

CHAPTER 1

INTRODUCTION

1.1 Overview of Research Object

1.1.1 Company Profile

The object of this research focuses on the logistics aspect of the company's operations on expeditions at PT Sindu Wahana Berkah (SWB), located in Jl. Raya Bojonegara No.Km 01, Serdang, Cilegon Timur, Kota Cilegon, Banten 42616, Indonesia. The company was established in 2016, originally started as CV Sindu Wahana Berkah for 2 years before finally transitioning into PT Sindu Wahana Berkah in 2018, beginning its activities as a logistic and transportation service company; specializing in dump truck expeditions, providing logistic services and raw materials shipments from port to each destination. The company also provides supervisory service in unloading goods, from docked ships (barge, cargo ship, etc.) in ports, such as raw sugar, sand, and coals (PT Sindu Wahana Berkah, personal communication, November 2024).

PT Sindu Wahana Berkah possesses 133 dump trucks in total which consists of Mitsubishi Hino, Hino 500, and Isuzu Giga. In addition, there are other miscellaneous equipment, including 4 Volvo excavator, 6 Vessel grab, 1 wheel loader, 1 self-loader, and 4 hopper. In most cases, the company only utilize its transportation and equipment within Banten, Indonesia, due to its close proximity to high-traffic ports. Most notably, PT Sindu Wahana Berkah is situated in Cilegon which many of those ports are located, specifically in West Cilegon. The location alone is a great advantage for the company since being near the ports means faster unloading time and expedition to each destination; drastically saves cost. In total, the company have 149 employees, which already includes office workers, mechanics, drivers and operators (PT Sindu Wahana Berkah, personal communication, November 2024).

Though mainly focusing on expedition, PT Sindu Wahana Berkah has a subsidiary to cover another matters which is PT Sindu Wahana Maritim

(SWM). Its subsidiary specializes on tasks, including unloading of goods from a ship to each dump truck, and supervising it to ensure seamless transition from maritime to land transport. They helped prevent bottlenecks, ensuring goods are safely and smoothly unloaded by handling technicalities, as well as coordinating with port authorities, ship crews, truck teams and operators from PT Sindu Wahana Berkah.

1.1.2 Company Logo



Figure 1. 1: PT Sindu Wahana Berkah Logo

Source: PT Sindu Wahana Berkah Company Profile

1.1.3 Vision and Mission

Vision and Mission of PT Sindu Wahana Berkah are as such:

1.1.3.1 Vision

To become a leading, reliable, growing and sustainable logistics company.

1.1.3.2 Mission

- 1) Providing reliable, efficient, productive, safe and highly competitive logistics or supply chain services, always prioritizing customer satisfaction.
- 2) Continuously develop competent/expert and noble human resources.
- 3) Developing mutually beneficial synergies and collaborations with customers, employees, suppliers and other stakeholders, in order to maintain sustainable company growth.
- 4) Consistently implementing a quality management system and superior work/service culture, as well as applying the latest technology in company management.

1.1.4 Organizational Structure

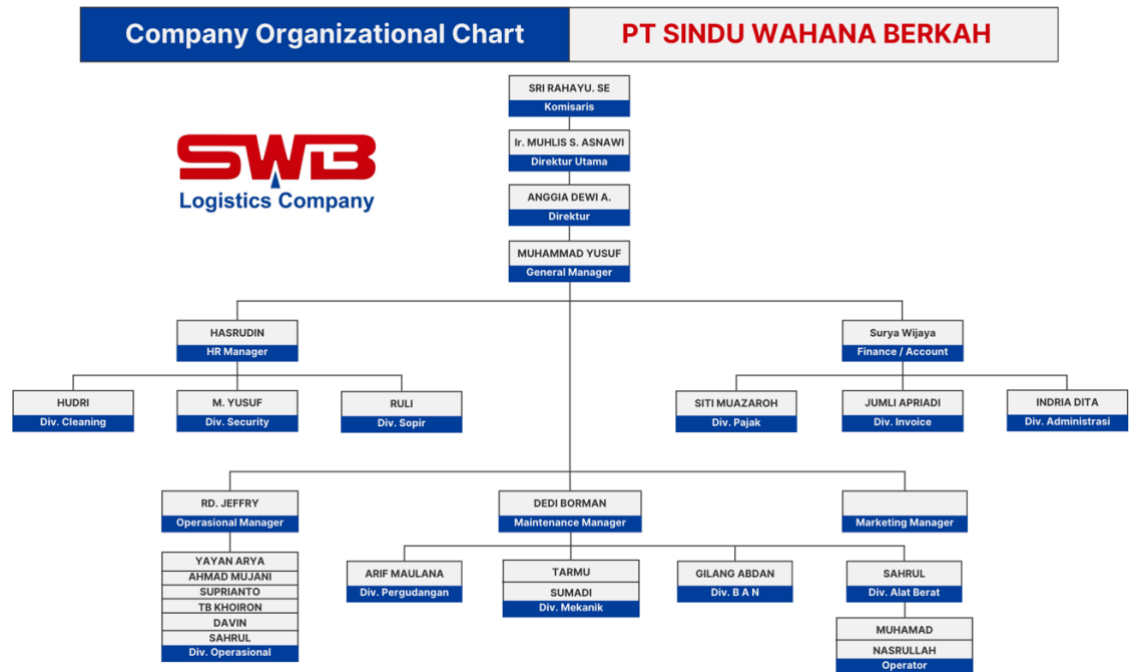


Figure 1. 2: PT Sindu Wahana Berkah Organizational Structure

Source: PT Sindu Wahana Berkah Company Profile

1.2 Research Background

The development of logistic industry in Indonesia has experienced significant growth since the last decade, supported by various factors that enhanced these growth, driven by several key factors. The advancements of technology have played a significant role in the rise of digitalization within the logistics industry. According to Gradillas & Thomas (2023), digitalization is the act of adopting, applying, and utilizing digital tools within the socio-economic sphere. Many companies have started to integrate technology into their logistics operation, including Warehouse Management System (WMS), Transportation Management System (TMS), Enterprise Resource Planning (ERP), and Tracking Systems, such as Global Positioning System (GPS) (Dharma, 2023). These systems significantly improve inventory control, enable real-time shipment tracking, and efficient route planning within the logistics industry. Nowadays, emergency of technologies have inspired companies to be innovative by embracing and adopting automation, robotics, and Internet of Things (IoT) to streamline logistics operations. Moreover,

the use of Artificial Intelligence (AI) and Big Data has allowed companies to predict supply and demand trend within the industry, as well as improving inventory management, consequently, enhancing overall business activities. However, these technological advancements did not emerge by its own in Indonesia. Through government initiatives, such as infrastructure development which include new roads, ports, and rails built, vastly intertwining major and industrially-busy cities. In addition, through partnerships or establishing branches from foreign investments which brought surge to new technologies, capital, and expertise knowledge into the sector, greatly amplifying its development (Dharma, 2023).

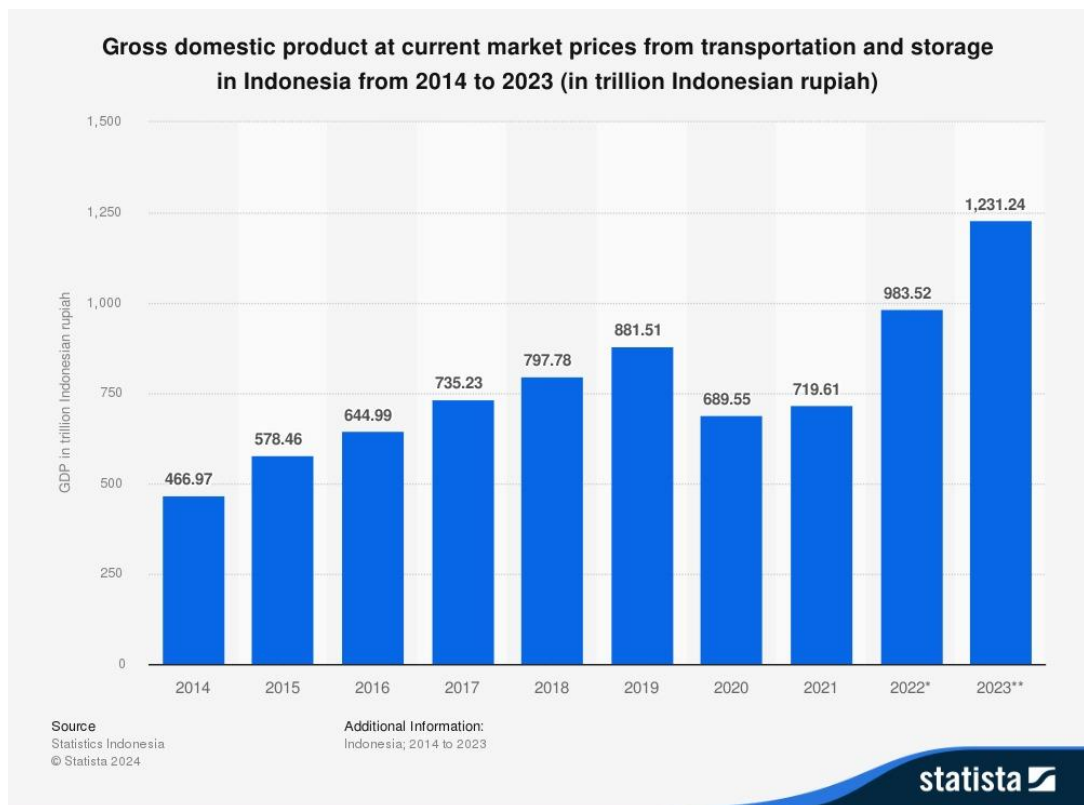


Figure 1. 3: Graph of GDP of Transportation and Storage in Indonesia 2014 - 2019

Source: [statista.com/](https://www.statista.com/)

Respectively, in 2018 and 2019, both years experience an increase of 62.55 trillion and 83.73 trillion IDR which is approximately 8.5% and 10.5% increase due to further acceleration in digitalization (Statista, 2024). The rapid expansion of e-commerce industry greatly boosts demand for logistics services, companies like Tokopedia, Shopee, etc. increased parcel shipments, accentuating

the importance of warehousing, distribution, and last-mile delivery services which stimulate logistics companies to optimize and innovate their services further to meet these demands. Furthermore, in 2019, integration of advance technologies consistently emerged in this sector. State of the art technologies, such as Artificial Intelligence (AI) and Big Data analytics, and Internet of Things (IoT) are used further enable optimization in various activities within logistics companies (Statista, 2024).

Contrary to previous years, 2020 experienced a drastic decline of 191.96 trillion IDR or -21.8% compared to 2019 (Statista, 2024). This was mainly due to the global COVID-19 pandemic that plagues the world, resulting in tremendous impact on the transportation and storage sector globally, especially in Indonesia. In total, it was reported that about 43 thousand SMEs have been impacted by the COVID-19 pandemic, which led to a decline in economic growth ("COVID-19 Deals Crushing Blow," 2020). Numerous Indonesian government initiatives to prevent further infection spread affected the sector negatively, including: lockdowns, social distancing, and travel restrictions, which impeded on logistics operations nationwide. Additionally, reduced consumer spending and goods being produced means less demand for logistics services, consequently, decreasing land transports availability, such as trucks, as well as air and sea freights, caused by many shipments being cancelled and delayed which further led to scarcity of raw materials and goods. Despite its unfortunate situation, the e-commerce sector saw a whopping increase in demand as consumers began turned to online shopping during the COVID-19 pandemic, highlighting the needs for digitalization for companies as many began to adopt and invest in technological tools and systems that can maintain operation and withstand the dire situation (Mishrif & Khan, 2023).

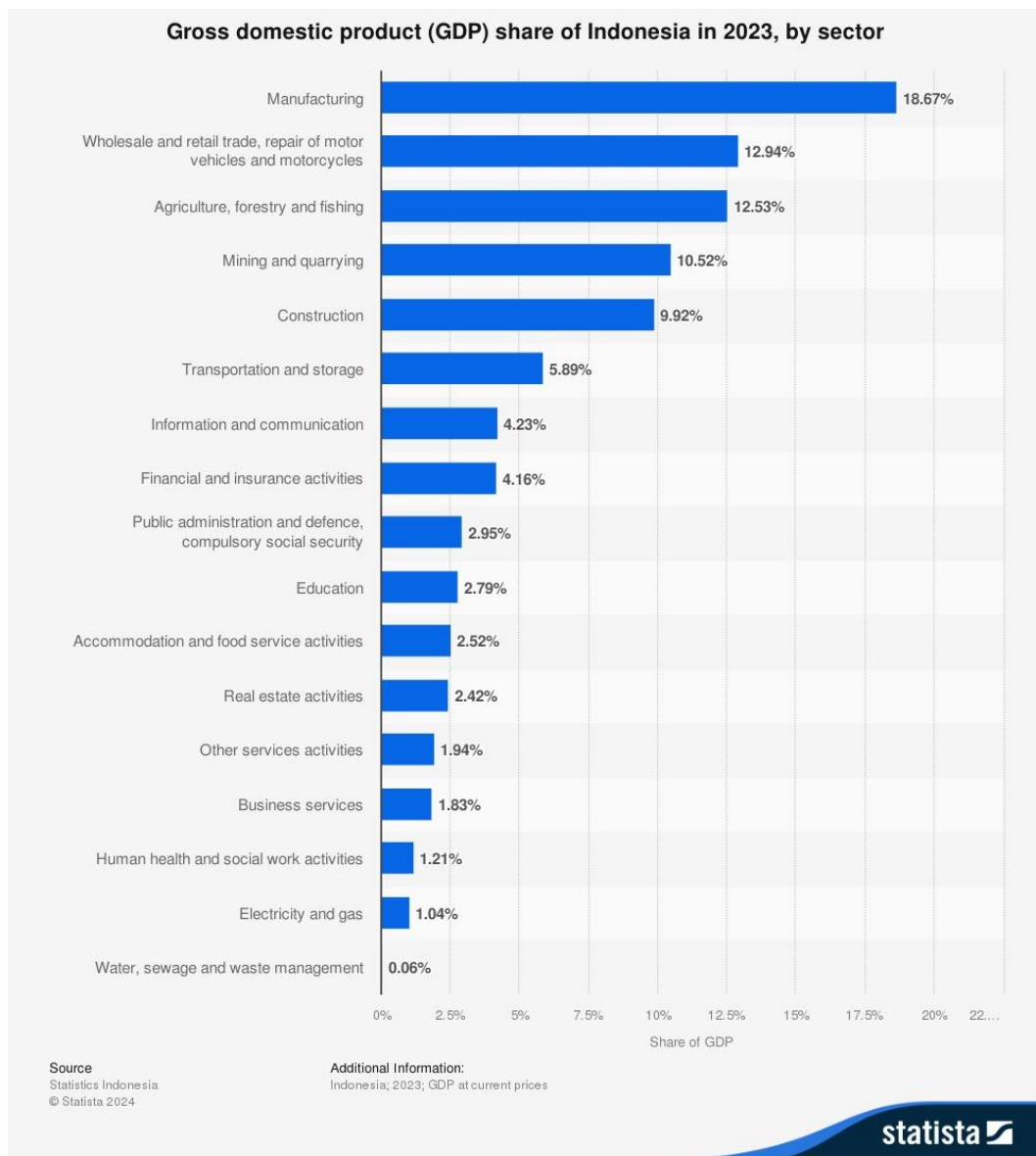


Figure 1. 4: GDP contributions of each sector in Indonesia (%)

Source: [statista.com/](https://www.statista.com/)

Transportation and storage sector is a significant contributor to the GDP of Indonesia, emphasizing the importance of logistics' role in supporting other sectors in Indonesia, most notably manufacturing and trade. Ranking 6th out of 17 sectors according to its GDP contributions, transportation and storage contributed 5.89% in 2023 (Statista, 2024). Other sectors that depends on logistics, including: manufacturing and retail trade, two of the largest contributors, that relies heavily on transport and warehouse management to ensure smooth movement of raw materials to factories and finished goods to markets; agriculture that relies on

transportations to ship goods from rural to urban regions; and maritime sector, a sub-sector that plays a critical role in ensuring the success of both domestic and international trade. In 2023, worldwide investment on digital transformation in the 3PL industry was estimated at \$57.2 billion and is predicted to reach \$106.95 billion by 2030 (MMR, 2024).

PT Sindu Wahana Berkah, a third-party logistics company, sees digital technology as a way to boost efficiency, cut costs, and improve service quality. Like many logistics firms, it has yet to adopt more advanced digital solutions, which are typically embraced by larger or more established companies (Ashraf et al., 2024). Although there is a growing interest in digital transformation within the company, internal discussions reveal a mix of enthusiasm and uncertainty about the path forward.

Since its establishment, PT Sindu Wahana Berkah has experienced steady growth, and the technologies it has adopted have significantly contributed to that progress. For example, integrating GPS into dump trucks has enhanced both security and punctuality, minimizing risks of theft and route inefficiencies. However, the owner and key representatives, have expressed concerns regarding the lack of expertise and skilled human resources needed to support broader digital adoption. They highlighted the risks associated with implementing unfamiliar technologies, especially under financial constraints. Attempting digital transformation without adequate preparation or technical understanding is considered too risky. Nonetheless, they also recognize the potential benefits that digital transformation could bring to their operations (PT Sindu Wahana Berkah, personal communication, November 2024).

However, despite these advancements, there is limited research that specifically examines how factors such as readiness, necessity, technological trends, and perceived barriers influence digital transformation in small-to-medium logistics providers in Indonesia, especially in the case of study on individual companies. This study seeks to fill that gap by analyzing PT Sindu Wahana Berkah as a case study, contributing both to academic understanding and practical strategy

development for digital adoption in the logistics sector (PT Sindu Wahana Berkah, personal communication, November 2024).

1.3 Problem Formulation

In the current digital era, adopting technology is no longer a choice, but a necessity for businesses to remain competitive and efficient, particularly in industries like third-party logistics (3PL), where operational speed and integration are critical. PT Sindu Wahana Berkah has shown minimal progress in implementing digital transformation. The company faces several challenges in advancing its digital initiatives, primarily due to uncertainties regarding the risks and potential benefits of adopting new technologies (PT Sindu Wahana Berkah, personal communication, November 2024). These uncertainties hinder effective decision-making and necessary operational improvements. This study aims to help the company better understand and evaluate those risks and uncertainties, providing clearer direction for future digital initiatives. The successful implementation of digital transformation is expected to enhance operational activities at the company.

Previous research has explored the relationships among variables such as digital development, transformation levels, emerging trends, organizational needs, perceived necessity, and barriers to implementation (Van Ha, 2023). However, there remains a gap in understanding how these variables specifically apply to individual companies like PT Sindu Wahana Berkah. Additionally, many studies use qualitative method on individual companies instead of quantitative method. This study seeks to bridge that gap by examining the impact of these variables within the company's particular context. As such, it aims to contribute to the academic literature on digital transformation while offering practical insights to support the company's digital strategy. To ensure technology is adopted effectively and with minimal risk of failure, this study carefully assesses the potential benefits and thoroughly analyzes the barriers to transformation.

The research questions in this study are formulated based on the perceptions of employees at PT Sindu Wahana Berkah. These questions aim to capture employee insights and experiences related to digital transformation within the company. The specific research question, include:

- 1) How does implementation level of digital transformation positively affect the development of the logistics operations in PT Sindu Wahana Berkah?
- 2) How does perceived necessary conditions to implement digital transformation positively affect the development of the logistics operations in PT Sindu Wahana Berkah?
- 3) How does organizational needs required by the company have positive effects on the development of the logistics operations in PT Sindu Wahana Berkah?
- 4) How does emerging trends in digital transformation positively affect the development of the logistics operation in PT Sindu Wahana Berkah?
- 5) How does barriers in implementing digital transformation negatively affect the development of the logistics operations in PT Sindu Wahana Berkah?

1.4 Research Objectives

- 1) To analyze the effect of implementation level of digital transformation and determine their positive impact on the development of the logistics operations in PT Sindu Wahana Berkah.
- 2) To analyze the effect of perceived necessary conditions to implement digital transformation and determine their positive impact on the development of the logistics operations in PT Sindu Wahana Berkah.
- 3) To analyze the effect of organizational needs required by the company for digital transformation and determine their positive impact on the development of the logistics operations in PT Sindu Wahana Berkah.
- 4) To analyze the effect of emerging trends of digital transformation and determine their positive impact on the development of the logistics operations in PT Sindu Wahana Berkah.
- 5) To analyze the barriers in implementing digital transformation and determine their negative impact on the development of the logistics operations in PT Sindu Wahana Berkah.

1.5 Research Benefits

1.5.1 Theoretical Aspect

This research will hopefully be a useful source of information and increase in knowledge regarding digital transformation and the factors that enable it to be implemented optimally, which include its suitable conditions, requirements, and its barriers. Besides that, the author's hope that this research can be helpful for future researchers in examining other aspects regarding similar topics that perhaps is in similar situation with PT Sindu Wahana Berkah.

1.5.2 Practical Aspect

This research is expected to provide practical insights for PT Sindu Wahana Berkah by reducing uncertainties regarding digital transformation, as well as supporting the effective implementation of digital solutions within its logistics services. Furthermore, the findings may assist not only PT Sindu Wahana Berkah, but also other similar logistics companies in developing strategies aligned with digital technologies, while identifying and addressing both existing and potential barriers to successful implementation. For the author, this research offers practical benefits by enhancing knowledge, critical thinking, and research skills related to digital transformation in the logistics sector, which can be applied in future academic or professional contexts. Lastly, the research may also offer value to governmental organizations by providing insights that can support the formulation of more effective policies and regulations related to digitalization that can help logistics service companies.

1.6 Systematics of Mini-Thesis Writing

Contains the systematics and brief explanation of the research report consisting of Chapters 1 to 5 in the research report.

1.6.1 CHAPTER 1: INTRODUCTION

This chapter is a general and concise explanation that precisely describes contents of this research. The contents of this chapter includes: Overview of Research Object, Research Background, Problem Formulation,

Research Objectives, Research Benefits, and Systematics of Mini-Thesis Writing.

1.6.2 CHAPTER 2: LITERATURE REVIEW

This chapter contains theories from general to specific which also accompanied by previous research and continued with a research framework.

1.6.3 CHAPTER 3: RESEARCH METHOD

This chapter accentuate approaches, methods, and techniques used to gather and analyze findings that can answer research problems. The contents of this chapter includes: Type of Research, Operational Variables, Population and Sample, Data Gathering, Validity and Reliability Test, and Data Analysis Technique.

1.6.4 CHAPTER 4: FINDINGS AND DISCUSSION

This chapter highlights research findings and discussion systematically in compliance with the problem formulation and research objectives, presented in each subhead.

1.6.5 CHAPTER 5: CONCLUSION

This chapter is a conclusion of this research which are answers from research questions, consequently, becoming suggestions related to the benefits of the research.