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The Influence of Digital Transformation, Logistics Transformation and Digital Literacy on Business Process Innovation and its Implications on Company Performance PT POS INDONESIA

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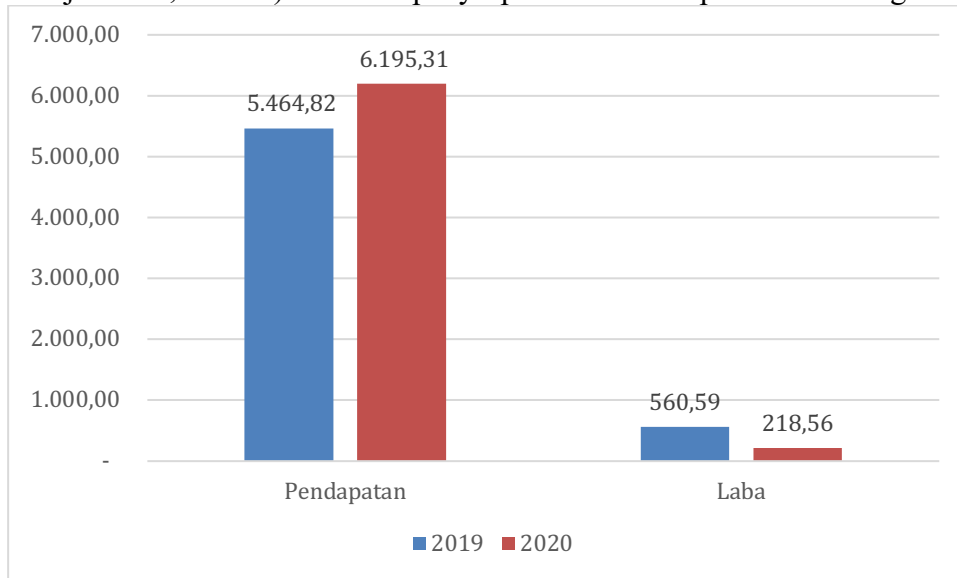
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Abstract: Transformation is a fundamental and comprehensive change in an entity, be it an individual, organization, system, or even an object, which results in different conditions. Transformation has been described by various names, digital transformation, logistics transformation and some also call it leadership transformation. COVID-19, which hit the world, has brought many changes to various business landscapes. In several business sectors this has become the starting point for transformation and PT POS Indonesia is also not free from this. The purpose of this study is to determine and analyze the implementation of digital transformation and logistics transformation that have been implemented by PT POS Indonesia. This research was conducted at the Head Office of PT POS Indonesia located at Jln Cilaki No. 73. This study uses a descriptive quantitative method involving 140 employees with a total population of 215, samples were obtained using the Slovin method with an error rate of 5%, employees work in the logistics courier business directorate and the business development and portfolio management directorate. Data collection was carried out by distributing questionnaires via google form to respondents. The results showed that the average value of each indicator was below 3,400, meeting the requirements for research. Digital transformation with an average value of 3.01, Logistics transformation with an average value of 3.04, Digital Literacy with an average value of 3.05, Business Process Innovation with an average value of 2.95, Company Performance with an average value of 3.27. Research proves that Digital Transformation, Logistics Transformation, and Digital Literacy have a positive and significant effect on Business Process Innovation. Business Process Innovation also has a positive and significant effect on Company Performance. In addition, Digital Transformation, Logistics Transformation and Digital Literacy have been proven to have a positive and significant direct effect on Company Performance. By utilizing technology, work processes in the Logistics sector will be increasingly assisted

Keyword: Digital Transformation, Logistics Transformation, Digital Literacy, Business Process Innovation, Company Performance, PosInd

INTRODUCTION

PT POS Indonesia is one of the industries experiencing a decline in critical times (Faizal Rochmad Djoemadi, 2023:2) The Company's performance is presented in Figure 1.



Source: PT Pos Indonesia Financial Report 2020 (2021)

Figure 1. Revenue and Profit of PT Pos Indonesia 2019-2020 (Billion Units)

Figure 1 explains that in 2020, the revenue of Pos Indonesia (PosInd) was IDR 6,195.31 billion, an increase of 13.37% compared to the revenue in 2019 which reached IDR 5,964.82 billion. Although revenue increased, the company's net profit decreased drastically. Net profit in 2019 was IDR 560.59 billion, but in 2020 net profit was only IDR 218.56 billion. This reflects a 61.01% decrease, indicating a decline in the company's performance.

(Fauziah & Wahyuningtyas, 2020) explained that Business Process Innovation affects company performance at PT. Indonesia Power UPJP Kamojang. (Rashin & Ghina, 2018) explained the innovation process implemented by PT. Dharma Adi Mandiri in increasing its competitiveness. They found that product innovation, process innovation, and marketing innovation significantly improve business performance (Hariyati & Tjahjadi, 2017) emphasized that targeted innovation can improve the operational and financial performance results of Manufacturing Companies in East Java; (Saputra & Prasetyo, 2023) stated that Companies that actively implement innovation are successful in adapting to market changes in Batik MSMEs in Semarang. (Baiquny & Nasution, 2024) showed that small companies that focus on innovation have the potential to perform better than those that do not in MSMEs in Jabodetabek. However, research conducted by (Permatasari et al., 2023) found that product innovation had no effect on improving the company's business performance. research (Fakhrudin et al., 2022) shows that there is no evidence that innovation directly improves company performance. The existence of a gap in opinion about the influence and absence of influence of business process innovation on company performance proves that there is still an opportunity for the author to conduct research with the main topic of the influence of business process innovation on company performance.

Research conducted by (Legowo & Sorongan, 2022) shows that digital transformation accelerated during the COVID-19 pandemic affects business model innovation in Micro, Small, and Medium Enterprises (MSMEs) in Jakarta. (Han, 2023), it was found that digitalization and digital transformation have a positive impact on business innovation in the manufacturing industry in Shenzhen. (Sang, 2023) found that small and medium enterprises (SMEs) in Ho Chi Minh City that increased their digital transformation to spur innovation were able to significantly improve company performance. (Belhadi et al., 2021) revealed that PT ABC

Company in Surabaya used innovation initiatives to improve the resilience of their supply chain in the context of digital transformation. (Wang et al., 2022), it was found that retail companies in Bandung that implemented digital technology platforms in their businesses experienced significant digital transformation, which in turn increased business process innovation in retail companies in Bandung. (Ma, 2024) showed that innovation carried out by Apple contributed to the company's excellent performance in the global market. Noting the influence of Digital Transformation on business process innovation in various companies, the author was inspired to conduct research on the topic of the influence of digital transformation on business process innovation.

(Ginny, 2019) demonstrated that logistics companies in Jakarta use innovation strategies to address market challenges and improve operational efficiency. The logistical transformations carried out contribute to the development of new business processes that strengthen competitiveness. (Sustrastanti & Rachmawati, 2023) demonstrate that transformations in logistics practices contribute to increased business innovation and corporate performance in the sector (Zai et al., 2022) demonstrated that the logistics company, Samudera Caraka Jasa, where the results show that the transformation of logistics and the implementation of good risk management can improve business processes and encourage innovation in services; (Al-Ababneh et al., 2023) demonstrating that digital transformation in logistics companies can significantly drive innovation in business processes and marketing strategies, driving better performance. (Wangi & Achdiat, 2022) demonstrate the importance of logistics transformation in enhancing business innovation. Notice the effect of logistics transformation on Business Process Innovation in various companies, the author was inspired to conduct research on the subject of the effect of logistics transformation on Business Process Innovation.

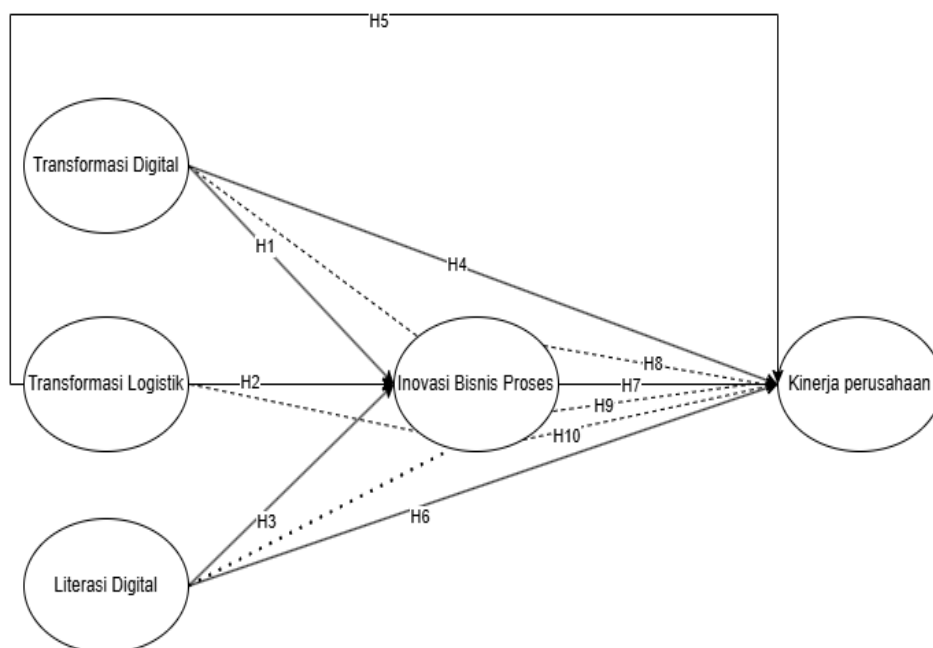
(Correa & Limos-Galay, 2024) highlighted that micro-business owners in Magsaysay, Occidental Mindoro, stated that digital literacy contributed to the success of their business innovation; (Pranata et al., 2024) have proven that there is an influence of digital literacy on business process innovation in MSMEs in the city of Cirebon; (Sari et al., 2023) have proven that there is an influence of digital literacy on business process innovation in logistics companies (general) in the city of Jakarta; (Fransisca et al., 2024) have proven that there is an influence of digital literacy on business process innovation at BPRS Amanah Rabbaniah in the city of Tanjung Jabung Barat; (Khin & Ho, 2019) have proven that there is an influence of digital literacy on business process innovation in various companies and in various locations. This information proves that digital literacy affects business process innovation. Paying attention to the opinions of experts, it inspires the author to conduct research on the influence of digital literacy on business process innovation.

Digital transformation has a positive effect on company performance, as shown by (Barus et al., 2024) who stated that digital transformation improves accounting efficiency; (A. Kurniawan et al., 2021) who found a positive impact on bank performance; (Hapsari, 2019) who showed that the implementation of Enterprise Resource Planning (ERP) improves financial performance; and (Aisyah et al., 2023) who analyzed the factors influencing the implementation of digital transformation in MSMEs. However, several studies also show that digital transformation does not always have an effect on company performance, as noted by (Fachridian et al., 2024) who stated that challenges in implementation often hinder innovation; (Liu et al., 2023) who highlighted that many companies are not ready to carry out digital transformation; (Yu & Moon, 2021) who found that digital transformation without fundamental competencies will not affect company performance; (Zhu, 2024) who noted that many companies are still trapped in traditional business models; and (Butt, 2020) who showed that the lack of a proper framework in digital transformation can hinder the progress of innovation in business processes.

Logistics transformation has a positive effect on company performance, as shown by (Barlianto & Riesfandiari, 2021) who found that the effectiveness of bonded zones improves performance; (Hapsari, 2019) who showed a positive impact of ERP; (Gobin et al., 2020) who found that the implementation of WMS improves operational performance; and (Hunter et al., 2018) who showed that supply chain collaboration has an effect on performance. However, (Liljefors et al., 2023) noted that challenges in implementation often hinder innovation. (Kusumawardhani et al., 2023) found that digital literacy plays a positive and significant role in company performance, especially in Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. (Sudrajad et al., 2023) who found that digital literacy has an impact on digitalization performance in MSEM in Indonesia; (D. Kurniawan, 2023) shows that employees with good digital literacy and technological skills contribute significantly to overall performance in the banking sector, as well as operational efficiency due to digital literacy. (Soroya et al., 2021) who found the effect of digital literacy on the performance of creative companies. and (Gampine, 2023) who showed an increase in employee performance in the Company due to digital literacy through innovative behavior. However, several studies also show that digital literacy is sometimes not enough to directly improve business performance (Aulia et al., 2022). (R. Kurniawan et al., 2019) showed that managerial skills and supply chain response capabilities are much more influential in improving performance than digital literacy, (Wolor et al., 2020) This study notes that although e-training improves employee performance, not all employees with high digital literacy show improved performance.

METHOD

This research employs quantitative, descriptive, and verification approaches. According to (Pugu et al., 2024), the quantitative approach emphasizes numerical data measurement, statistical analysis, and hypothesis testing to determine the relationships between variables. The descriptive approach is used to present a systematic, factual, and accurate picture of a phenomenon. The verification approach aims to test the validity of existing hypotheses or theories. In this context, researchers seek to confirm the relationships between variables as formulated in the research hypothesis. Nasir (2014: 43) describes this descriptive method as a survey method.



The independent variables are digital transformation (X1), logistics transformation (X2) and digital literacy (X3). The dependent variables are company performance (Z) and the intervening variable is business process innovation (Y).

Sugiyono (2021) stated that the population is people who are customers of the company who will be asked questions about customer perceptions regarding the variables in the company, which are being studied in the company. In this study, the number of customer populations was 215 people. Sugiyono (2021) describes a sample as part of a population that has similar characteristics to the entire population. The number of samples in a study is calculated using the Slovin formula as follows:

$$n = N: [1 + N(e)^2]$$

Where:

n = number of samples to be analyzed

N = number of samples to be analyzed = 215

e = margin of error or acceptable error rate, is set at 0.05. The number of samples in this study, according to the formula established by Sugiyono (2021), is:

$$n = N: [1 + N (e) ^2]$$

$$n = 215: [1 + 215 (0,05 \times 0,05)]$$

$$n = 215: [1 + 0,537]$$

$$n = 215: (1,537)$$

n = 139,88 rounded up to 140 people. Thus, the sample size for this study was set at 140 people.

RESULTS AND DISCUSSION

The research results began by conducting a descriptive test.

a. Descriptive Test

The results of the descriptive test explain the average value of each indicator of each variable in the study. The results of the descriptive test are presented in table 1.

Table 1. The Result of Deskriptif Test

VariablesS	Name Of Indicators	Average Score	Interpretation	Decision
Digital Transformation	TD1-11	3,01	Fairly Good	Worth Researching
Logistics Transformation	TL1-10	3,04	Fairly Good	Worth Researching
Digital Literacy	LD1-9	3,05	Fairly Good	Worth Researching
Business Process Innovation	INB1 -11	2,95	Fairly Good	Worth Researching
Company Performance	KP 1-11	3,27	Fairly Good	Worth Researching

Resource: Kuesioner (2025)

The information in Table 1 explains that the average value of each indicator is below the average value of 3,400. Waskito (2023:93) explains that the average value of the indicator below 3,400 indicates that the indicators have a fairly good value, because it is quite good, it means it is not good, so the indicators meet the requirements for further research. Considering the results of research on the average value of indicators that are less than 3,400 and considering the opinion of Waskito (2023), it can be explained that all indicators in all variables meet the requirements for research.

b. Validity Test

Tabel 2 The Result of Validity Test

Variables	Name Of Indicators	Outer Loading Value	Standard	Decision
Digital Transformation	TD1-11	0,807-0,865	Greater Than 0,700	Valid
Logistics Transformation	TL1 -10	0,825-0,878	Greater Than 0,700	Valid
Digital Literacy	LD1-9	0,814-0,867	Greater Than 0,700	Valid
Business Process Innovation	INB1-11	0,773-0,860	Greater Than 0,700	Valid
Company Performance	1-11	0,762-0,857	Greater Than 0,700	Valid

Resource: Kuesioner (2025).

Hasnita (2021: 26) explains that a variable is declared valid if the Outer loading value is above 0.700. The results of the study in Table 4.2 explain that the Outer Loading value for all indicators in each variable is above 0.700. Considering the results of the study in Table 2 and the opinion of Hasnita (2021: 33), it can be explained that all variables in the study are declared valid, because the outer loading value is above 0.700. Variables that are declared valid meet the requirements to be processed by the Structural Equation Model using SMART PLS 3.

c. Reliability Test

Hasnita (2021: 26) explains that a variable is declared reliable if it has a Cronbach's Alpha value, rho_A value, Composite Reliability value above 0.700, and AVERAGE Variance Extracted (AVE) value above 0.500.

Tabel 3 The Result of Reliability Test

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)	Decision
Digital Transformation	0,859	0,943	0,885	0,523	Reliable
Logistics Transformation	0,847	0,935	0,886	0,519	Reliable
Digital Literacy	0,831	0,923	0,879	0,523	Reliable
Business Process Innovation	0,956	0,956	0,961	0,694	Reliable
Company Performance	0,941	0,948	0,948	0,626	Reliable

Resource: Kuesioner (2025)

The results of the study on the reliability test presented in Table 3 explain that all variables studied have a Cronbach's Alpha value, rho_A value, Composite Reliability value above 0.700, and AVERAGE Variance Extracted (AVE) value above 0.500. Considering the results of the study and considering the opinion of Hasnita (2021: 26), it can be explained that the data on all variables studied are declared reliable, so they meet the requirements to be processed by the Structural Equation Model using SMART PLS 3.

d. Hypothesis Test

Hypothesis testing is carried out in 2 (two) stages. The first stage is to test the Hypothesis for Hypothesis 1 to Hypothesis 7. The second stage is to test the Hypothesis for Hypothesis 8 to Hypothesis 10. Stage I is the Direct Influence Hypothesis Test. Stage II is the Indirect

Influence Hypothesis Test. The author presents Figure 4.1 Research Results to facilitate testing Hypothesis 1 to Hypothesis 10.

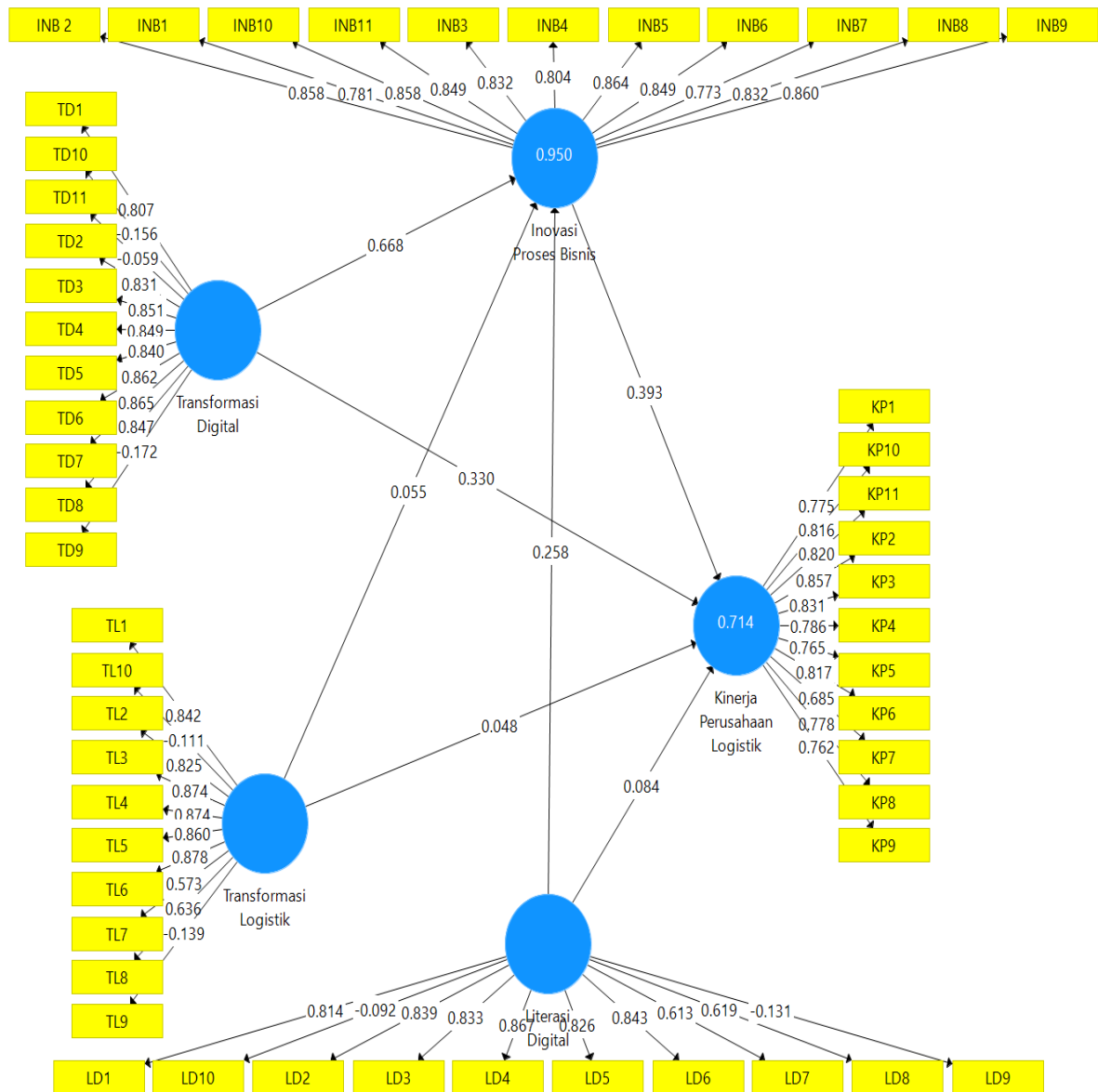


Figure 3 Data Processing Results

Information in Figure 4.1. Explains the calculated t value of each indicator of all variables, then compared with the T Table value for 140 respondents which is 0.676. The author presents the results of the Hypothesis 1 to Hypothesis 7 tests presented in Table 5.

Tabel 4 Direct Effect Hypothesis Test

	T Statistics (O/STDEV)	T Table	Decision	p Values	Standard	Decision
Digital Transformation -> Business Process Innovation	4,275	0,676	There is Positive Influence	0,000	Below 0,050	Significant
Logistics Transformation ->	4,347	0,676	There is Positive Influence	0,000	Below 0,050	Significant

Business Process Innovation						
Digital Literacy -> Business Process Innovation	4,296	0,676	There is Positive Influence	0,000	Below 0,050	Significant
Business Process Innovation -> Company Performance	27,000	0,676	There is Positive Influence	0,000	Below 0,050	Significant
Digital Transformation -> Company Performance	4,143	0,676	There is Positive Influence	0,000	Below 0,050	Significant
Logistics Transformation -> Business Process Innovation	4,249	0,676	There is Positive Influence	0,000	Below 0,050	Significant
Digital Literacy -> Company Performance	4,218	0,676	There is Positive Influence	0,000	Below 0,050	Significant

Resource: Kuesioner (2025)

The results of the Direct Influence Hypothesis test presented in Table 4.4 explain that in Stage I there is

- e. Positive and significant influence of Digital Transformation on Business Process Innovation with a t-value of 4.275 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- f. Positive and significant influence of Logistics Transformation on Business Process Innovation with a t-value of 4.347 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- g. Positive and significant influence of Digital Literacy on Business Process Innovation with a t-value of 4.296 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- h. Positive and significant influence of Business Process Innovation on Logistics Company Performance with a t-value of 27,000 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- i. Positive and significant influence of Digital Transformation on Company Performance with a t-value of 4.143 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- j. Positive and significant influence of Logistics Transformation on Company Performance with a t-value of 4.249 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.
- k. Positive and significant influence of Digital Literacy on Logistics Company Performance with a t-value of 4.275 greater than the t-table value of 0.676 and a significance value of 0.000 smaller than the p-value.

The author conducted a stage II hypothesis test, namely the activity of testing the indirect effect hypothesis. The author presents the results of the indirect effect test in Table 6.

Tabel 5 Indirect Effect Hypothesis Test

	T Statistics (O/STDEV)	P Values	Decision
Digital Transformation -> Business Process Innovation -> Company Performance	1,278	0,000	There is a Positive Influence and Significant
Logistics Transformation -> Business Process Innovation -> Company Performance	1,404	0,000	There is a Positive Influence and Significant
Digital Literacy -> Business Process Innovation -> Company Performance	1,262	0,000	There is a Positive Influence and Significant

Resource: Kuesioner (2025)

The results of the study in Table 4.5 explain that there is a Positive and Significant Influence of Digital Transformation, Logic Transformation, Digital Literacy on Company Performance through Business Process Innovation, because the t-value is more than 0.676 and the p-value is lower than 0.050.

e. Coefficient of Determination Test

Hasil penelitian tentang uji Koefisien Determinasi kontribusi Digital Transformation, Logistics Transformation, Digital Literacy dalam mempengaruhi Business Process Innovation serta uji Koefisien Determinasi kontribusi Digital Transformation, Logistics Transformation, Digital Literacy dan Business Process Innovation dalam mempengaruhi Company Performance disajikan pada Tabel 7.

Tabel 6 Coefficient of Determination Test

	R Square	R Square Adjusted
Business Process Innovation	0,950	0,949
Company Performance	0,714	0,706

Resource: Kuesioner (2025)

The results of the study explain that the R Square Adjusted Business Process Innovation value of 0.949 means that the Determination Coefficient Value is $0.949 \times 100\% = 94.90\%$. The meaning of the Determination Coefficient Value of 94.90% is that Digital Transformation, Logistics Transformation, Digital Literacy contribute to influencing Business Process Innovation by 94.90%. The remaining $100\% - 94.90\%$, namely 5.10%, is influenced by variables not studied in the study. Other variables not studied are Transportation, Warehouse.

The results of the study explain that the R Square Adjusted Company Performance value of 0.706 means that the Determination Coefficient Value is $0.706 \times 100\% = 70.60\%$. The meaning of the Determination Coefficient Value of 70.60% is that Digital Transformation, Logistics Transformation, Digital Literacy contribute to influencing Company Performance by 70.60%. The remaining $100\% - 70.60\%$, namely 29.40%, is influenced by variables not studied in the study. Other variables not studied are Transportation, Warehouse.

CONCLUSION

The author has conducted a study that Digital Transformation has a positive and insignificant effect on Company Performance, it is better for subsequent studies not to conduct research on the influence of Digital Transformation Digital directly on Company Performance, but through other variables first. Improvements start from improving exogenous variables (Digital Transformation, Digital Logistics, Digital Literacy), then continued with improving intervening variables (Business Process Innovation) and improving endogenous variables (Company Performance). How to fix it has been explained in 7.1. Improvements to the Digital Transformational Variable are carried out by improving X1.7.

The company encourages cooperation between departments using the Digital Platform. Information about improving cooperation should be conveyed in stages so that the obligation to encourage cooperation is carried out by the lowest leader with the lowest leader at the same level, so that cooperation becomes solid. Improvements to the Digital Logistics Variable are carried out by improving the X2.7 indicator Customer satisfaction level 90%. Because the smallest value means the customer satisfaction value is less than 90%. The solution is that the Company should continuously improve its services in Collecting, Processing, Transporting, Delivery, Reporting, so that customers can have their needs met and feel satisfied with the services provided by PT Pos Indonesia. Improvement of Digital Literacy Variable is done by improving indicator X3.1 Employees are able to operate Digital Devices. The solution needs to be training so that all employees understand the Digital Device application. Improvement of Business Process Innovation Variable by improving the indicator with the lowest value is Y8. The company serves customers personally.

The recommendation is that a special room should be provided to provide corporate customer service, in which chairs, tables and air conditioning are provided. Improvement of Company Performance Variable is done by improving the indicator with the lowest value is Z4 (market share controlled). This indicates that the company's market share has not increased. The recommendation is that every Employee in the Company is asked to promote the results of their company's performance so that the public becomes more aware of the company's performance achievements.

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