

# Operational and Supply Chain Inefficiencies in Malaysian Service SMEs: A Case Study of Puncak Geliga Holidays Sdn Bhd

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## ABSTRACT

Service-based organisations face unique operational challenges due to demand variability, labour intensity, and customer involvement, which often result in inefficiencies in service delivery. This study investigates the operational and supply chain inefficiencies of Puncak Geliga Holidays Sdn Bhd (PGHSB), a Malaysian transportation and manpower service provider, through a qualitative case study approach. Data were collected via semi-structured interviews, direct field observations, and document analysis, with methodological triangulation enhancing credibility. Analytical tools including process flow mapping and Fishbone (Ishikawa) analysis revealed systemic inefficiencies such as reliance on manual booking procedures, fragmented communication channels, inadequate workforce planning, and the absence of integrated fleet management systems. These findings underscore the need for structured operational frameworks, digitalisation of booking and scheduling, and data-driven workforce allocation to improve service reliability and competitiveness. Beyond practical recommendations, the study contributes to service operations literature by contextualising operational challenges within Malaysian SMEs, highlighting systemic rather than isolated inefficiencies. While limited to a single case study, the research provides a foundation for future comparative studies and offers insights into how digital transformation and proactive management can enhance resilience in service-based SMEs.

**Keywords:** Service Operations Management, Supply Chain Inefficiencies, Workforce Planning, Digitalisation in SMEs, Transportation and Logistics

## INTRODUCTION

Operations management (OM) is central to organisational performance, ensuring the efficient transformation of inputs into goods and services. While OM research traditionally focused on manufacturing, service operations present distinct challenges due to intangibility, customer involvement, and labour dependence (Ahmad et al., 2025; Abdul Wahab, Yaacob, Ibrahim, & Yusri, 2023). In Malaysia, service organisations face increasing pressure to deliver high-quality services at low cost while maintaining responsiveness to volatile demand (Hood, 2024; Hamidatun Khusna & Mustafa, 2021). Recent scholarship highlights that service-based SMEs must adopt structured operational frameworks to balance resource efficiency, workforce coordination, and customer satisfaction (Othman et al., 2025; Sim & Alias, 2024; Abang Mohar, Abdollah, Ali, & Firdaus, 2022). Although the discipline of operations management grew out of manufacturing practices, contemporary studies increasingly recognise the unique requirements of service operations. Service delivery environments such as transportation, logistics, and manpower supply demand strategies that address variability in demand, labour intensity, and customer expectations (Bektaş & Kiper, 2022; Ardiantono et al., 2024). In this context, effective operations management ensures not only efficiency but also reliability and compliance with client specifications, particularly in industries where timeliness and service quality are critical (Ong, Zailani, & Kanapathy, 2020).

The Malaysian business environment further underscores the importance of operations management in sustaining competitiveness and adaptability. Universities introduced advanced modules that equip students with analytical

tools to evaluate service complexity and design feasible interventions, reflecting Malaysia's broader emphasis on workforce readiness for digital transformation (SME Corp Malaysia, 2025). Puncak Geliga Holidays Sdn Bhd (PGHSB) provides a pertinent case study for examining these dynamics. Established in 1999 in Chukai, Kemaman, Terengganu, PGHSB has evolved from a tourism-focused enterprise into a diversified service provider offering transportation, manpower supply, cleaning contracts, fabrication support, and turnaround operations for the oil and gas industry. With over 100 operational vehicles and a workforce exceeding 100 personnel, the company serves government agencies, private businesses, and multinational corporations. Its operations rely heavily on the coordination of human resources, physical assets, and scheduling systems, making efficiency in service delivery and compliance with client specifications central to its success. This paper examines the operational challenges of PGHSB by applying OM tools such as process flow analysis and Fishbone diagrams to identify inefficiencies and propose strategies for improvement. In doing so, it bridges theory and practice by contextualising service operations management within a Malaysian SME setting, offering insights into the broader challenges faced by service-oriented firms in Malaysia.

## LITERATURE REVIEW

Malaysian SMEs account for 97 percent of all businesses and nearly half of national employment, underscoring their importance to the economy (Hashim, 2012). Despite this, they continue to face productivity and operational challenges compared to global counterparts. Service-based SMEs struggle with resource constraints, fragmented processes, and limited adoption of structured operational frameworks. These difficulties are further compounded by demand volatility and labour intensity, which make service operations more complex than manufacturing contexts (Othman et al., 2025; Chong, Pervan, & Shi, 2015).

Human capital development remains one of the most critical bottlenecks for Malaysian SMEs (Rahman & Ramos, 2013). The SME Masterplan 2012–2020 identified persistent challenges impeding SME performance, including innovation and technology adoption, infrastructure, access to financing, regulatory environment, market access, and workforce development.

Workforce planning in service organisations is often reactive, leading to inefficiencies in labour allocation and service delivery. Preparing Malaysia's workforce for digital transformation and AI-driven processes has therefore become a national priority, with emphasis placed on specialised skills and structured workforce planning to ensure long-term competitiveness (Sim & Alias, 2024; Yusoff, Omar, & Zainal, 2019). The logistics and transportation sector further illustrates these challenges (Abdullah & Bakar, 2020).

Digitalisation is increasingly recognised as a strategic enabler for SMEs. However, many Malaysian SMEs lack streamlined digital systems for booking, scheduling, and supply chain coordination, resulting in inefficiencies and reduced competitiveness. Studies show that Industry 4.0 technologies have the potential to radically transform service operations, but adoption remains uneven due to cost, skills gaps, and organisational readiness (Ardiantono et al., 2024). For service-based SMEs, digital fleet management and integrated booking systems are particularly critical to improving operational visibility and responsiveness (Bektaş & Kiper, 2022).

The logistics and transportation sector further illustrates these challenges. Valued at USD 28.12 billion in 2024 and projected to grow steadily, the sector is a cornerstone of Malaysia's economy. Yet SMEs operating within it face difficulties in managing operational risk, ensuring compliance, and maintaining service reliability. Research emphasises that visibility, control, and compliance are essential for SMEs to remain competitive in both domestic and international markets (Ong, Zailani, & Kanapathy, 2020). International studies echo these findings, noting that service SMEs worldwide often struggle with fragmented communication, lack of digital integration, and reactive management practices, which collectively undermine competitiveness (Chong et al., 2021; Li, 2022).

For service providers such as PGHSB, the absence of integrated fleet management systems and reliance on manual coordination mirror broader inefficiencies across the sector. Addressing these challenges requires not only technological adoption but also strategic alignment of operations management practices with customer expectations and industry standards.

As recent scholarship suggests, SMEs that embrace digitalisation, workforce training, and proactive supply chain strategies are better positioned to enhance service quality, operational efficiency, and long-term resilience (Ahmad et al., 2025; Hood, 2024). Table 1: Literature Review Citation Map

**Table 1: Literature Review Citation Map**

Theme	Authors & Year	Contribution / Key Insight
Importance of Malaysian SMEs	Hashim (2012)	Highlights SMEs as 97% of businesses and nearly half of employment; underscores their economic role.
Operational challenges in service SMEs	Othman et al. (2025); Chong, Pervan, & Shi (2015)	Othman: Resource constraints and fragmented processes in service SMEs. Chong et al.: Technology adoption challenges in Malaysian SMEs.
Human capital bottlenecks	Rahman & Ramos (2013); Sim & Alias (2024); Yusoff, Omar, & Zainal (2019)	Rahman & Ramos: Workforce development issues. Sim & Alias: Reactive workforce planning in service SMEs. Yusoff et al.: Industry 4.0 readiness and skills gaps.
SME Masterplan challenges	SME Masterplan 2012–2020	Identifies persistent barriers: innovation, financing, infrastructure, regulation, workforce.
Digitalisation as strategic enabler	Ardiantono et al. (2024); Bektaş & Kiper (2022)	Uneven Industry 4.0 adoption due to cost and readiness. Bektaş & Kiper: Importance of digital fleet management and booking systems.
Logistics and transportation challenges	Abdullah & Bakar (2020); Ong, Zailani, & Kanapathy (2020)	Abdullah & Bakar: Compliance and risk management in logistics SMEs. Ong et al.: Visibility, control, and compliance for competitiveness.
International perspective	Chong et al. (2021); Li (2022)	Chong et al.: Global SMEs face fragmented communication and lack of integration. Li: Service SMEs worldwide struggle with reactive management practices.
Case study relevance (PGHSB)	Ahmad et al. (2025); Hood (2024)	Ahmad: Service operations inefficiencies in Malaysian SMEs. Hood: Strategic alignment of operations with customer expectations.

## METHODOLOGY

This study employs a qualitative case study design to examine operational and supply chain challenges within the land transportation services of Puncak Geliga Holidays Sdn Bhd (PGHSB). A case study methodology is particularly suitable for service SMEs where operational practices are context-dependent and not easily generalised. This approach allows for rich, contextual insights into organisational processes and frontline experiences, which quantitative surveys may overlook (Yin, 2018; Oluwafemi & Ogundana, 2025). Data were collected through semi-structured interviews with administrative staff and drivers, direct field observations of booking and dispatch processes, and analysis of internal company documents. This triangulation of sources enhanced the credibility and validity of findings by reducing single-source bias. Analytical tools from operations management, including process flow analysis and Fishbone (Ishikawa) cause-and-effect diagrams, were employed to systematically identify inefficiencies and categorise root causes into people, process, technology, and management dimensions. The use of process flow modelling in this study is consistent with prior research in the courier and logistics sector, where similar techniques have been applied to map inefficiencies and evaluate innovations (Harahap et al., 2023). Triangulation across interviews, observations, and documents enhanced validity by capturing multiple perspectives and reducing reliance on a single data source. This methodological rigor aligns with best practices in qualitative operations research, ensuring credibility and trustworthiness of findings (Creswell & Poth, 2018). This methodological framework ensured that both operational practices and

systemic issues were captured holistically, while also highlighting how current practices affect service efficiency, reliability, and coordination.

### Data Collection Methods

The credibility and validity of this study’s findings were enhanced using multiple qualitative data sources, thereby ensuring methodological triangulation and reducing single-source bias.

First, semi-structured interviews were conducted with administrative and operational staff directly involved in transportation booking, dispatch coordination, and daily service activities. These interviews provided rich insights into existing work procedures, coordination challenges, and practical limitations encountered in serving customers.

Second, direct field observations were undertaken to capture the operational flow of transportation delivery processes, including booking receipt, vehicle assignment, driver dispatch, and service completion. Observational data enabled the identification of process inefficiencies and highlighted points at which delays or errors were most likely to occur.

Third, document analysis was performed using internal company records such as organisational profiles, service descriptions, and operational files. These documents offered contextual background on PGHSB’s operational structure and facilitated triangulation with interview and observational findings, thereby strengthening the reliability of the research outcomes.

### Analytical Tools and Techniques

To systematically examine the operational issues identified, two established operations management techniques were employed: Process Flow Analysis and Fishbone (Ishikawa) Cause-and-Effect Analysis.

### Process Flow Analysis

Process flow analysis is widely used in service operations to identify non-value-adding activities and streamline workflows. By mapping PGHSB’s transportation service, inefficiencies such as redundant communication and manual verification were revealed, consistent with findings in service logistics research (Chong et al., 2021). This method allowed mapping the entire process of a door-to-door transportation service from order request until service delivery. Flow of work analysis allows one to uncover inefficiencies, redundancies, and delays within operational processes.

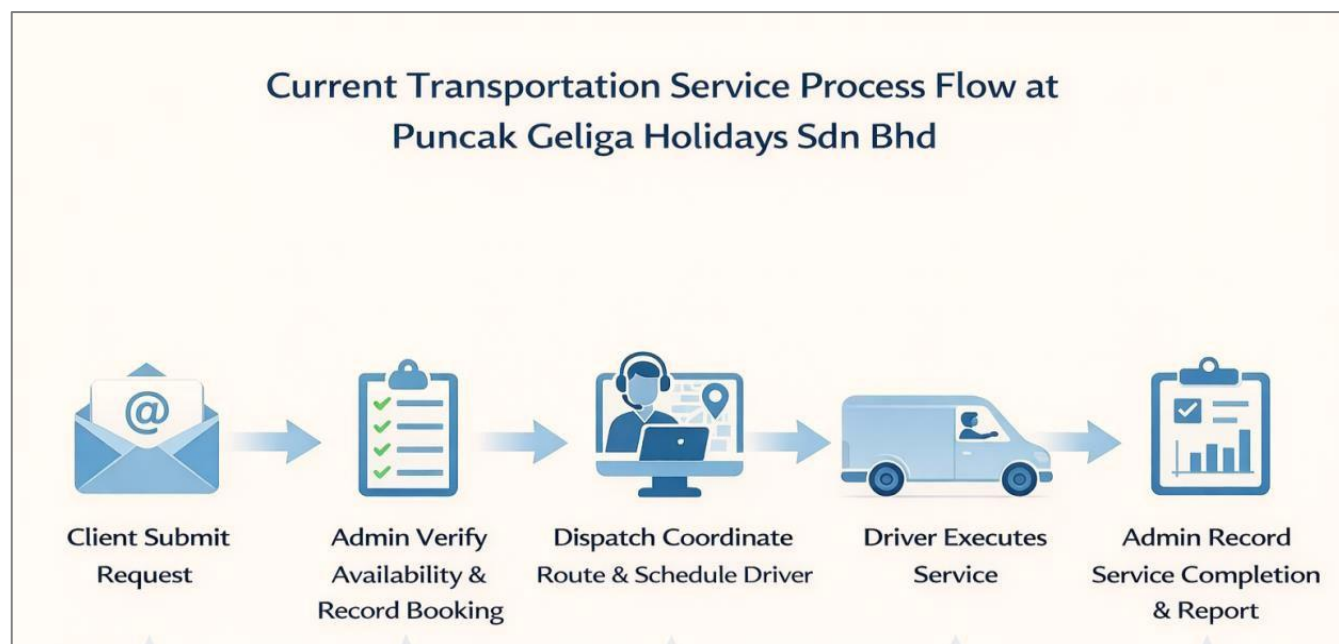


Figure 1: Current Transportation Service Process Flow at PGHSB

Figure 1 illustrates inefficiencies and redundancies within the workflow. For instance, bookings were received through manual channels such as email or instant messaging, requiring administrative staff to document requests manually and verify vehicle availability through informal correspondence with dispatch personnel. Drivers were contacted individually to allocate routes and schedules, and post-service reporting was conducted manually with minimal aggregation of operational data.

These non-value-adding activities such as redundant information exchanges and manual verification of vehicle documentation introduced delays and inconsistencies, undermining overall service efficiency. The absence of a centralised fleet management system further limited real-time visibility, constraining the company’s ability to optimise resource utilisation and respond swiftly to evolving customer needs.

**Fishbone (Ishikawa) Cause-and-Effect Analysis**

The Fishbone diagram categorised inefficiencies into people, process, technology, and management dimensions, highlighting that operational challenges are systemic rather than isolated. This aligns with prior studies that emphasise the need for holistic interventions in SME service operations (Li, 2022).

The Fishbone Diagram was used to analyze all factors of the operational inefficiency. Factors were divided based on people, process, technology and management for a structured analysis of failure factors leading to the recognized problem.

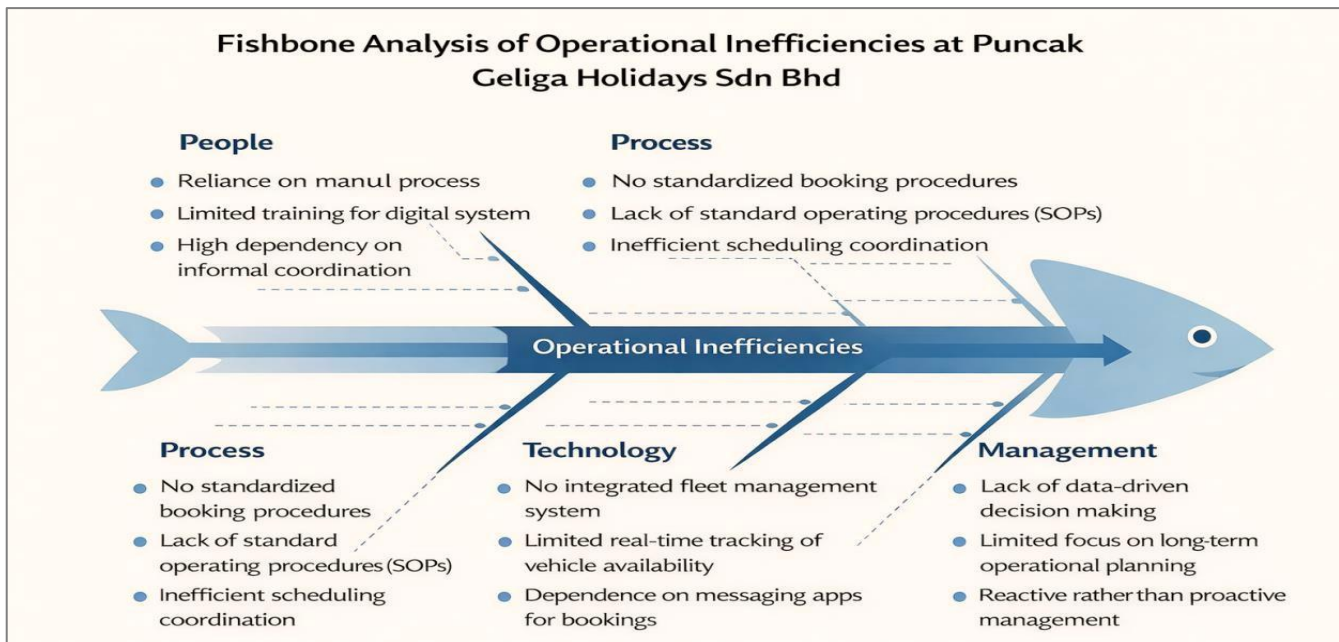


Figure 2. Transportation Operational Inefficiencies Fishbone (Cause-and-Effect) Analysis

A Fishbone (Ishikawa) diagram discloses the causes of operational ineffectiveness perceived on PGHSB’s land transportation front in Figure 2. The research design groups the causes into four principal dimensions including people, process, technology, and management.

People on the other hand, manual coordination-based operations and limited exposure to digital operational tools leads to ineffective booking and dispatch activities. The procedure dimension indicates that standard procedures to handle booking management, scheduling, and service confirmation are not in place and the result is that operations practices are not consistent. In terms of technology, the fact that there is no single transportation or fleet management platform seriously restricts real-time communication and monitoring.

Management in the case of the management dimension is overall a lack of focus and insufficient resources for data driven decision making and long-term operational planning, imposing barriers to continuous improvement activities. Fishbone analysis shows that the identified operational problem is not individual, but systemic in nature, and so will require top-down interventions across multiple dimensions of operation (linguistic rather than isolated).

## FINDINGS AND DISCUSSION

### a. Operations and Supply Chain Issues

The interviews reveal that scheduling, booking coordination, and information flow constitute the primary sources of operational inefficiency in PGHSB's land transportation services. Drivers consistently reported that job assignments are communicated manually through phone calls or messaging applications. For instance, Driver A explained: "Most of the time, I receive job details through WhatsApp messages or phone calls from the admin. Sometimes the information comes in separate messages, like the pickup time first and the location later. If it is a busy day, I may receive several messages at the same time, which can be confusing." While this method provides flexibility, it frequently results in fragmented or incomplete job information, particularly during peak operational periods.

The findings further indicate that booking management and service coordination are adversely affected by these practices. Driver B noted: "Yes, especially during peak periods. There are times when the pickup location or client details are not very clear at the beginning, so I need to call the admin again to confirm. This can delay the start of the trip." The reliance on manual communication methods such as email and messaging applications, although adaptable, lacks systematic organization and scalability, especially when managing multiple contracts and time-sensitive service demands.

From a supply chain perspective, transportation services represent a critical link between PGHSB and its industrial customers. Driver C highlighted the impact of last-minute changes: "Last-minute changes happen quite often, especially when there are many bookings on the same day. Sometimes I am informed very close to the pickup time, which causes pressure and affects the schedule of other trips." Such inefficiencies slow service response times and hinder the company's ability to align supply with demand. These challenges stem from deficiencies in information dissemination and operational coordination, both of which are fundamental to efficient supply chain management.

### b. Bottlenecks, Missing Links, or Points of Failure

The analysis identified several constraints and failure modes within the current operational processes. A critical bottleneck occurs at the booking and scheduling stage, where requests are handled manually without a centralized system. This increases the risk of delayed responses, overlooked requests, and miscommunication between administrative staff and dispatch teams. Drivers emphasized that unclear scheduling and sudden changes exacerbate these challenges, often resulting in suboptimal vehicle allocation, idle time, or rushed assignments.

Another significant limitation is the absence of real-time visibility into vehicle availability and driver assignments. Decisions are largely based on experience and informal coordination rather than systematic tracking tools, thereby restricting fleet utilization and responsiveness to fluctuating demand. Several drivers recommended the adoption of digital booking systems, noting that centralized platforms would enable easier access to schedules, locations, and updates, while reducing repeated calls and misunderstandings.

Furthermore, the lack of automated documentation creates a gap between daily operations and managerial oversight. Manual documentation deprives management of the tools necessary to analyze historical data, forecast demand, and engage in objective long-term planning. This deficiency increases the risk of service interruptions and undermines operational resilience.

### c. Analysis Using Selected Tools and Techniques

Process flow analysis of the transportation service workflow, from booking receipt to service completion, revealed multiple non-value-adding activities. Chief among these was the constant communication between drivers and administrative staff to confirm availability and scheduling, which consumed significant time and introduced variability in service delivery.

The fishbone analysis further categorized the root causes of inefficiency into four domains. Under People, limited training and reliance on manual coordination were identified. The Process dimension highlighted the absence of standardized booking and dispatch protocols. In terms of Technology, the lack of a centralized transport or fleet

management system was a major contributor. Finally, under Management, the absence of data-driven decisionmaking constrained efforts to improve operations. Collectively, these analyses demonstrate that the inefficiencies are systemic rather than isolated, requiring strategic rather than piecemeal remedies.

#### **d. Discussion in the Context of Operations and Supply Chain Strategies**

PGHSB positions itself as a safe and dependable transportation provider. However, the findings reveal a misalignment between this strategic aspiration and current operational practices. Literature on operations strategy emphasizes the importance of process integration, information visibility, and technological support in achieving competitive priorities such as dependability and responsiveness (Slack et al., 2012). PGHSB's reliance on manual coordination and absence of integrated systems undermine these priorities.

From a supply chain strategy perspective, the incompatibility of information systems compromises coordination between PGHSB and its customers. Effective supply chain operations require timely information sharing and resource alignment to minimize ambiguity and enhance service reliability. The lack of digital integration across systems has constrained PGHSB's ability to expand operations and respond proactively to client requests, thereby weakening its long-term competitive advantage.

## **CONCLUSION**

This study examined the operational and supply chain challenges faced by Puncak Geliga Holidays Sdn Bhd (PGHSB) in its land transportation services through a qualitative case study approach. The findings revealed that reliance on manual booking systems, fragmented communication channels, and the absence of an integrated operational platform collectively contributed to inefficiencies in service coordination, resource utilisation, and organisational agility. Process flow and Fishbone analyses further highlighted systemic weaknesses in process design, information dissemination, and managerial decision-making, underscoring the misalignment between PGHSB's strategic objectives and its current operational capacity. These inefficiencies compromise service reliability, hinder the company's ability to sustain long-term contracts, and limit competitiveness in a dynamic market environment. To address these challenges, the study proposes strategic interventions including the implementation of a unified fleet management system, the development of standardised operating procedures, the adoption of data analytics for forecasting and planning, and the provision of structured training for staff. Collectively, these measures align with best practices in operations and supply chain management and have the potential to enhance service quality, operational efficiency, and long-term resilience. Beyond practical implications, this research contributes to service operations literature by demonstrating how process flow and Fishbone analysis can be applied to SME contexts, revealing systemic inefficiencies that resonate with broader theories of service quality gaps and supply chain integration. Nevertheless, as a single case study, the findings are context-specific and may not be generalisable across all Malaysian SMEs. Future research could adopt comparative or quantitative approaches to validate these insights across different service sectors, while exploring the role of Industry 4.0 technologies such as AI-driven scheduling and predictive analytics in enhancing service reliability. In conclusion, PGHSB's operational inefficiencies are systemic in nature and require holistic and strategically aligned interventions rather than piecemeal adjustments. By embracing digital integration, process standardisation, and proactive management, PGHSB can strengthen its operational resilience and reposition itself as a dependable and responsive transportation provider in the competitive market landscape.

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