

Analysis SAP Implementation Inventory Logistics and Implications Companies Performance CV. Jati Visions Raya

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Abstract

CV. Jati Visions Raya has used information technology in its company, namely System Application and Product in Data Processing (SAP) to facilitate its business operations, one example is recording inventory, but there is an imbalance between the amount of inventory in SAP and in the warehouse. the researcher was encouraged to conduct research which aims to find out analyze, examine more deeply the results of implementing and evaluating SAP in Inventory Logistics and its implications for Companies Performance CV. Jati Visions Raya. This research method uses a qualitative approach with the data used primary and secondary. Primary data obtained through in-depth interviews with informants who served as Logistics Managers, Warehouse Admins, and Finance Managers is a data collection method. In addition, secondary data was obtained from inventory data from January 2024. Fishbone diagrams were used in this investigation to help find potential solutions to the problem and identify the main cause of the problem. The fishbone diagram explained that there are many factors that are the source of the difference in inventory in the warehouse and the SAP system. The investigation resulted in four causal factors: methods or processes, human intervention, raw materials, and machinery or technology. Employee performance always occurs after using SAP, the company's performance improvement becomes very significant, especially in inventory and logistics in seeing the real stock in the field and receiving goods there is a quality control process.

Keywords: *SAP, Inventory, Logistic, Companies Perofmance, Fishbone Diagram*

INTRODUCTION

Effective inventory management is critical to a company's ability to maintain operations and meet consumer demand as much as possible. (Fadhil, Redi, & Lusiani, 2020) argue that, "inventory management can be implemented to determine a more accurate inventory value, so as to minimize company losses". Especially in the context of businesses engaged in the production and trade of products, inventory is often applied to the company's stock of goods (Sulistiyanti, Prasetyawati, & Puteri, 2023). The production process is an important activity for the survival of a business or industry; therefore, effective inventory management is required. Inventory consists of a wide variety of materials and goods supplied by the business, including finished products, raw materials, and work-in-progress. These resources are essential for businesses to operate efficiently and consistently meet consumer demand (Julyanthry et al., 2020). Therefore, companies must be able to manage inventory systems effectively and efficiently in order to strive to provide the best for customers and companies. Whether a business is in the trading or manufacturing sector, inventory is an asset that plays a vital role in the company's operations. A number of business operation procedures are made possible by the inventory system. A company will lose money in the event of a problem with its inventory of goods as it will undoubtedly disrupt current operational processes (Nurhasanah, Siti, Ismatullah, & Sofiani, 2019). Inventory management, which includes raw materials, finished goods, components, auxiliary materials, raw materials, and work-in-process inventory, are the physical economic resources necessary to run production efficiently (Haming, Murdifin Nurnajamuddin, 2017).

The term logistics from various sources is an activity carried out to deliver products to consumers quickly and precisely in order to fulfill needs. Logistics according to Siagian (2007) and Cristopher (2011) (in the book Haming, Murdifin Nurnajamuddin, 2017) is designed to plan, implement and control the progress of procurement, manage and store products (goods 1/2 and finished goods), services as well as information effectively and efficiently from the starting point (origin) to the finished product (place of production), part of the supply chain process. Aims to maximize profits, profitability and satisfy consumer needs. In previous research explained that it is advisable to implement logistics with good management in accordance with the principles of fairness, transparency, accountability, responsibility and independence to be competitive, and improve customer-oriented (Dm, 2023).

The advancement of information technology in the current period is phenomenal, bringing many advantages in every aspect. Many things were previously more labor and time consuming when technological advances were not so fast and substantial. With proper implementation, information technology can facilitate user activities. In today's interconnected corporate world, organizations cannot function without utilizing information technology to improve staff performance in operational tasks. Businesses that have implemented computerized information technology and are supported by other supporting applications can have a positive impact on their business continuity (Febrianti, Wahdiat, & Juwenah, 2021).

Table 1. Data Stock Opname CV. Jati Visions Raya January 2024

Description	Item Group	Stock In SAP	Real	Diff Qty
Aluminium Raw Material	Raw Material	3252.5	3,114.50	-138.00
Rattan Raw Material	Raw Material	6915.674	6,924.57	8.90
Fiber Raw Material	Raw Material	854.90	1,033.82	178.92
Finishing Material	Supporting Material	8,173.22	8,166.46	-6.75
Wood Raw Material	Raw Material	202,736.60	109,737.12	-92,999.47
Finished Goods Report	Finished Goods	3,557.00	7,582.00	4,025.00
Mirror	Raw Material	1,935.00	1,729.00	-206.00

Source: Processed Data (2024)

The case that occurred at CV. Jati Visions Raya (JAVA) is an export and furniture manufacturing company based in Indonesia and is present in the global home decoration market. This company has used information technology in its company, namely System Application and Product in Data Processing (SAP) to facilitate its business operations, one example is recording inventory. Based on Table 1, there is an imbalance between the amount of inventory in SAP and in the warehouse (real). Based on the results of interviews with financial managers at the company said that in the implementation of internal control and information technology there are often obstacles when running SAP by forming internal arrangements to be hampered by the supply of trading products as well without matching the amount in the SAP system with the warehouse.

Enterprise Resource Planning (ERP) is an information system intended for companies to manage company resources using technology. ERP software is an application that can support daily transactions or activities related to sales, finance, human resource management, machinery, spare parts, time and materials (Sumarno & Widijoko, 2020). When supported by various applications and a solid software and hardware computer infrastructure, ERP ideas can run smoothly, facilitating integrated data and information management. Some businesses today use SAP software, which stands for System Application and Product in Data Processing. SAP is a

program that helps businesses automate their processes and improve efficiency. Among the various SAP modules are the ERP application solution SAP ERP Enterprise Core and the e-commerce application suite SAP Business Suite. Other SAP modules include customer relationship management (CRM), supply chain management (SCM), software risk management (SRM), and product lifecycle management (PLM) (Dhewanto & Falahah, 2007). In addition, SAP offers various add-on components that can be used in conjunction with or incorporated into the core product to enhance its usability. World-renowned companies rely on this software because of its reliability. This statement is supported by research (Wahdiat, Syifaudin, Mardi, Nurhadiyati, & Neliana, 2019) shows that technological developments are also followed by the ability of human resources that can support the development of these technologies.

In previous research (Asy, Nurul, Asmar, Hassolthine, & Anna, 2023), at PT Simone Acc Collection (SAC). The use of SAP often occurs when Simone Acc Collection uses the system, which makes raw material inventory management difficult and inappropriate. This research was analyzed using UML as well as Business Process Model and Notation (BPMN). Another previous research (Albar & Winarno, 2023), the assessment was discussed at a heavy equipment service provider based in Bekasi City which specializes in forklift maintenance and repair, to analyze the factors that influence the occurrence of the inventory position discrepancies by using Root Cause Analysis method. To find out what a team or individual has achieved in their work, performance measurement is very important. Worker productivity is directly proportional to the amount of time they need to complete a given task (Haming, Murdifin Nurnajamuddin, 2014). Meanwhile, according to (Julyanthry et al., 2020) Performance appraisal is a process used to assess the effectiveness of labor implementation in an effort to improve the performance of each member of the workforce. The final stage of information system development is system testing carried out at the company by entering inventory-related data such as merchandise data and sales data (Firmansyah, 2022). Referring to the explanation above, the researcher was encouraged to conduct research which aims to find out analyze, examine more deeply the results of implementing and evaluating SAP in Inventory Logistics and its implications for Companies Performance CV. Jati Visions Raya (JAVA) with the help of a fishbone diagram.

RESEARCH METHODS

Analyzing and describing the current System Application and Product in Data Processing (SAP) for Inventory Logistics was the objective. To propose systemic or implementable improvements, it is necessary to conduct this analysis, which describes the flow of information between departments used in identifying and evaluating bottlenecks and problems. This research method uses a qualitative descriptive approach with the data used primary and secondary. Primary data obtained through in-depth interviews with informants who served as Logistics Managers, Warehouse Admins, and Finance Managers is a data collection method. In addition, secondary data was obtained from inventory data from January 2024. The in-depth interview technique is a common technique used to collect data for case studies. The purpose of conducting in-depth interviews is to dig deeper into a phenomenon that is the subject of research (Bado, 2021).

Fishbone diagrams were used in this investigation. Fishbone diagrams are often used to help find potential solutions to problems and identify the main causes of problems. That fishbone diagrams are needed to look at all potential sources and factual source findings related to the problem under discussion (Nursyahbani, Sari, & Winarno, 2023). The fishbone diagram describes the main sources of causes, usually humans (man), methods (method), raw materials (material), measurements, machines (machine), environment (environment), and other causes

(Hana & Pamungkas, 2020). Identify problems that need to be solved and propose solutions to solve these problems. Root Cause Analysis provides a detailed explanation of the root cause of the problem. The problem-solving model five steps, namely (Haq & Purba, 2020):

a. Defining the Problem

This step is the first step that must be taken, before finding the causes and other problems, you must first identify the problem to facilitate the next step.

b. Collecting Data About the Cause of the Problem

After knowing the problem that needs to be solved, the data collection process is carried out. Data collection can be done directly (primary data) and by reviewing available data (secondary data). Data that needs to be known include: How long the incident occurred and what impact occurred after the incident occurred.

c. Identify Possible Causes Occurring

In this step what needs to be done is: Describe the sequence of events that led to the problem, under what conditions the problem occurred, and whether any other problems occurred besides the main problem.

d. Identifying the Root of the Problem

The next step is one that needs to be followed closely to find the root cause of the problem, which can be done using the fishbone diagram technique.

e. Eliminating the Problem and Implementing the Solution

Once these four steps have yielded results, the final step is to provide solutions that can be effectively applied to improve the problem-solving process.

The model used in this study is a conceptual model as follows:

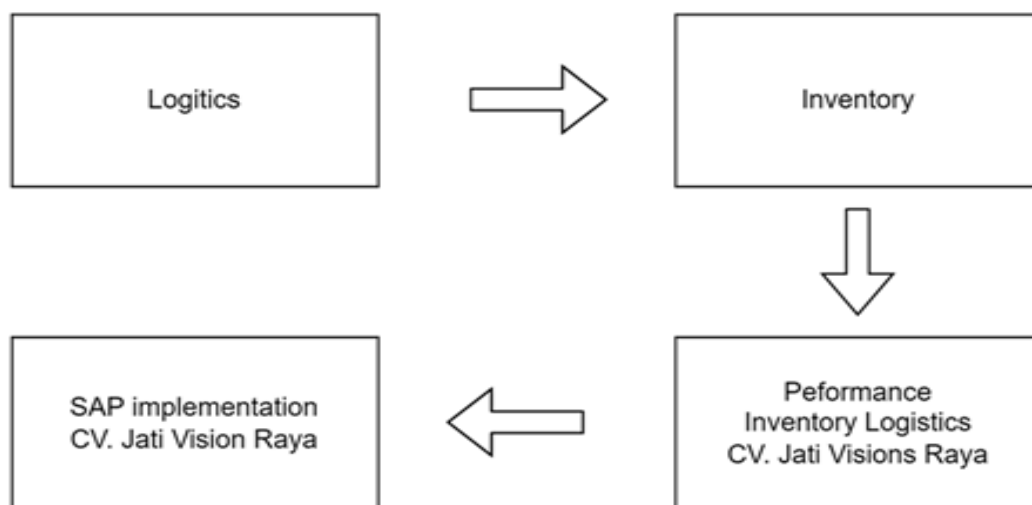


Figure 1. Research Conceptual Model

By describing the literature used (Figure 1), the model allows one to understand the phenomenon that is at the core of the research. Furthermore, the model is created to aid the classification of the problem by identifying a number of related factors corresponding to the lines representing the variables under investigation. The application of the conceptual model will facilitate the simplification of the problem through a reduction in the number of properties required, thus allowing greater attention to be directed to the next problem.

RESULT AND DISCUSSION

Found data and actual goods due to problems in communication between SAP users and warehouse/warehouse staff. This is evident from the results of interviews and observations conducted at CV. Jati Visions Raya. So that a theory is made supporting theory using usecase diagrams and fishbone diagram as a reinforcement in the discussion in accordance with the topic under study. The use of this usecase diagram diagram is intended to see the functional user/user against the system that is system that is used.

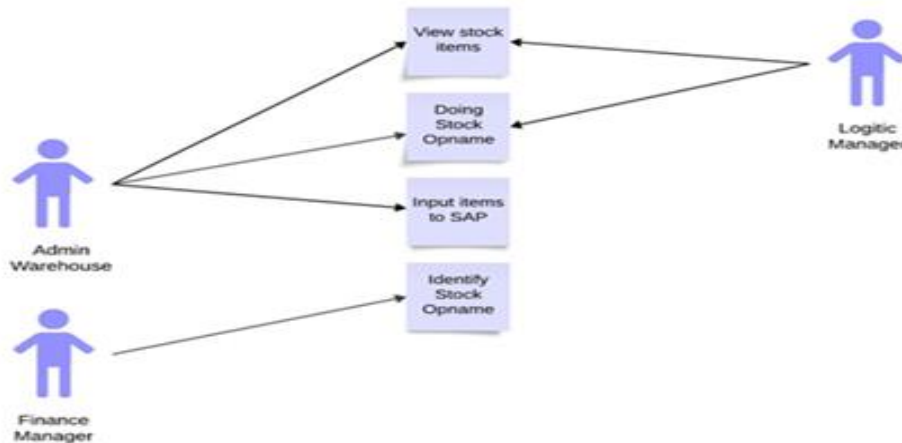


Figure 2. Usecase diagram user requirements

From the interactions carried out by the System Application and Product (SAP) on logistics inventory, there are three users who are interconnected in the system, so that the needs described by the usecase diagram are created (Figure 2). In comparison with previous research, in this company there are three users who are interconnected in this system. User requirements for the system consist of needs Logistic Manger, Admin Warehouse and Finance Manger.

The involvement of SAP users including managers and employees related to monitoring, operating and using information systems has an impact on management and participation in determining the company's success rate in generating profits (Frisdayanti, 2019). Then, in accordance with the subject matter studied, the supporting theory with the Fishbone Diagram serves to decorate the discussion.

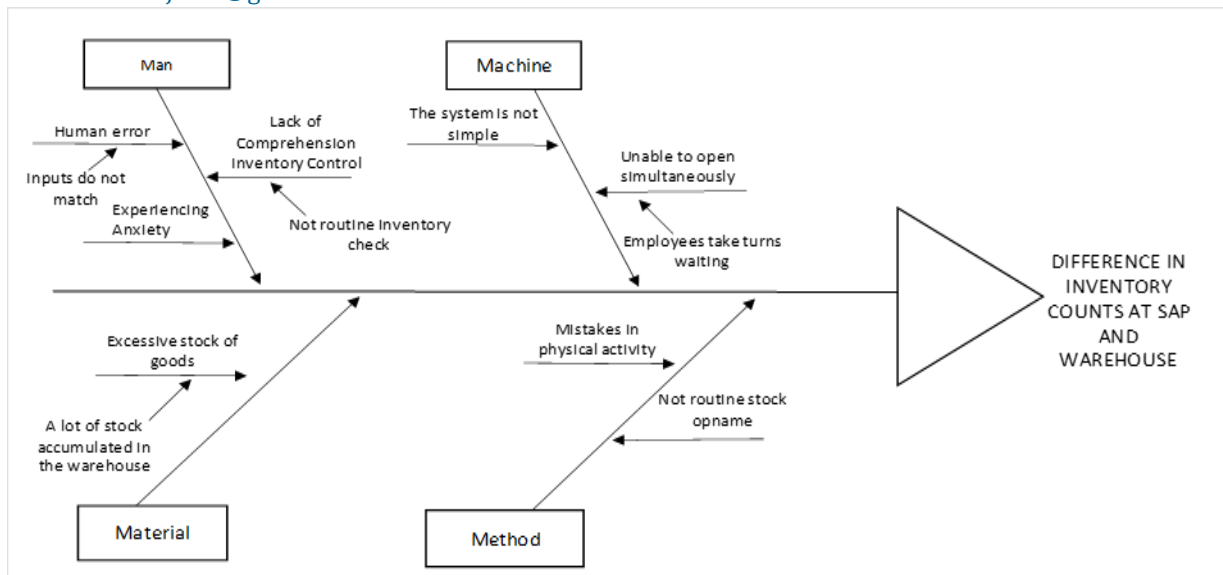


Figure 3. Fishbone Diagram of the causes of problems implementing SAP on the Inventory Logistics System

Discussion

Fishbone diagram can be used to look at all possible causes and find the true cause of the problem. Once the problem and its cause are identified with certainty, it will be easier to take corrective action and improve performance (Saori et al., 2021). Based on Figure 3. illustrates the many factors that contribute to variations in warehouse inventory when using the SAP system. The investigation resulted in four causal factors: methods or processes, human intervention, raw materials, and machinery or technology. Comparison of previous research, three causal factors were obtained, namely Methods, Humans, and Materials. Meanwhile, in this research, a new root cause is added, namely the machine because it uses an information system, namely the SAP system.

The explanation of the Fishbone diagram for the problem of differences in the amount of inventory in SAP and the warehouse is the first problem of humans or users in operating the system and checking goods. In this company, often some users experience unrest about the novelty of the system used so that errors occur in inputting data into the system and lack of comprehension of inventory control.

The second problem is material related to materials or supplies. Often the data presented is too much and not properly categorized due to too much inventory piling up in the warehouse. This makes the financial manager confused in reading and understanding the data presented. As a result, decisions taken are often wrong because the data or information provided is irrelevant. The problems faced by this company are related to information that is not of good quality, including inaccurate and untimely data.

The next problem is the machine or tool used in presenting the data needed by the company. The information presented cannot describe the condition of the company in real-time. This is because the system used is not easy to use or understand by several users and the system used cannot be opened simultaneously at a certain time.

The last problem is the method or process, where in its implementation there are physical activity errors and not routine in stock-taking. This can result in invalid information due to data differences and information is not presented on time. Elimination of these factors is necessary to build an optimized warehouse system. To solve the above-mentioned problems, improvements and solutions are needed that can reduce the factors responsible for inventory mismatches. As a result, the author proposes solutions to the above-mentioned problems in the following table 2.

Recommended Solution

Table 2. Recommended solutions for SAP implementation problems in the Inventory Logistics System

Factors	Cause	Effect	Reccomendation
Man	Human error	Inputs do not match	Conduct periodic evaluations
	Lack of Comprehension Inventory Control	Not routine inventory check	Providing training on inventory control
	Experiencing Anxiety		DIFFERENCE IN INVENTORY COUNTS AT SAP AND WAREHOUSE Conduct periodic evaluations
Machine	The system is not simple		Providing in-depth training on SAP operation
	Unable to open simultaneousy	Employees take turns waiting	Adding users for the input process so that work is on time
Material	Excessive stock of goods	A lot of stock accumulated in the warehouse	Labeling items that are still in use
Method	Mistakes in physical activity		Improving work standards
	Not routine stock opname		Perform routine scheduling of inventory counting activities

Companies Performance CV. Jati Vision Raya Before and After Using SAP

Based on interviews that have been conducted, employee performance always occurs after using SAP, the company's performance improvement becomes very significant, especially in inventory and logistics in seeing real stock in the field and receiving goods there is a quality control process. "Provides a significant advantage because it can present appropriate data to be used as a reference and the role of SAP can optimize inventory and logistics data processing" according to the source. Many changes occur in employees who are of course SAP users, namely (1) quality changes: previously calculating inventory still uses manual methods but now changes to information system technology, (2) faster work: because using information system technology now works faster because it is systemized and accurate data, and (3) targets achieved: for example, the target once a month for inventory inspection can be achieved. This is inseparable from the development of a system built from synergistic effects that can be achieved starting from small parts to large parts in the company.

The main challenges faced in implementing SAP for inventory management and logistics that have been discussed in the fishbone diagram according to the interview are from the SAP application system which is not easy to operate and the SAP user cannot be opened at the same

time, “SAP system users cannot be opened at the same time because of the limited devices they have” according to the informant and so this has an impact on SAP users or employees themselves, namely, “Many employees are not careful in inputting data so that the data does not match and becomes untimely” according to the informant. This mismatch in the application of SAP can affect operational efficiency in inventory and logistics, because there is a buildup of inventory in the warehouse and data mismatches, there is an error between what is usually in the purchasing and warehouse sections, because the instock contained in SAP from the purchasing section to order / buy goods. An example of a case is if the purchasing department needs semi-finished goods for consumer needs, technically the item is still in stock in SAP but because of an error so that the existing stock is not inputted.

In a previous research results show that employee performance is influenced by the quality of work, contribution and quantity that will be achieved if supported by the use of applications to work more efficiently and effectively. This can be seen from the perceptions of employee respondents who have used the HR information system application which states that work will be of quality if supported by the use of technology in their work (Wijonarko, 2021). Research conducted (Butarbutar, Handayani, Suryono, & Wibowo, 2023), a study conducted to ascertain the determinants of success that contribute to the integration of ERP systems, as follows: First, it is imperative for top management or leaders to be actively involved in the ERP project from inception to post-implementation. Second, companies embarking on ERP system implementation should prioritize effective and interactive communication for post-implementation oversight. Third, assessing the ERP system post implementation enables the collection of valuable data addressing anticipated challenges.

CONCLUSION

Based on the results of the fishbone diagram and the discussion carried out, it is found that the obstacles to the application of SAP in the logistics inventory system of CV. Jati Visons Raya are found if there are four indicators with the source of the difference in the number of places and in SAP. The first factor is machine/technology, namely the SAP system which is not easy and cannot be opened at the same time. The second indicator is an individual with a lack of attention to control control, then connected to a system that indicates that there is a mismatch of employees in inputting (human error) and employees experience anxiety about the system. The third factor is the raw material referred to here is the inventory materials that accumulate in the warehouse. The fourth factor is the method, namely errors in physical activities in data entry errors and non-routine inventory checks.

REFERENCES

- Albar, M., & Winarno, W. (2023). Analisis Penyebab Terjadinya Selisih Jumlah Persediaan Suku Cadang di Gudang Perusahaan Jasa Alat Berat. *Jurnal Serambi Engineering*, 8(3), 6365–6370. <https://doi.org/10.32672/jse.v8i3.6247>
- Asy, F., Nurul, S., Asmar, K., Hassolthine, C. R., & Anna, M. (2023). ANALISA SISTEM APLIKASI DAN PROSES PADA INVENTORY LOGISTICS PT . SIMONE ACCESSARRY COLLECTION Faster economic development increases competition . Companies compete to improve their performance and gain a competitive advantage . One widely used tech. *JOISIE Journal Of Information System And Informatics Engineering*, 7(2),

- Bado, B. (2021). Model Pendekatan Kualitatif: Telaah Dalam Metode Penelitian Ilmiah. In *Pengantar Metode Kualitatif*.
- Butarbutar, Z. T., Handayani, P. W., Suryono, R. R., & Wibowo, W. S. (2023). Systematic literature review of Critical success factors on enterprise resource planning post implementation. *Cogent Business and Management*, 10(3). <https://doi.org/10.1080/23311975.2023.2264001>
- Dhewanto, W., & Falahah. (2007). *ERP (Enterprise Resource Planning) Menyelaraskan Teknologi Informasi dengan Strategi Bisnis*. Bandung: Informatika Bandung.
- Dm, S. (2023). The Influence Of Logistic Management, Governance, And Social Responsibility On Competitiveness And Operational Performance Of Manufacturing Companies At Makassar Industrial Estate. *Jurnal Manajemen Industri dan Logistik (JMIL)*, 7(1), 165–176. Diambil dari <http://doi.org/10.30988/jmil.v7i1.1180165><http://jurnal.poltekapp.ac.id/>
- Fadhil, R. A., Redi, A. A. N. P., & Lusiani, M. (2020). Jurnal Manajemen Industri dan Logistik BAHAN BAKU DI OUTLET PERUSAHAAN XYZ. *Jurnal Manajemen Industri dan Logistik*, 04(02), 157–168.
- Febrianti, K. F., Wahdiat, I. S., & Juwenah, J. (2021). Pengaruh Kecanggihan Teknologi Informasi, Dukungan Manajemen Puncak Dan Kompetensi Karyawan Akuntansi Terhadap Efektivitas Sistem Informasi Akuntansi. *Jurnal Riset Keuangan dan Akuntansi*, 6(1), 20–38. <https://doi.org/10.25134/jrka.v6i1.4375>
- Firmansyah, R. D. (2022). Perancangan Sistem Informasi Manajemen Persediaan UD. X. *Jurnal Riset Teknik Industri*, 2(1), 47–56. <https://doi.org/10.29313/jrti.v2i1.940>
- Frisdayanti, A. (2019). Peranan brainware dalam sistem informasi manajemen. *Jurnal Ekonomi dan Sistem Informasi*, 1(1), 60–69. <https://doi.org/10.31933/JEMSI>
- Haming, Murdifin Nurnajamuddin, M. (2014). MANAJEMEN PRODUKSI MODERN Operasi Manufaktur dan Jasa Buku Ke-1. In Y. S. Hayati (Ed.), 1 (3 ed.). Jakarta: Bumi Aksara (Perpustakaan Nasional).
- Haming, Murdifin Nurnajamuddin, M. (2017). MANAJEMEN PRODUKSI MODERN Operasi Manufaktur dan Jasa Buku Ke-2. In R. Syamsiah, Nur, Darmayanti (Ed.), 2 (3 ed.). Jakarta: Bumi Aksara (Perpustakaan Nasional).
- Hana, S. D. P., & Pamungkas, S. A. (2020). Perbaikan Selisih Stock Gudang Smt Pada Sistem Erp Microsoft Dynamics Ax Menggunakan Metode Fishbone. *Jurnal Jaring SainTek*, 2(2), 25–33. <https://doi.org/10.31599/jaring-saintek.v2i2.328>
- Haq, I. S., & Purba, M. A. (2020). Kajian Penyebab Kerusakan Door Packing pada Tabung Sterilizer Menggunakan Metode Root Cause Analysis (RCA) di Sungai Kupang Mill. *Jurnal Vokasi Teknologi Industri (Jvti)*, 2(2). <https://doi.org/10.36870/jvti.v2i2.177>
- Julyanthry, Siagian, V., Asmeati, Simanullang, Abdurrozzaq Hasibuan Ramses Pandarangga, Adi Papa Purba, S., Purba, B., & Pintauli, Rolyana Ferinia Rahmadana, Muhammad Fitri M, E. A. S. (2020). *Manajemen Produksi dan Operasi* (J. Simarmata, ed.). Medan: Yayasan Kita Menulis.
- Nurhasanah, Siti, Ismatullah, I., & Sofiani, V. (2019). Analisis Penerapan Sistem Informasi Akuntansi Persediaan Obat Dalam Pencegahan Kecurangan Pada Puskesmas Jampangkulon, Puskesmas Cibitung, Puskesmas Surade dan Puskesmas Buniwangi. *Jati: Jurnal Akuntansi Terapan Indonesia*, 2(2), 52–58. <https://doi.org/10.18196/jati.020218>
- Nursyahbani, Z., Sari, T. E., & Winarno, W. (2023). Usulan Penurunan Kecacatan Piston Cup Forging Menggunakan Fishbone Diagram, FMEA dan 5W+1H di Perusahaan Spare-part Kendaraan. *Go-Integratif: Jurnal Teknik Sistem dan Industri*, 4(01), 22–32. <https://doi.org/10.35261/gijtsi.v4i01.8703>
- Saori, S., Anjelia, S., Melati, R., M, N., Djorghhi, E. R. S., & Ulhaq, A. (2021). ANALISIS

- PENGENDALIAN MUTU PADA INDUSTRI LILIN (Studi kasus pada PD.Ikram Nusa Persada Kota Sukabumi). *Jurnal Inovasi Penelitian*, 1(10), 2133–2138.
- Sulistiyan, F., Prasetyawati, M., & Puteri, R. A. M. (2023). Pengendalian Persediaan Guna Mengoptimalkan Penjualan Berbasis Sistem Informasi Pada Outlet Griya Qurrota. *JISI: Jurnal Integrasi Sistem Industri*, 10(1). <https://doi.org/10.24853/jisi.10.1.53-66>
- Sumarno, D. C., & Widijoko, G. (2020). Implementasi System Application and Product in Data Processing (SAP) dalam Peningkatan Good Corporate Governance (GCG) (Studi Kasus di PT. Japfa Comfeed Indonesia, Tbk Unit Sidoarjo). *Jurnal Ekonomi dan Bisnis*, 1–10.
- Wahdiat, I. S., Syifaudin, A., Mardi, M., Nurhadiyah, S., & Neliana, T. (2019). *Factors that Affect Management Accounting Information Systems and its Implication to the Quality of Management Accounting Information (Cooperative industries at Kuningan Indonesia)*. 65(Icebef 2018), 437–440. <https://doi.org/10.2991/icebef-18.2019.95>
- Wijonarko, G. (2021). Analisis Kinerja, Disiplin, dan Produktivitas Kerja Karyawan Dalam Mempengaruhi Pemanfaatan Sistem Informasi Sumber Daya Manusia. *Teknika*, 10(3), 225–231. <https://doi.org/10.34148/teknika.v10i3.412>