

Research.

Comparative Efficiency of Fleet Management System Versus Transportation Management System on Transportation Vehicle Tracking System Efficiency

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Abstract. *Fleet management is a relevant operational level activity that companies must face. Along with the development of technology, two systems that are often used to improve visibility and efficiency in tracking activities in the transportation industry are Fleet Management System (FMS) and Transportation Management System (TMS). In describing the advantages and disadvantages of each system, this research uses a qualitative approach with comparative analysis. The comparative analysis highlights the differences in priorities between departments at PT Varia Usaha Fabrikasi, where the Head of Driver Management & OHS emphasizes safety and OHS, while the Head of Operations focuses more on operational efficiency. Operations focuses more on operational efficiency. A view from an information technology perspective by the Head of IT concluded that the choice between FMS and TMS depends on current needs and future strategic direction, with FMS being efficient for real-time tracking and TMS providing a strategic data foundation.*

Key words: *Fleet Management System, Transportation Management System, Information System Efficiency*

INTRODUCTION

Background

Fleet management is a significant operational aspect for private companies and public institutions that offer passenger or freight transportation services (Bielli et al., 2015). It involves functions such as vehicle leasing and financing, maintenance, licensing, compliance, supply chain management, driver management, speed management, fuel management, health and safety management, and vehicle remarketing. Transport Management System is software that supports transportation decision making by providing planning, route optimization, and vehicle allocation and scheduling functions (Darmawan & Sutanto, 2023).

In the era of rapid development of information technology, including in the field of transportation and logistics, information systems are needed that can process data quickly, precisely, and accurately according to user needs. The speed and accessibility of information is a key factor in supporting transportation operations. Therefore, efficient operational management is the key to success in running a business smoothly and profitably. Fleet Management System (FMS) and Transportation Management System (TMS) are two systems that are often used to improve visibility and efficiency in tracking activities in the transportation industry (Setyorini et al., 2022).

Fleet Management System (FMS) and Transportation Management System (TMS) are information systems used in the transportation industry. FMS is a system used to manage and monitor vehicles in a flotilla, such as trucks, ships, or airplanes. FMS can provide information about vehicle location, vehicle condition, and fuel usage (Fickri &

Muhammad Choiril Hidayat; Indro Kinoro. Comparative Efficiency of Fleet Management System Vs Transportation Management System on Transportation Vehicle Tracking System Efficiency

Natsir, 2023). Meanwhile, TMS is a system used to manage and monitor transportation activities, such as freight forwarding and logistics. TMS can provide information about delivery routes, delivery times, and shipping costs (Limbong & Sianipar, 2022). Both of these systems can help improve efficiency in the transportation industry.

Fleet Management Systems (FMS) play a crucial role in the management and monitoring of vehicles in various sectors, including transportation and the heavy equipment industry. The system provides a number of advantages, especially in optimizing operational efficiency and increasing fleet productivity. One of the key features of FMS is its ability to provide real-time information on vehicle location, engine condition, and fuel usage (Setyorini et al., 2022). In heavy equipment management, FMS becomes an invaluable tool. By providing real-time data on machine status and performance, managers can make more timely and efficient decisions. For example, information on machine condition can help identify potential problems or maintenance needs, so that preventive measures can be taken before problems become serious. This not only increases machine life but also reduces unplanned downtime, which can impact productivity.

FMS also plays a role in fuel management. By accurately tracking fuel usage, fleet managers can identify consumption patterns and find ways to optimize fuel efficiency. Efficient fuel use not only reduces operational costs but also supports the company's efforts in reducing environmental impact through reduced emissions (Fickri & Natsir, 2023). In addition, FMS provides information on the location of vehicles, allowing managers to optimize route planning. This not only saves travel time but also reduces fuel consumption and optimizes fleet usage. This real-time monitoring also supports quick response to changes in road conditions or traffic situations that may affect travel efficiency.

In the context of the mining industry, where fleet and machine operations have a major impact on costs and productivity, implementing FMS is a strategic move. By utilizing this technology, companies can improve efficiency, reduce operational costs, and achieve sustainability goals through better management of resource use and emissions. It should be recognized that FMS implementation also involves some challenges. The initial investment required, changes in company policies, and personnel training are factors that must be overcome. However, the long-term benefits, such as operational cost savings, increased productivity, and a positive impact on the environment, make this investment a worthwhile move for companies that are serious about efficient management of their fleet.

Transportation Management System (TMS) is an information system that has a vital role in managing and monitoring various transportation activities, especially in the context of freight forwarding and logistics. (Saragih et al., 2020), TMS is not only limited to software related to the business aspects of transportation, but also includes various important functions such as transportation planning, management of freight shipments, shipment monitoring, shipment distribution, and transportation analysis. One of the main characteristics of a TMS is its ability to integrate with other systems, including warehouse management, order management systems, and enterprise resource planning (ERP) systems. This integration allows companies to have comprehensive visibility of their entire supply chain, ensuring optimal linkage and synchronization in every aspect of operations.

The TMS also provides important information regarding delivery routes, delivery times, and delivery costs. With this data, companies can plan and optimize their transportation activities, thereby improving overall efficiency. Successful TMS implementation can be reflected in improved operational performance, reduced logistics costs, and increased customer satisfaction through timely and efficient deliveries. While TMS provides significant benefits in the management of transportation activities, it needs to be recognized that TMS is not specifically focused on managing heavy equipment. This is where Fleet Management System (FMS) becomes relevant. FMS focuses on managing and monitoring vehicles, including heavy equipment, and can provide a number of advantages in improving their efficiency and productivity. By utilizing TMS and FMS together, a company can achieve optimal synergy in managing all transportation operations and vehicle fleets. The integration of these two systems can create deeper

linkages between transportation activities and fleet management, enabling companies to respond quickly to changing market conditions and improve their competitiveness in the logistics and transportation industry.

The researcher was motivated to explore the advantages and disadvantages of each system, and how they affect operational efficiency. This comparison will help readers understand which one suits their business needs and how to integrate these systems to improve their logistics and transportation processes. The purpose of this research is to clearly outline the advantages and disadvantages of each system, so that readers can make informed decisions in selecting and implementing a system that suits the business needs of PT. Varia Usaha Fabrikasi.

Research Question

Transportation Management System and Fleet Management System offer different approaches in managing and tracking assets and vehicles in the supply chain. In this study, the researcher will explore an in-depth comparison between Fleet Management System and Transportation Management System in the context of vehicle tracking activities. From this explanation, the question that arises is, which system among Fleet Management System and Transportation Management System is efficient in transportation system tracking activities?

LITERATURE REVIEW

Transportation Management System

Transportation Management System (TMS) is software that supports companies in managing logistics and the movement of goods through various modes of transportation (Darmawan & Sutanto, 2023). With features such as load planning, load execution, shipment tracking, and dashboards, reporting, and analytics, TMS helps optimize routes, manage freight, and provide real-time visibility into the entire transportation network. The key benefits of TMS involve reduced distribution costs, improved customer satisfaction through delivery responsiveness, and operational efficiency through process automation. With its role in providing operational visibility, easing the delivery process, saving costs, improving customer satisfaction, and increasing efficiency, TMS is key in modern supply chain management (Saragih et al., 2020).

Fleet Management System

Fleet Management System (FMS) is a vehicle management system that aims to improve the efficiency and effectiveness of vehicle usage within a company or organization (Uday & Prasad, 2022). With a focus on reducing operational costs, improving driver safety and comfort, and extending vehicle life, FMS provides benefits in the form of cost savings, increased productivity, reduced accident risk, and customer satisfaction. With its important role, FMS helps optimize vehicle usage, making it a key element in efficient and sustainable vehicle management (Riyandi & Wibowo, 2020).

RESEARCH METHODS

The method in this research is to use a qualitative research approach with a descriptive design. The type of descriptive research method used is *comparative study*. This research is conducted to compare the similarities and differences between two or more facts and properties of the object under study based on a certain framework.

Comparative research is research that intends to compare the value of one or more independent variables in two or more populations, samples or different times or a combination of all (Sugiyono, 2017). Sampling uses purposive sampling or taking samples according to the needs of the researcher. The samples selected were *Fleet Management System* and *Transportation Management System* to conduct a comparative

Muhammad Choiril Hidayat; Indro Kinoro. Comparative Efficiency of Fleet Management System Vs Transportation Management System on Transportation Vehicle Tracking System Efficiency

study of the tracking system or tracking used with a smaller scope, namely both located in Gresik Regency.

The data collection techniques taken in this research are documentary studies, interviews and literature studies. While the data analysis technique used in this research is to use steps, namely; (1) *Data Collection* using interviews and documentation studies; (2) *Data* reduction is carried out by collecting data starting with making summaries, coding, tracing themes, making clusters, writing memos and so on with the intention of setting aside irrelevant data / information; (3) Display data, namely the description of a set of arranged information that provides the possibility of drawing conclusions and taking action; (4) Presentation of qualitative data is presented in the form of narrative text in the form of matrices, diagrams, tables and charts; (5) Verification and confirmation of conclusions (Conclusion Drawing And Verification) Furthermore, the data that has been analyzed, explained and interpreted in the form of words to describe the facts in the field, meaning or to answer research questions which are then taken to their core (Bungin, 2003).

In fulfilling the validity of this research data, triangulation with sources was carried out. According to Patton, triangulation with sources means comparing and cross-checking the degree of trust in information obtained through different times and tools in qualitative research (Moleong, 2007:29). Triangulation with sources carried out in this study is to compare the results of interviews with related documents.

RESULTS AND DISCUSSION

RESULTS

Interview with Mr. Reno (Head of Driver Management & K3)

The interview with Mr. Reno from VUFA provides valuable insights into the company's strategic approach to transportation management, particularly the utilization of the Transportation Management System (TMS) and the exploration of the Fleet Management System (FMS). This in-depth conversation sheds light on the company's commitment to embracing technological advancements for enhancing operational efficiency and addressing challenges. Mr. Reno began by elaborating on the adoption of the Transportation Management System (TMS) within VUFA. The primary objectives of implementing TMS were centered around improving efficiency, measurability, and delivery services. The TMS, as Mr. Reno highlighted, brought forth a range of benefits, including more efficient fleet scheduling, route optimization, and a noteworthy reduction in operational costs. Despite recognizing challenges such as a substantial initial investment and the need for cultural changes within the organization, Mr. Reno emphasized that the long-term advantages far outweighed these hurdles. This perspective underscores VUFA's commitment to leveraging technology for sustained improvements.

The interview then transitioned to the Fleet Management System (FMS), a concept still relatively new to Mr. Reno. The researcher provided a concise definition of FMS, emphasizing its potential to enhance operational efficiency at VUFA. While Mr. Reno acknowledged his limited familiarity with FMS, he expressed genuine interest in its ability to provide improved fleet visibility, monitor vehicle conditions, and enhance maintenance planning effectiveness. This curiosity reflects VUFA's openness to exploring new technologies that could further optimize their operations. As the discussion delved into potential obstacles to FMS implementation, concerns were raised regarding the initial investment, changes in work habits, and potential technical barriers. Researchers emphasized that while these challenges are genuine, the long-term benefits of FMS could represent a crucial step toward improving the efficiency and sustainability of company operations. This demonstrates a balanced approach in considering the potential hurdles while keeping the overarching goal of operational improvement in mind.

The interview concluded with Mr. Reno expressing his intention to discuss the potential implementation of FMS with his team. This openness to further dialogue and potential future considerations showcases VUFA's dynamic approach to technological integration, ensuring that decisions align with the company's overall strategy. In the

broader context of system selection between Fleet Management System (FMS) and Transportation Management System (TMS) for transportation system tracking at VUFA, Mr. Reno's perspective as the Head of Driver Management & OHS (Occupational Health and Safety) holds significant weight. FMS is acknowledged as crucial for real-time tracking of vehicles and drivers to enhance safety and OHS compliance. On the other hand, TMS is seen as a solution focused on operational planning and optimization, providing end-to-end visibility of the supply chain.

Recognizing the advantages of both systems, with FMS ensuring security and live tracking and TMS offering deep strategic insights, Mr. Reno suggested that a combination of the two could be the optimal solution to meet VUFA's comprehensive needs in transportation system tracking. However, he also acknowledged the challenges associated with integrating the two systems and the necessity for team training. This underscores the importance of a well-thought-out strategy to overcome potential obstacles in adopting a dual-system approach. In conclusion, the strategic decision between FMS and TMS at VUFA should be driven by company-specific needs and operational focus. This decision-making process requires careful consideration of the desired benefits and challenges that may arise, recognizing the crucial role both systems play in supporting efficiency and safety in the VUFA transportation system. The ongoing commitment to exploration, discussion, and adaptation to technological advancements positions VUFA as a forward-thinking company in the realm of transportation management.

Interview with Mr. Evan (Head of Operations)

The implementation of the Transportation Management System (TMS) at VUFA has been an interesting and challenging journey. In this exclusive interview with Mr. Evan, we learn how crucial the TMS is in planning, tracking, and executing product deliveries with a high level of efficiency. According to Mr. Evan, TMS is not just an operational management tool, but the key to optimizing routes and better managing fleets. Mr. Evan highlighted the concrete benefits achieved through the use of TMS at VUFA. One of the key advantages is the ability to perform route optimization, which not only saves time but also significantly reduces fuel costs. With real-time monitoring, the operations team can proactively respond to issues that may arise during delivery, providing greater certainty and efficiency.

However, as Mr. Evan acknowledged, the journey of TMS implementation was not without hurdles. The adaptation process and technical constraints were the main challenges that needed to be overcome. To overcome this, VUFA has made serious efforts in team training, ensuring that all team members have a deep understanding of the system being implemented. In addition, careful investment in system maintenance was key to maintaining smooth operations after implementation. In Mr. Evan's view, although challenges arise, the long-term benefits of the TMS are significant. Therefore, companies considering TMS implementation should plan thoroughly, involve the entire team, and provide the support needed to ensure successful implementation and maximum utilization of the system. The conversation then turned to a realm that Mr. Evan was less familiar with, namely Fleet Management Systems (FMS). Although not too familiar with the concept, Mr. Evan was open to understanding more. The researcher provided an in-depth understanding of the FMS, highlighting its key objectives and relevance to VUFA operations. However, in this discussion, there was uncertainty from Mr. Evan regarding the concept of FMS and how it could be seamlessly integrated in the company's operations.

The challenges of FMS implementation were also discussed in depth. Mr. Evan voiced his concerns about the impact of FMS on the daily work processes of the operations team. Although, he realized that to deal with this kind of change, persuasive measures and effective support are necessary. Clear communication, establishment of cross-departmental working groups, and careful planning were identified as key measures to overcome resistance to change. In evaluating the initial investment and impact of the FMS on the operating budget, Mr. Evan expressed honest concerns. However, in the midst of uncertainty, he underlined the importance of serious thought,

Careful evaluation and careful planning in the face of potential FMS implementation. In conclusion, the interview with Mr. Evan provides a comprehensive overview of VUFA's experience with the TMS and an insightful reflection on the possibility of future FMS implementation. From this interview, it is clear that the use of a management system, be it TMS or FMS, not only brings operational efficiencies, but also a number of challenges that require skillful solutions and careful planning. Nevertheless, the belief in long-term benefits and the commitment to overcome obstacles provide a strong foundation for companies like VUFA to continue innovating and improving their operations.

The main results of the interview with Mr. Danang (Head of IT)

In the in-depth discussion on the implementation of the Transportation Management System (TMS) and Fleet Management System (FMS) at VUFA, Mr. Danang's leading role as a member of the IT team took center stage. In explaining the TMS, Mr. Danang provided an in-depth understanding of the system, with special emphasis on its efficient integration with the company's existing IT infrastructure. For the IT team, the main goal of TMS implementation is to ensure the availability of accurate and real-time data, creating a solid foundation for better decision-making. Concrete benefits of TMS implementation include the optimization of logistics and transportation processes, as well as the utilization of data to identify necessary improvements in the IT infrastructure. The discussion also covered the challenges faced by the IT team in adopting TMS despite the significant benefits. Mr. Danang detailed some of the barriers, including complex integration and large-scale data management. In overcoming these challenges, practical solutions such as regular monitoring, periodic system evaluation, and implementation of strict data security policies were highlighted.

The conversation then moved into the realm of Fleet Management Systems (FMS), where Mr. Danang acknowledged his limited knowledge of these systems and expressed his desire to understand more. The researcher provided a detailed explanation of the purpose and benefits of FMS, focusing on efficient vehicle fleet management and decision-making based on available data. While Mr. Danang highlighted potential technical barriers, such as complex integration and large-scale data management, the discussion also included views on possible solutions, including careful planning before implementation and close cooperation with the FMS provider. When discussing the comparison between FMS and TMS from an information technology point of view, Mr. Danang provided valuable insights. In his view, both have unique roles, depending on the specific needs and integration with VUFA's existing IT infrastructure. FMS is considered an efficient solution in providing real-time tracking data, opening up opportunities for rapid data analysis and more responsive operational responses. On the other hand, TMS is recognized for providing holistic insights into supply chain and logistics processes, providing a strategic data base for long-term planning and greater decision-making.

Mr. Danang emphasized that in choosing between FMS and TMS, the decision largely depends on the specific needs and strategic direction of IT at VUFA. While emphasizing the benefits of both systems, Mr. Danang also acknowledged that their integration may present some technical challenges that need to be overcome. Hence, intensive training for IT staff is crucial to ensure a deep understanding and maximum utilization of the potential of both FMS and TMS. The proactive and forward-thinking approach adopted by Mr. Danang and the IT team at VUFA reflects the company's commitment to continuous improvement in transportation management and information technology. The efficient integration of TMS and FMS is not only a step forward in optimizing the company's operations but also reflects the adaptation to ongoing technological changes to support growth and competitive advantage.

DISCUSSION

The interviews with three key stakeholders at VUFA, namely Mr. Reno (Head of Driver Management & OHS), Mr. Evan (Head of Operations), and Mr. Danang (Head of IT), provide an in-depth understanding of the implementation of fleet management, particularly the Fleet Management System (FMS) and Transportation Management System (TMS), and its impact on the company's vehicle tracking activities. Through the

Muhammad Choiril Hidayat; Indro Kinoro. Comparative Efficiency of Fleet Management System Vs Transportation Management System on Transportation Vehicle Tracking System Efficiency

different viewpoints of each respondent, we will explore the perspectives of safety and OHS, operational efficiency, as well as information technology analysis.

First of all, from the perspective of Mr. Reno, who holds the position of Head of Driver Management & OHS, the main focus falls on safety and OHS compliance. He highlighted that the Fleet Management System (FMS) provides the advantage of real-time tracking, enabling immediate visibility of vehicle location and proactive action on safety aspects. According to Mr. Reno, this is a top priority as it provides assurance of driver and vehicle whereabouts, as well as enabling quick response to emergency situations.

From the perspective of Mr. Evan, Head of Operations at VUFA, operational efficiency and cost control are the main focus. Mr. Evan emphasized the benefits of the Transportation Management System (TMS) in optimizing routes, reducing fuel costs, and providing real-time monitoring to address operational issues. The selection of a TMS was interpreted as a strategic move to improve overall operational efficiency. In Mr. Evan's view, the TMS is not just an operational tool but also a smart investment to support the company's growth.

Meanwhile, from the perspective of Mr. Danang, Head of IT, information technology analysis was the main focus. Mr. Danang sees the Fleet Management System (FMS) as a solution that provides real-time tracking data efficiently, enabling quick analysis and faster operational responses. On the other hand, the Transportation Management System (TMS) was recognized as a provider of strategic information for long-term planning and greater decision-making. For Mr. Danang, the integration of the two is a step forward to meet the information and technology needs of the company.

From these interviews, it is clear that the implementation of FMS and TMS at VUFA is not only seen as a fleet and transportation management tool, but also as an integral strategy to improve safety, operational efficiency, and optimal utilization of information technology. The involvement of three key stakeholders provides a holistic and comprehensive understanding of the benefits and challenges of each system. Through Mr. Reno's perspective, safety and OHS were top priorities, while Mr. Evan emphasized the benefits in operational efficiency and cost control. On the other hand, Mr. Danang brought an information technology perspective that highlighted the speed and efficiency of operational responses through real-time tracking. In this context, the integration of FMS and TMS seems to be the best approach to meet the holistic needs of the company. While each system provides unique advantages, such as the security and operational efficiency of the FMS, and the real-time monitoring and route optimization of the TMS, their integration can create greater synergies and provide all-round visibility into the company's operations.

It is important to note that a deep understanding of each stakeholder, as presented in these interviews, is key in making strategic decisions related to fleet and transportation management at VUFA. The selection of an FMS or TMS, or even the integration of the two, will largely depend on the company's strategic objectives and how the system can support critical aspects such as safety, operational efficiency, and enterprise-wide information technology utilization. With a holistic understanding of the stakeholders, VUFA can take purposeful and effective steps in elevating their operations to the next level.

Comparative Analysis of FMS and TMS Implementation in VUFA through Key Stakeholder Perspectives:

1. Safety and OHS Perspective (Mr. Reno - Head of Driver Management & OHS):
 - a. Advantages of FMS:
 - Real-time Tracking: Mr. Reno highlighted that Fleet Management System (FMS) provides excellence in real-time tracking. It provides immediate visibility into the location of vehicles, allowing management to quickly respond to emergency situations or events that require immediate action.
 - Proactive Safety: FMS becomes a proactive tool in maintaining safety. With real-time data, the OHS team can take preventive measures to reduce the risk

Muhammad Choiril Hidayat; Indro Kinoro. Comparative Efficiency of Fleet Management System Vs Transportation Management System on Transportation Vehicle Tracking System Efficiency

of accidents or incidents on the road.

b. Advantages of TMS:

- Strategic for OHS Compliance: While FMS focuses on safety, Transportation Management System (TMS) can provide a holistic understanding related to strategic planning to comply with OHS standards and OHS compliance. TMS provides in-depth data on operational processes, enabling long-term planning to achieve compliance on an ongoing basis.

2. Operational Efficiency Perspective (Mr. Evan - Head of Operations):

a. Advantages of TMS:

- Route Optimization: According to Mr. Evan, the main advantage of a Transportation Management System (TMS) lies in its ability to optimize routes. This helps reduce fuel costs and travel time, improving overall operational efficiency.
- Real-time Monitoring: TMS provides real-time monitoring, enabling operational teams to address operational issues quickly. This helps reduce uncertainty and improve operational responsiveness.

b. Advantages of FMS:

- Fleet Usage Efficiency: Fleet Management System (FMS) focuses on fleet usage efficiency, helping to optimize vehicle scheduling and maintenance. This can contribute to long-term operational cost reduction.

3. Information Technology Perspective (Mr. Danang - Head of IT):

a. Advantages of FMS:

- Real-time Data for Quick Analysis: From an IT perspective, a Fleet Management System (FMS) is considered a solution that provides real-time tracking data efficiently. This provides data that can be processed quickly for faster analysis and operational response.

b. Advantages of TMS:

- Strategic Information for Long-Term Planning: Mr. Danang recognized the important role of the Transportation Management System (TMS) in providing strategic information. TMS provides the data basis for long-term planning and strategic decision-making at the management level.

c. Integration of FMS and TMS:

- Holistic Synergy: While each system has its unique advantages, the integration of FMS and TMS creates greater synergy. Utilizing FMS for safety and fleet efficiency, along with TMS for strategic planning and operational efficiency, can improve the overall effectiveness of transportation management at VUFA.

Based on the interviews with three key stakeholders at VUFA, namely Mr. Reno, Mr. Evan, and Mr. Danang, as well as the comparative analysis of Fleet Management System (FMS) and Transportation Management System (TMS) implementation, the following are general recommendations that can be applied to improve fleet and transportation management in the company:

1. Integration of FMS and TMS:

A key recommendation is to fully integrate the Fleet Management System (FMS) and Transportation Management System (TMS). The two systems, when implemented together, provide holistic benefits involving safety, fleet efficiency, and strategic insights for long-term planning. This integration creates greater synergy in VUFA's transportation management.

2. Key Stakeholder Training and Understanding:

Muhammad Choiril Hidayat; Indro Kinoro. Comparative Efficiency of Fleet Management System Vs Transportation Management System on Transportation Vehicle Tracking System Efficiency

Furthermore, it is important to provide adequate training to all key stakeholders regarding the use of the FMS and TMS. This includes operational teams, OHS teams, and IT teams. An in-depth understanding of the advantages and how to maximize the features of these two systems can increase their effectiveness.

3. **Emphasis on Safety and OHS:**
Given Mr. Reno's emphasis on safety and OHS, companies should prioritize the implementation of FMS features that support this aspect. Involving the OHS team in the use and monitoring of the system can ensure a deep understanding of how the FMS can improve operational safety.
4. **Route Optimization and Operational Efficiency:**
To improve operational efficiency, it is recommended to continuously optimize routes using a Transportation Management System (TMS). Continuous real-time monitoring and data analysis can help identify areas where efficiency improvements can be made.
5. **Regular Evaluation and Continuous Improvement:**
Companies should implement a regular evaluation cycle of FMS and TMS performance. By monitoring performance and responding to changing operational needs, VUFA can ensure that the systems adopted are always relevant and add value.
6. **Careful System Maintenance:**
In the face of potential technical challenges, system maintenance should be prioritized. Companies need to establish a careful maintenance policy to ensure that the FMS and TMS systems continue to run optimally, including handling integration and software updates.
7. **Open Communication and Team Collaboration:**
Open communication between the operations team, OHS team, and IT team is important to address cultural change and ensure that all key stakeholders have a uniform understanding of FMS and TMS implementation. Inter-departmental collaboration is also required to achieve maximum synergy.
8. **IT Strategic Planning:**
Mr. Danang emphasized on the role of TMS in providing strategic information for long-term planning. Therefore, companies need to integrate IT strategic planning with TMS implementation, ensuring that the use of this system is in line with the company's long-term goals.
9. **Handling Integration Challenges:**
Along with the integration of FMS and TMS, companies must proactively address technical challenges that may arise. This involves close cooperation with the system provider, a deep understanding of the integration needs, and prompt troubleshooting.
10. **System Needs Update and Evaluation:****
Companies should ensure that the adopted system remains relevant to evolving business needs. Regular updates and evaluation of system needs can help companies to remain responsive to changing market conditions and policies.

By implementing these recommendations, VUFA can maximize the potential of FMS and TMS to achieve its operational and strategic goals. Holistic integration and deep understanding from the entire team will be the key to success in fully utilizing the advantages offered by these two systems.

CONCLUSIONS AND SUGGESTIONS

Based on interviews with Mr. Reno, Mr. Evan, and Mr. Danang at VUFA, this research concludes that the implementation of *fleet* management has a significant impact on the company's operations. From a safety and OHS perspective, *Fleet Management System (FMS)* provides advantages in real-time tracking, improving safety, and ensuring compliance. Meanwhile, *Transportation Management System (TMS)* was chosen to improve operational efficiency through route optimization, real-time monitoring, and better

fleet management. The IT team was recognized as a critical element in supporting the implementation, with an emphasis on efficient integration with the company's IT infrastructure. There is potential to combine the strengths of both FMS and TMS to provide a holistic solution for transportation system tracking activities. Despite challenges, including initial investment and cultural change, the long-term benefits of SIT were recognized as a strategic move to improve sustainability and operational efficiency.

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