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The Impact of Implementing Digital Transformation and Information Technology on Mydepo Application Towards Operation Smoothness at Pelni Logistics

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Abstract: Pelni Logistic has adapted with a digital application namely MyDepo. The use of the MyDepo application in Pelni Logistics operations facilitate reporting and ship route tracking processes and improve the accuracy of the data needed by the company, replacing the previously time-consuming and labor-intensive manual methods. Therefore, this research explores the impact of digital technology development on the logistics industry, especially digital transformation and information technology on operation smoothness. This research using quantitative methods and collecting data through questionnaire surveys for analysis and the method of sampling is simple regression. Data is processed using SPSS tools, and the sample consists of 50 employees from Pelni Logistic offices in Jakarta, Surabaya, and Bitung. The findings of this research show that all hypotheses have positive and significant effects, demonstrating the role of digitalization in enhancing operational performance.

Keyword: Container Movement, Tracking Ship Route, Employee Performance, Digital Transformation, Pelni Logistic.

INTRODUCTION

Digitalization is bound to impact logistics and supply chain procedures in the future. But the key problem related to corporate operations and future social and economic competitiveness will be how digitization is applied, particularly with regard to how human workers are included and equipped for these changes (Kersten et al., 2017).

The development of digital technology has brought significant changes in various industrial sectors, including the logistics sector. Digitalization in logistics operations refers to the application of information and communication technology to increase efficiency, accuracy and speed in logistics processes, starting from inventory management, delivery of goods, to managing operation data in logistics companies BANTACUT, (2018). Digitalization is the process of starting a digital business by using digital technology to

change the business model and offer new revenue and value generation opportunities Sanchez-Gonzalez et al., (2019). The use of a digital-based performance management system has been proven to increase the efficiency and effectiveness of performance appraisals (Atatsi et al., 2019).

According to Damastara & Sitohang, (2020), employee competency is the ability to think critically and act decisively in work situations in a productive and efficient way. To fulfill corporate goals and contribute value, companies must maximize employee potential Yong et al., (2020). Effective employee performance can enhance organizational goals, while bad performance might result in losses for the Corporation Milliana et al., (2023). In the age of globalization and intensifying rivalry, the value of employee performance is becoming more apparent (Atatsi et al., 2019).

Accurate and timely reporting is critical to ensure smooth operations and customer satisfaction. Traditional manual reporting often takes a lot of time, is prone to human error, and is difficult to integrate with other systems Neumann et al., (2021). Digitalization offers a solution to overcome this problem by utilizing technologies such as the Internet of Things (IoT), Big Data, artificial intelligence (AI), and cloud-based management systems (Herold et al., 2023).

When it comes to digital transformation, 'transformation' is used to describe the extent of strategic change being implemented in the company. Before the launch of the “MyDepo” application, PT Pelni Logistic did reporting for container movement manually by Microsoft Excel per a day, which makes performance less effective which is time-consuming and prone to human error. Hence, this research will focus on impact after using the "MyDepo" application on employee performances in PT Pelni Logistics.

Literature review

1. Digital Transformation

Digital transformation is a process aimed at improving an enterprise by bringing about significant changes in its characteristics through a combination of information, computing, communication, and connectivity technologies.

Digital transformation, according to S et al., (2024), is the process of using technology to improve consumer interaction, enhance workflows, and optimize individual roles in order to provide better outcomes.

According to Royyana, (2021), digital transformation is a metamorphosis of change / organization that involves multiple fields such as human resources, strategy, process, and structure through the adoption of technology to improve organizational performance. Digitalization boosts productivity by utilizing digital technologies like remote sensors, intelligent machines, big data, and real-time communication, enhancing efficiency, product quality, resource allocation, and customer satisfaction, leading to faster operations.

Digital transformation and technologies that bring new structures, practices, values, attitudes, and beliefs that alter, replace, or enhance established organizational, ecosystem, and industry norms are collectively referred to as digital transformation (Wijoyo et al., 2023).

Essentially, digitization is the process of taking an analog signal and turning it into a digital representation that can be handled or stored electronically. Communication and information are now accessible to everyone, wherever, at any time, through any device, and through any kind of access thanks to digitization (Neumann et al., 2021).

1. 2.2 Information Technology

According to Sutabri, (2014) information technology is a technology that processes data in many different types of ways to produce quality information, precisely information that is relevant, accurate, and timely, and is used for personal, business, and government purposes, as well as strategic decision making.

According to Laudon & Laudon, (2014) information technology is a combination of computer technology, involving hardware and software, used to process and store information, along with communication technologies for information delivery. Information technology is an area of technology that collects, organizes, and processes data in a variety of ways to generate high-quality information that is timely, precise, and relevant to the user. information that may be used for corporate, government, and personal objectives as well as for strategic decision making that is accurate, timely, and relevant (Sari et al., 2018).

Information technology may help businesses enhance efficiency and speed up data processing, analysis, and management Anggraeni & Elan Maulani, (2023). The use of information technology in working environments is critical to ensuring the productivity and effectiveness of the company's business activities. The company expects to use information technology to increase service quality and assist it accomplish its company objectives. The use of information technology must be accompanied by proper and appropriate management in order to mitigate potential risks (T. Amani et al., 2017).

One element that may affect operation smoothness is technology. Technology can aid in improving the production process' efficacy and efficiency so that more can be produced with the same input. In addition, technology can be used to develop new goods and services that raise the economy's added value.(Ningsih, 2024).

2. Operation Smoothness

In Kusuma, (2023) research, operation smoothness is when the system or equipment has the ability to work in an effective and efficient way without significant interruption or obstacles within a period of time that has been determined.

Operation management is an enterprise that provides value to business efficiency by grouping various processes such as planning, processing, providing services, supervising, and controlling to ensure that all interests operate smoothly (Antou et al., 2018).

According to Worang et al., (2022), management is beneficial for carrying out operation activities since it attempts to determine decisions by organizing and coordinating efforts to use resources from production activities in order to create an organization that is both effective and efficient.

According Dianti, (2023) Operation management is the practice of using functions management in a sustainable and effective way to integrate different resources effectively in order to achieve goals. The difficulties involved in creating and overseeing a productive and successful manufacturing system are related to operation management Benny et al., (2023). Operation management is the use of management principles to plan production processes for maximum effectiveness and efficiency (Alamsyah et al., 2023).

Table 1. Measurement Of Variables

Variable	Operational definition	Operational dimension	Source
Digital Transformation	Digital transformation has led to significant changes in the business landscape, markets, and consumer behavior. Digital transformation helps organizations stay competitive and relevant as the world becomes progressively digital.	1. Advantages 2. Enhancing workflows 3. Optimizing 4. Employee acceptance level 5. Adaptive	(Veritis Group Inc, 2020)
Information Technology	Information technology is a combination of computer technology, involving hardware and software, used to process and store information, along with communication technologies for information delivery.	1. Software (operation, utilization, application) 2. Structure Data (completed data presented) 3. Procedure (system procedure, documentation, reporting) 4. User (people involved in the use of information systems)	(Muslihudin , oktafianto, 2016)

Variable	Operational definition	Operational dimension	Source
Operation Smoothness	Operation management is the practice of using functions management in a sustainable and effective way to integrate different resources effectively to achieve goals.	1. Speed 2. Accuracy 3. Productivity	(Dianti, 2023)

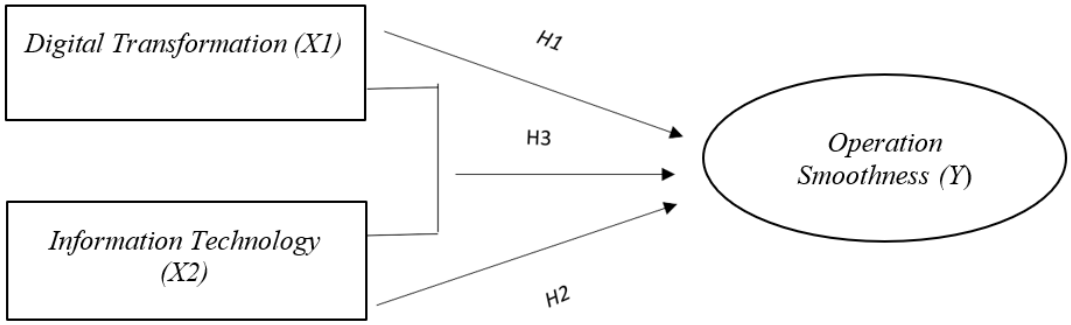

Figure. 1. Hypothesis.

H1: Digital transformation has a direct effect on operation smoothness

States the integration of digital technology has enabled the development of more intelligent, more effective infrastructure, thus improving user experience and operation smoothness Yusri, (2021). Research by Gao et al., (2023) digitalization improves firm performance by reducing external management costs and enhancing internal controls, leading to improved operational smoothness. Masoud & Basahel, (2023) Highlighted the positive impact of digital transformation on firm performance through customer experience and IT innovation, which contributes to smoother operations.

H2: Information Technology has a direct effect on operation smoothness

Technology could significantly improve productivity and management; however, the decision to employ technology must be prudent and balanced. Technology can be a beneficial tool for supporting transforming things in operations and production management Wibowo, (2024). Research by van der Aalst et al., (2018) Investigates the impact of IT implementation on operational performance across multiple sectors. A. Amani, (2021) Investigates how IT can enhance the resilience of supply chains operation smoothness, particularly in the face of disruptions like pandemics or natural disasters.

H3: Implement between Digital Transformation and Information Technology has a direct effect on operation smoothness

As technology advances and data analysis gets more sophisticated, businesses are under pressure to modernize their operation systems while simultaneously leveraging increased ability to innovate. In this era, operation efficiency is critical, with digitalization enabling process automation, lowering manufacturing costs, and improving productivity through the use of technology that lowers human error and allows for more informed decision making Sasmitha et al., (2024). The study from Vărzaru & Bocean, (2024) discusses how advanced technologies such as AI, Big Data, and IoT help automate processes, enhance decision-making, and improve operational smoothness by driving efficiency and innovation. Research by Gupta et al., (2019)focuses on the role of IT in operational workflows, demonstrating how it reduces human error, optimizes processes, and boosts overall operational smoothness.

METHOD

Research Design

The type of research used is quantitative descriptive research. The data used in this study is primary data collected directly through a questionnaire with a Likert scale containing variables related to Digital Transformation, Information Technology, Operation Smoothness.

Population and Sample

The population for this research consists of 50 Pelni Logistics employees who are users of the MyDepo application. Given the relatively small population size, the study used Saturation Sampling, which involves including the entire population in the sample. This method ensures comprehensive data collection and analysis, capturing the full scope of employee experience and perspectives.

Data Analysis Tools

Data collected from the survey were analyzed using SPSS software. The use of SPSS enabled the researchers to efficiently manage, process, and interpret the survey data to draw meaningful conclusions about the acceptance, employee experience, productivity, and workflow enhancements associated with the MyDepo application.

RESULTS AND DISCUSSION

Test Validity & Reliability

Validity test was carried out using SPSS version 27 for MacBook. Validity test was calculated by comparing the r count value with the rtable value at the error level of 5% for the degree of freedom (df) = n-2, provided the test results of the questionnaire statement are declared valid if r count> rtable PARDEDE & MANURUNG, (2014). According to (Sugiyono, 2017) in his research, the reliability calculation used was by using the Cronbach alpha method. The reliability test was carried out concerning Cronbach's alpha, which had a reliability level of 0.6

Table 2. Results Test Validity and Reliability

No.	Variable	Items	Counted	Cronbach Alpha	Rtabel	Cronbach Alpha Standart	Explanation	
1	Digital Transformation (X1)	X1.1	0.837	0.813	0.2787	0.60	Valid	Reliable
		X1.2	0.808	0.824			Valid	
		X1.3	0.793	0.830			Valid	
		X1.4	0.757	0.844			Valid	
		X1.5	0.808	0.832			Valid	
2	Information Technology (X2)	X2.1	0.819	0.906	0.2787	0.60	Valid	Reliable
		X2.2	0.887	0.879			Valid	
		X2.3	0.878	0.882			Valid	
		X2.4	0.887	0.880			Valid	
		X2.5	0.831	0.899			Valid	
3	Operation Smoothness (Y1)	Y1.1	0.908	0.892	0.2787	0.60	Valid	Reliable
		Y2.2	0.896	0.890			Valid	
		Y3.3	0.791	0.918			Valid	
		Y4.4	0.862	0.899			Valid	
		Y5.5	0.886	0.892			Valid	

Source: Processed based on the results of questionnaire data, 2024

The researcher distributed questionnaires to 50 respondents, df = 50-2 or df = 48 with alpha (5% = 0.05) then the validity rtable was 0.2787. Based on the rtable, the criteria in this study, the instrument is declared valid if r count> 0.2787 and the instrument is invalid if r count <0.2787. The reliability test results in table 2, then each variable produces an alpha

value that exceeded the Cronbach alpha value of 0,60. So it can be concluded that indicators and questionnaires can be trusted or consistent.

Analysis of Multiple Linear Regression Equation*s*

According to PARDEDE & MANURUNG, (2014), It is generally recognized that in multiple regression, two independent variables have an impact on the dependent variable (Y), which is operation smoothness. The independent variables in this case are digital transformation (X1) and information technology (X2).

Table 3. Equation of Multiple Linear Regression and Test t

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constatnt)	3.155	2.653		1.189	.240
	Digital Transformation	.286	.117	.265	2.443	.018
	Information Technology	.579	.106	.589	5.439	.000

a. Depemdent Variable: Operation Smoothness

Based on data analysis using SPSS 27, the regression equation result was obtained as follows:

Y = 3.155 + 0.286 X1+0.579 X2

The multiple linear regression equation means that everyone scored on variable XI (Digital Transformation) is 0,286, followed by increasing of variable Y (Operation Smoothness) is 3.155 with the assumption variable X2 (Information Technology) in constant condition.

Every increase of one score in variable X2 (Information Technology) is 0.579 followed by increasing variable Y (Operation Smoothness) is 3.155.

Results Test T (Significant Parsial)

Table 4. Test T (Significant Parsial)

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constatnt)	3.155	2.653		1.189	.240
	Digital Transformation	.286	.117	.265	2.443	.018
	Information Technology	.579	.106	.589	5.439	.000

a. Depemdent Variable: Operation Smoothness

From the results of table 4, the t value for X1 (Digital Transformation) is 2.443 while the t table value is 2.012, it is concluded that t count 2.443> t table 2.012 and a significant value of 0.018 is smaller than 0.050. So that the hypothesis is known that there is a significant influence between Digital Transformation on Operation Smoothens (H1 accepted). This means that partially there is a significant influence between Digital Transformation on Operation Smoothens.

From the results of table 4, the t value for X2 (Information Technology) is 5.439 while the t table value is 2.012, it is concluded that t count 5.439> t table 2.012 and a significant value of 0.000 is smaller than 0.050. So that the hypothesis is known that there is a significant influence between X2 on Y (H2 accepted). This means that partially there is significant influence on Information Technology Operation Smoothens.

Results Test F (Simultaneous)

This test was carried out by comparing the significance of Fcount> Ftable According to PARDEDE & MANURUNG, (2014) the formulated model is appropriate, by looking at the value of Ftable = F(5%;k;n-k-1) = F(5%;2;50-2-1) = F(5%;2;47) = 3.2

Table 5. Test F (Simultaneous)

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	150.127	2	75.063	29.314	.000[b]
	Residual	120.353	47	2.561		
	Total	270.480	49			

a. Dependent Variable: Operation Smoothness
b. Predictors: (Constant), Information Technology, Digital Transformation

Based on Table 5, the statistical results of the f test for the Digital Transformation and Information Technology variables obtained the calculated F value of 29.314 and a significance value of 0.000 Meanwhile, the f table value is 3.2 with a significance level of 0.05. Therefore, the results show that Digital Transformation and Information Technology obtained the value of f count greater than ftabel, namely 29.314> 3.2. It is concluded that the Digital Transformation and Information Technology variables simultaneously have a significant effect on the level of significance acceptance of 0.05, which means 0.001 <0.05. Thus, it can be concluded that the variables of Digital Transformation and Information Technology together or simultaneously have a significant effect on Operation Smoothness.

Coefficient of Determination

According to (Martini et al., 2020.), The coefficient of determination test evaluates the model's capacity to explain fluctuations in dependent variables. The coefficient of determination falls between 0 and 1 (0-1). A small R2 value indicates that the independent variables' ability to explain fluctuations in the dependent variable is quite limited.

Table 6. Equation of Multiple Linear Regression and Test t Coefficients[a]

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.745[a]	.555	.536	1.600

a. Predictors: (Constant), Information Technology, Digital Transformation

Based on table 6, The coefficient of determination found in the R Square had value of 0.55, meaning the independent influence (X) on the dependent variable (Y) was 55,5% while remaining 45,5%.

CONCLUSION

The implementation of the MyDepo application at PT Pelni Logistics has significantly impacted operation efficiency. It is known that digital transformation affects operation smoothness, The digital transformation has led to smoother workflows, increased productivity, and a high level of employee acceptance, The implementation of information technology affects operation smoothness it is proven in the questionnaire MyDepo application which is easy to use for scheduling tracking and ordering and reporting. Conclude that digital transformation and information technology simultaneously affecting operation smoothness. The findings suggest that the adoption of advanced technology has a direct and positive influence on operation outcomes, validating the strong relationship between digital

tools and enhanced performance. Overall, the MyDepo application has proven to be an asset in optimizing logistics operations at PT Pelni Logistics.

REFERENCES

Alamsyah, A. R., Jessen, J., Kharisma, J., Anggraini, R., & Muliati, S. S. (2023). Analisa Penerapan Sistem Manajemen Operasional Pada PT. Unilever Tbk. Jurnal Ekonomi, Akutansi Dan Manajemen Nusantara, 1(2), 72–79. https://doi.org/10.55338/jeama.v1i2.20

Amani, A. (2021). The Impact of Information Technology Skills on Organizational Performance with the mediating role of organizational agility. Research Journal of Management Reviews, 6(2), 52–57. http://www.rjmrjournal.com

Amani, T., Vidiyastutik, E. D., & Hudzafidah, K. (2017). Dampak Teknologi Informasi Terhadap Audit. Prosiding Seminar Nasional Dan Call For Paper Ekonomi Dan Bisnis, 2017, 27–28.

Anggraeni, R., & Elan Maulani, I. (2023). Pengaruh Teknologi Informasi Terhadap Perkembangan Bisnis Modern. Jurnal Sosial Teknologi, 3(2), 94–98. https://doi.org/10.59188/jurnalsostech.v3i2.635

Antou, L. S., Timmy, P., & Tulung, J. E. (2018). Penerapan Manajemen Risiko Pada Pt. Bank Sulutgo. Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi, 6(3), 1168–1177.

Atatsi, E. A., Stoffers, J., & Kil, A. (2019). Factors affecting employee performance: a systematic literature review. Journal of Advances in Management Research, 16(3), 329–351. https://doi.org/10.1108/JAMR-06-2018-0052

BANTACUT, T. (2018). LOGISTIK 4.0 Dalam Manajemen Rantai Pasok Beras Perum BULOG. Jurnal Pangan, 27(2), 141–154. https://doi.org/10.33964/jp.v27i2.371

Benny, Hasan, G., F, D., Jessica, Jessy, P, N. S., & Rovina. (2023). Analisis Manajemen Operasional, Hubungan Pelanggan dan Pemasaran Digital pada PT Astra Honda Motor. YUME : Journal of Management, 6(2), 648–658.

Damastara, A., & Sitohang, S. (2020). Pengaruh pelatihan, lingkungan kerja dan kompetensi terhadap produktivitas kerja karyawan. Jurnal Ilmu Dan Riset Manajemen, 9(11), 1–14. http://jurnalmahasiswa.stiesia.ac.id/index.php/jirm/article/view/3696

Dianti, Y. (2023). Manajemen Operasional. Angewandte Chemie International Edition, 6(11), 951–952., 5–24. http://repo.iain-tulungagung.ac.id/5510/5/BAB 2.pdf

Gao, D., Yan, Z., Zhou, X., & Mo, X. (2023). Smarter and Prosperous: Digital Transformation and Enterprise Performance. Systems, 11(7). https://doi.org/10.3390/systems11070329

Gupta, V., Dwivedi, S. K., Dabral, R., & Jain, A. (2019). Progression Modelling for Online and Early Gesture Detection. Proceedings - 2019 International Conference on 3D Vision, 3DV 2019, 289–297. https://doi.org/10.1109/3DV.2019.00040

Herold, S., Heller, J., Rozemeijer, F., & Mahr, D. (2023). Dynamic capabilities for digital procurement transformation: a systematic literature review. International Journal of Physical Distribution and Logistics Management, 53(4), 424–447. https://doi.org/10.1108/IJPDLM-12-2021-0535

Kersten, W., Blecker, T., & Christian, R. M. (2017). Digitalization in supply chain management and logistics: Smart and Digital Solutions for an Industry 4.0 Environment. In Proceedings of the Hamburg International Conference of Logistics (HICL), No. 23. https://doi.org/10.15480/882.1442

Kusuma, A. (2023). Evaluasi Pelaksanaan Penanganan Suku Cadang Guna Kelancaran Operasional Kapal MT. Pancaran 120.

Laudon, K. C., & Laudon, J. P. (2014). Manajemen Information System: Managing the Digital Firm. In New Jersey: Prentice Hall.

Martini, R., Sriwijaya, P. N., Sueb, M., Padjajaran, U., Hidayat, N., Indonesia, U. P., Fuadah, L., Sriwijaya, U., Widarsono, A., Indonesia, U. P., Tadulako, U., Winarno, W. W., Akuntansi, J., Negeri, P., Akuntansi, J., & Negeri, P. (n.d.). J r t a.

Masoud, R., & Basahel, S. (2023). The Effects of Digital Transformation on Firm Performance: The Role of Customer Experience and IT Innovation. Digital, 3(2), 109–126. https://doi.org/10.3390/digital3020008

Milliana, Andry Stepahnie Titing, & Hendrik, H. (2023). the Influence of Work Discipline and Compensation on Employee Performance. Multifinance, 1(2), 81–94. https://doi.org/10.61397/mfc.v1i2.48

Muslihudin dan oktafianto, M. (2016). Analisis dan Perancangan Sistem Informasi (A. Pramesta (ed.)). Penerbit Andi. https://books.google.co.id/books?hl=en&lr=&id=2SU3DgAAQBAJ&oi=fnd&pg=PR3&dq=info:C5SUxhXrpOcJ:scholar.google.com&ots=T1lW4uTXUS&sig=00T4n_FkxByCfacSHLL13rQthxk&redir_esc=y#v=onepage&q&f=false

Neumann, W. P., Winkelhaus, S., Grosse, E. H., & Glock, C. H. (2021). Industry 4.0 and the human factor – A systems framework and analysis methodology for successful development. International Journal of Production Economics, 233(September 2020), 107992. https://doi.org/10.1016/j.ijpe.2020.107992

Ningsih, S. R. (2024). Pengaruh Teknologi Terhadap Produktivitas Tenaga Kerja di Indonesia. Benefit: Journal of Bussiness, Economics, and Finance, 2(1), 1–9. https://doi.org/10.37985/benefit.v2i1.341

PARDEDE, R., & MANURUNG, R. (2014). Analisis Jalur (Path Analysis) Teori dan Aplikasi Dalam Riset Bisnis (Cet. 1). PT. Rineka Cipta.

Royyana, A. (2021). Strategi transformasi digital pada pt. Kimia farma (persero) tbk. Journal of Information Systems for Public Health, 5(2), 15. https://doi.org/10.22146/jisph.34179

S, D. S. N., Pembangunan, U., Veteran, N., Timur, J., Z, M. R. N., & Indira, S. (2024). DAN BISNIS DI ERA DIGITAL Universitas Pembangunan Nasional " Veteran " Jawa Timur Universitas Pembangunan Nasional " Veteran " Jawa Timur. 1(5), 8–16.

Sanchez-Gonzalez, P. L., Díaz-Gutiérrez, D., Leo, T. J., & Núñez-Rivas, L. R. (2019). Toward digitalization of maritime transport? Sensors (Switzerland), 19(4). https://doi.org/10.3390/s19040926

Sari, N. A., Septiani, R. M., Simarmata, J., Apriyadi, D., & Sakti, R. D. (2018). The Implementation of Aerotropolis and Eco-Airport Concept Towards Kertajati International Airport Introduction. Advance in Transportation and Logistics Research, 1, 924–934.

Sasmitha, I. D., Safitri, C. A., & Kusmayati, N. K. (2024). Masa Depan Industri : Dampak Transformasi Digital pada Operasional dan Inovasi. Tamilis Synex: Multidimensional Collaboration, 2(1), 509–516.

Sugiyono. (2017). Metode penelitian kuantitatif, kualitatif, dan R&D. ALFABETA. https://elibrary.bsi.ac.id/readbook/206060/metode-penelitian-kuantitatif-kualitatif-dan-r-d.html

Sutabri, T. (2014). Pengantar teknologi informasi. Andi Offset. https://elibrary.bsi.ac.id/readbook/200775/pengantar-teknologi-informasi

van der Aalst, W. M. P., Becker, J., Bichler, M., Buhl, H. U., Dibbern, J., Frank, U., Hasenkamp, U., Heinzl, A., Hinz, O., Hui, K. L., Jarke, M., Karagiannis, D., Kliewer, N., König, W., Mendling, J., Mertens, P., Rossi, M., Voss, S., Weinhardt, C., … Zdravkovic, J. (2018). Views on the Past, Present, and Future of Business and

Information Systems Engineering. Business and Information Systems Engineering, 60(6), 443–477. https://doi.org/10.1007/s12599-018-0561-1

Vărzaru, A. A., & Bocean, C. G. (2024). Digital Transformation and Innovation: The Influence of Digital Technologies on Turnover from Innovation Activities and Types of Innovation. Systems, 12(9), 359. https://www.mdpi.com/2079-8954/12/9/359

Veritis Group Inc. (2020). Importance and Benefits of Digital Transformation. Whitepaper, 1–20.

Wibowo, I. (2024). Application of technology in operational management. Jurnal Multidisiplin Sahombu, 4(01), 18–25. https://ejournal.seaninstitute.or.id/index.php/JMS/article/view/4022%0Ahttps://ejournal.seaninstitute.or.id/index.php/JMS/article/download/4022/3205

Wijoyo, A., Rizkiyah, L., Mukmin, S. Al, & Dumilah, T. C. (2023). Peran Sistem Informasi Manajemen Dalam Transformasi Digital Perusahaan. TEKNOBIS : Jurnal Teknologi, Bisnis Dan Pendidikan, 1(2), 1–7. https://jptam.org/index.php/jptam/article/view/5305

Worang, C. W., Pangemanan, F., & Undap, G. (2022). Sinergitas Operasional Satuan Tugas Dalam Mengatasi Pandemi Covid-19 Di Kabupaten Minahasa Tenggara. Jurnal Governance, 2(1), 1–12.

Yong, J. Y., Yusliza, M. Y., Ramayah, T., Chiappetta Jabbour, C. J., Sehnem, S., & Mani, V. (2020). Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. Business Strategy and the Environment, 29(1), 212–228. https://doi.org/10.1002/bse.2359

Yusri, M. (n.d.). Terminal Di Era Digital. 1–13.