, for example employees who are skilled in understanding the operation of hardware tools such as being able to fix problematic printers and understand the ideal distance between the position of the monitor and the face. The software indicators obtained are very well shown by the application of performance using computers, for example by the use of Microsoft word and Microsoft excel applications very well.

Regarding the database indicator, the results show that the databases used include the electronic website of the Ministry of Law and Human Rights, which employees can access, as well as supporting applications such as Google Drive. The procedural indicators are also categorized as very good, demonstrated by effective and compliant practices in the use and management of information technology, such as performing regular printer maintenance or adjusting monitor brightness to appropriate levels when working indoors. The network indicators in this study indicate that the network quality at the Makassar Class I Correctional Institution is classified as very good. This assessment is based on respondents' perceptions that the institution's network speed and stability are consistently reliable in supporting task execution. Meanwhile, the human indicators also received positive evaluations, reflected in employees' active involvement in utilizing, developing, and managing information technology systems. Human resources play a crucial role in ensuring the successful implementation of technology, both as system users and as system managers.

Based on the results of data processing obtained through various data collection techniques, overall the respondents' responses showed that the use of information technology in the institution was in the very good category. Thus, it can be concluded that the application of information technology in the Makassar Class I Correctional Institution has succeeded in meeting the six main indicators that are the reference in this study, including hardware, software, databases, procedures, networks, and human resources.

The results confirm that technological infrastructure, user competence, and system accessibility are all essential components of institutional performance. This aligns with DeLone and McLean's (2016) argument that technology success is not only determined by the system itself but also by user capability and service quality. In correctional institutions, where strict administrative procedures exist, these factors jointly shape how efficiently tasks are executed.

Employee Performance

Employee performance reflects the extent to which employees are effective, efficient and effective in carrying out their duties. Employee performance indicators from this research are 1) quality, work results that can be measured from how effective and efficient the work results are, 2) quantity, the number of employees in doing their work every day, 3) accuracy, time limits in completing a task that has been set, 4) effectiveness, ability of employees to carry out good work tasks to achieve the aspects that have been determined, and 5) independence, an effort of an employee in carrying out his duties individually. Based on the data processing produced which can then be seen more clearly through Table 3:

Table 3: Descriptive Analysis of Employee Performance

No	Indicator	n	N	%	Category
1	Quality	305	320	94	Excellent
2	Quantity	298	320	93	Excellent
3	Accuracy	308	320	96	Excellent
4	Effectiveness	313	320	98	Excellent
5	Independence	307	320	96	Excellent
Total		1531	1600	96	Excellent

Source: *Output Data SPSS*

Table 3 shows that 1) Quality, the number of score achievements is 305 with a total score of 320 so it is categorized as very good. This score is quite high because the performance results achieved by employees in a certain period of time are very good, this can be seen from the answers of respondents who answered always and often, 2) The work quantity indicator obtained a total score of 298 out of a maximum value of 320, which indicates that the assessment category is at a very good level. This high score indicates that most respondents are able to complete the tasks assigned within the set time frame. This is reflected in the dominance of respondents who chose the "always" and "often" categories in the questionnaire, which reflects consistency in achieving optimal work volume; 3) Accuracy, categorized very well with a score of 308 out of a total score of 320. This is in line with the answers of the respondents who answered always and often because the respondents completed the work accurately, 4) Effectiveness, with a score of 313 out of a total score of 320 of 98 and entered the category of very good, this is in line with the answers of respondents who answered always because respondents use efficient ways to achieve the desired performance, and 5) Independence, Categorized as very good with a score of 307 out of a total of 320 shown by the ability of employees to take initiative, complete tasks, and make decisions on their own, while still following applicable guidelines and policies.

The results of the descriptive analysis of employee performance variables, which include the average value and standard deviation for each indicator, are presented in the table below to show the distribution patterns and trends of the data in a more structured manner:

Table 4: Results of Average Analysis and Standard Deviation of Employee Performance Variables

	N	Minimum	Maximum	Mean	Standar of deviation
Employee Performance	32	40	50	47,84	2,725
Valid N (listwise)	32				

Source: SPSS Data Output

Analysis of employee performance data showed that the average score of respondents' answers was 47.84, this figure shows the middle position of the data distribution with further interpretation depending on the context of the survey or measurement, while the standard deviation was obtained 2.725, The results of the descriptive analysis of employee performance variables were obtained based on data processing which included average values and standard deviations from five main indicators, namely the quality of work, quantity of work, punctuality, effectiveness of performance, and independence of employees. This data provides a comprehensive overview of the level of respondent performance and is presented in more detail through the following table. This analysis aims to determine general trends and variations in employee responses to each aspect of performance, so that it can be used as a basis for assessing the effectiveness of employee work within the Makassar Class I Correctional Institution.

Employee performance can be understood as an indicator of the extent to which an employee is able to carry out his duties and responsibilities effectively in the work environment. "Employee performance is measured based on the achievement of work results within a certain period of time, which is based on the roles and responsibilities carried out" (Haerul & Herman, 2025; Nasrullah, 2025; Niswaty et al., 2025). In the context of this study, one of the performance indicators analyzed is the quality of work, which shows results in the very good category. This quality is reflected in the ability of employees to complete tasks accurately and thoroughly, in accordance with the set work standards, as well as the level of satisfaction of the supervisor with the work results produced by the employees. In line with the opinion conveyed by Sisi (2020, p. 155), "work can be said to be of quality if employees have good performance results in completing their work". The quantity indicators are categorized as very good, which is reflected in the efforts of employees to continue to innovate to complete tasks more efficiently and make the most optimal use of time, as well as consistency in presenting updates in the implementation of work. "The quantity of work of an employee can be said to be good if he is able to complete more tasks within the time frame set by the company" (Akib et al., 2024; Jamaluddin et al., 2024; Mustafa et al., 2022).

Furthermore, the punctuality indicator of employee performance is categorized as very good. This is reflected in the employees' ability to complete tasks as instructed by their superiors without making errors in the process. The effectiveness indicator is also evident from the employees who consistently plan their work assignments carefully and make the most efficient use of their working time. In line with the opinion of Raini (2022, p. 7), "the work carried out can be said to be effective if the activity can be completed on time". The indicators of independence are stated to be good based on the ability of employees to work independently, take initiative, and manage work without too much supervision from their superiors. In line with the opinion of Asiva Noor Rachmayani (2015, p. 4), it can be identified in the performance of employees who are able to do work individually without the help of colleagues and are creative in doing complicated work very well.

The results also reflect Armstrong and Taylor's (2020) concept of performance dimensions, where the combination of quality, quantity, timeliness, and independence serves as a composite indicator of organizational productivity. The "Excellent" category observed in this study demonstrates that employee competence and motivation are reinforced by the effective use of digital tools, leading to higher operational accuracy and faster decision-making.

The Influence of Information Technology on Employee Performance

The use of statistical analysis is applied to obtain generalized conclusions based on the information obtained through the existing samples. The analysis used included normality tests, product moment correlation tests, and hypothesis tests.

1. Normality Test

Normality testing is carried out to find out whether the data from information technology variables and employee performance are distributed normally. This test is an important prerequisite before further statistical analysis such as correlation and regression. The results of the normality test are presented in more detail in the following table to provide a clearer picture of the data distribution patterns of the two variables:

Table 5: Results of Information Technology Normality Test and Employee Performance One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		32
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	1,74934963
Most Extreme Differences	Absolute	0,144
	Positive	0,086
	Negative	-0,144
Test Statistic		0,144
Asymp. Sig. (2-tailed)		.089 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Source: SPSS Data Processing Results

Based on the results of the normality test using the One Sample Kolmogorov-Smirnov Test method, a significance value of 0.089 was obtained. Because this value is greater than the set significance limit (0.05), it can be concluded that the data on the information technology and employee performance variables are normally distributed. Thus, the data meets the normality assumptions that are a requirement for further inferential statistical analysis.

2. Product Moment Correlation

To obtain results related to the level of relationship between variables in the study, correlation analysis was performed. The results of the Product Moment test are presented in the following table.

Table 6: Product Moment Correlation Result

		Information Technology	Employee Performance
Information Technology	Pearson Correlation	1	.769**
	Sig. (2-tailed)		0
	N	32	32
Employee Performance ⁱ	Pearson Correlation	.769**	1
	Sig. (2-tailed)	0	
	N	32	32

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the results of the Pearson Product Moment correlation analysis, it is known that there is a strong relationship between information technology variables and employee performance. This is indicated by a significance value of 0.000, which is below the significance

level of 0.05, so the relationship is statistically significant. In addition, a calculated r value of 0.769 was obtained, which is larger than the table r of 0.349, which further strengthens the conclusion that there is a strong and positive correlation between the use of information technology and the improvement of employee performance in the Makassar Class I Correctional Institution.

3. Uji Hypothesis

This study conducted hypothesis testing to identify the significant influence of information technology variables on employee performance. Here are the results from the hypothesis testing:

Table 7 Hypothesis Test Results (T Test)

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	17,740	4,581		3,873	0,001
	Information Technology	0,515	0,078	0,769	6,587	0,000

a. Dependent Variable: Employee Performance

The results of the hypothesis test analysis showed that the calculated t value of 6.587 was greater than the t-table of 2.042, accompanied by a significance value of 0.000 which was below the threshold of 0.05. Based on these results, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. Thus, it can be concluded that there is a positive and significant influence between the use of information technology on the performance of employees in the Makassar Class I Correctional Institution.

The influence of information technology on employee performance has proven to be significant. The existence of information technology allows employees to access and complete office work appropriately and accurately, which in turn has an impact on improving the overall quality of performance. The effectiveness of information technology also supports the ease and speed of obtaining information, so that work can be done more efficiently. For example, searching for the required data can be done in just a matter of seconds without having to go through a time-consuming manual process. This condition directly helps employees to complete tasks faster and more accurately, which is an important indicator in achieving optimal performance. In addition, technology also makes it easier for employees to communicate and work together. The use of software and communication management such as email, microsoft word and excel and other information systems also makes it easier for employees to streamline the time needed. "With the application of information technology, companies can increase efficiency in the analysis, distribution, and presentation of information, thereby helping in solving problems". (Niswaty et al., 2021; Pastrana & Tobón, 2020) The performance of an institution can be evaluated based on how effectively its employees fulfill their duties and responsibilities. This study involved 32 respondents who were employees of the Makassar Class I Correctional Institution. The analysis revealed that the application of information technology has a positive and significant effect on employee performance. The contribution of this influence reached 59.1%, indicating that the more effective information technology is utilized, the better the employees' performance outcomes. Therefore, the hypothesis proposed in this study is accepted.

CONCLUSION

This study aims to identify the influence of information technology on the performance of employees in the Makassar Class I Correctional Institution. Based on the formulation of the problem and the results of data analysis, it was found that the level of information technology use in the institution was very good, with a percentage achievement of 90%. In addition, employee performance also showed results in the very good category, with an achievement of 96%, which was measured through five main indicators, namely work quality, work quantity, punctuality, effectiveness, and independence. Furthermore, the results of the inferential analysis showed that information technology had a positive and significant influence on employee performance, with a contribution of 59.1%. This finding indicates that the more optimal the use of information technology, the higher the level of employee performance achieved in carrying out duties within the Makassar Class I Correctional Institution.

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