

A literature review and case study on the advantages of 5PL logistics as a competitive advantage

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ABSTRACT

The supply chain system underwent a quick upgrading with the introduction of radio frequency identification (RFID) and related technologies to the supply chain management (SCM) sector. Although RFID technology has been available since the WWII era, its whole potential was not realised by supply chain management until the recent decade. Our study's overarching objectives are to learn about 5PL logistics's past, current situation, and what sets it apart from the previous four systems. The study consisted of a case study of a 5PL logistics provider, "5PL logistics solutions," with headquarters in Abu Dhabi, UAE, and a literature evaluation consisting of three papers. The literature review delves into the many applications of 5PL logistics and the effects it has had on logistics and supply chains. The case study, on the other hand, lays out the nuts and bolts of 5PL logistics within a 5PL company, including all the regulations, standards, and precautions that are required. Supply chain and logistics companies face tremendous opportunities and threats from the rapid innovation taking place in technology-enabled, highly linked economies, which is enhancing the service and industrial sectors.

Keywords—Supply chain management, logistics, technology, 1PL, 2PL, 3PL, 4PL, 5PL, RFID, GPS, and 5PL logistics solutions

1. INTRODUCTION

2. The supply chain and logistics industry has been through some difficult moments of transformation. Industrialization and the spread of modern manufacturing technology had a positive impact on the economies of the European countries that the British Empire conquered in the years between the turn of the century and the end of WWII. This is when South African, Asian, and Chinese economies started to dabble in manufacturing and exporting. The continuous wars generated a spike in demand for leather and jute products, which led to the proliferation of textile, bag, leather goods, etc.

production facilities throughout the Chinese and Indian subcontinents. After WWII, some economies reopened and others shut down for other reasons. But for economies focused on Europe and the Americas, the expansionary phase of development was already approaching its limit. Instead, the fact that the Indian economy remained close till 1991 had mixed effects on our primary, secondary, and tertiary fields. Investments in industry by members of the TATA family may be traced back to the 1840s, when India was only beginning to show signs of industrialization. Due to the absence of international competition, Indian companies were able to dominate the business and unfairly mistreat their customers. A new age in supply chain solutions and logistics began as the century turned. The expansion of trade agreements and collaboration between countries and multinational enterprises brought about by the global liberalisation of economies has opened up many new business and employment opportunities. Several new businesses have emerged, providing supply chain and logistics services, and the pace of increase in the global shipping of products in containers has been steady for some years. Machine learning, artificial intelligence (AI), and blockchain are just a few of the revolutionary technologies that have helped firms cut costs and risks in half. Historically, most companies' logistics and supply chain management functions have been handled by separate departments. This approach required meticulous planning and execution as it was fundamental to the company's operations. Nevertheless, due to the dramatic shift in the industry, several organisations increasingly rely on 4PL or 5PL firms to handle all aspects of their supply chain and logistics. A company's bottom line might benefit from this kind of outsourcing as it helps cut down on operating costs. The increased density and portability of the containerised transportation industry there is a great opportunity for well-established logistics and container firms to expand their services to become logistics solution providers. A growing number of global logistics firms, such as MAERSK, Bernard Schultz, FedEx, DHL, and many more, are extending their 5PL solutions. The availability of both economical sea-borne

and air-borne transportation facilities has led to a surge in container logistics by water and air.

3. Due to the growing emphasis on the availability of inexpensive and skilled labour in these markets, massive manufacturing and production facilities were established in Asian countries such as India, China, Bangladesh, Pakistan, Thailand, Singapore, Malaysia, etc. The improved economic situation and superior infrastructure in Asia caused logistics to speed up between the American and European continents and Asia. The advent of new trade opportunities has led to a surge in investment and employment in the logistics business, which in turn has necessitated the services of 4PL and 5PL providers. As it grew from a 3PL logistic system to a 5PL logistics provider, SCM established itself as a separate legal entity in the market, with its own target demographic, competitive advantages, and problems to solve.

4. ANALYSIS AND DISCUSSIONS OF LITERATURE

4.1 New trends for service industry

5. Customer service is becoming more important as a result of globalisation. When it comes to customer service, logistics is king in any supply chain philosophy that a company follows. Logistics, for example, is becoming more complicated in international trade, therefore the organisation is looking to third-party providers for very unique ideas. This article provides an overview of supply chain management, logistics, the advantages and challenges of third-party logistics providers, the need for new patterns of logistics outsourcing, and recent developments in the field, such as Fifth Party Logistics Providers (5PLP) and Seventh Party Logistics (7PL). In a 2009 study, Vinay, Kannan, and Sasikumar

5.1 Determinants of fifth party logistics

6. Theoretical and practical components of a networked Supply Chain Management (SCM) methodology are used to chart the development of management logistics. The impact of reform on competitive forces has already deregulated, globalised, and innovated, radically altering the concept and practice of supply chain management. There appears to be an increasing need for strong interfirm networks, among other trends. Innovative leadership tactics, market settings, and transportation modalities are the result of reimagined procurement and customer service roles. In recent years, e-commerce has widely adopted new methods for managing supply chains, especially in the transportation and distribution sectors. Thus, the competitiveness of organisations is fundamentally affected by how they manage their logistics services. Economic imperatives, technological innovations, market competition,

and organisational capacity to provide sophisticated logistics services all contribute to an environment where companies and their SCM suppliers are more confident in one another. Prospects and challenges in the future of Fourth Party Logistics (4PL) outsourcing are evident. The following are some proposed "5PL" services for the future, based on meta-analysis and new approaches for empirical research. In 2012, Peter, Balan, Albert, and Aleksandra

6.1 Logistics in digital future

7. The long-term viability of the 4PL concept is the subject of this article's expert analysis, which aims to zero in on the effects of digitization's disruptive conversion of the supply chain as a whole. Service agreements, supplier capacity, and benefits resulting from a 4PL connection are compared in both current and future contexts. A panel of experts accompanies the study's exploratory combined techniques with semi-structured interviews. With this in place, an online survey questionnaire can be developed to inquire about key aspects of the 4PL concept from a cross-section of multinational corporations. The results show a clear shift in focus from just managing transportation and logistics operations to offering an IT platform with extra value-added services like planning, analysis, and tracking. What's more, 4PL suppliers appear to be differentiated by their IT capacities in the future. The client values both immediate cost reduction and benefits resulting from optimised activities via enhanced evaluation and scheduling features, as a result of the tighter and more strategic partnerships between 4PL providers and their clients. According to Hans, Carol, Michael, and Matthias (2019).

8. CASE STUDY

8.1 5PL Logistics solutions

9. Established in 2015 as a subsidiary of FoodCo Holdings PJSC, 5PL Logistics SOLUTIONS is a frontrunner in the supply chain industry. Its mission is to assist companies looking to expand their operations into the UAE with a comprehensive set of services and solutions, creating a seamless platform for their operations. They were able to achieve a competitive edge in the present market climate and build a strong client base because to their unique and savvy technological approach to the field. They were able to guarantee development and success in the market with this complete strategy. 5PL Logistics Solutions is a fully-equipped, state-of-the-art business centre with a fleet of contemporary, climate-controlled vehicles, digitalized information distribution, and other cutting-edge features that make it a top provider of supply chain management solutions.

10. HOW DOES THE 5PL LOGISTICS SOLUTIONS USE 5PL TECHNIQUE

10.1 End-to-end multi-model

11. When it comes to planning, managing, and executing complicated, geographically dispersed projects, particularly in the Middle East and Africa, 5PL Logistics Solutions is a well-respected company that not only reaches customer destinations through various modes of transportation but also offers professional assistance. Their varied background in the industry allowed them to see opportunities in the niche, and their unique approach to doing business set them apart from the competition.

11.1 Customsbrokerage

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12.1 Global forwarding

13. You can be certain that they will provide you the most cost-effective transportation options for your products by using their smart strategies and agreements. They will provide a variety of products forwarding choices as you fill the container. Because of their regional presence, they are familiar with the regulations that apply in the Middle East and Africa, which they follow to the letter and insist their suppliers do the same.

13.1 Warehousinganddistribution

14. The well-advanced warehouse facility was one of the primary offerings from 5plsolutions to its clientele. Which has state-of-the-art equipment that records every material incoming and leaving and manages inventory. They create 11,000 m² of temperature-controlled storage spanning from -18°C to 23°C and provide customised warehousing solutions to their clients, considering the climatic condition of the Middle East and Africa.

14.1 Contractlogistics

15. 5plsolutions will be the logistics partner to handle the complete supply chain hurdle and make conducting business easier and simpler for every function in the supply chain. Helping you out isn't their only priority; they'll also work as a partner in the deals that will propel your company towards better inventory management and supply chain optimisation.

15.1 Importeronrecord/exporteronrecord

16. If a firm is looking to avoid doing business in the UAE or isn't already affiliated with any free zone businesses there, 5plsolutions may step in as a middleman to handle importing, exporting, storage, and distribution. Also, they will do what's required to stay in the market for the long haul.

17. 5PLSOLUTIONSUPGRADEDTECHNIQUE S

17.1 Returntoservice/recoverytimeobjective

18. The effectiveness of a company's customer outreach and supply chain management is crucial for time-sensitive items. In addition to offering comprehensive services, they also study the industry. Customers could see how they were doing in the market thanks to the real-time status monitoring feature. In addition to lowering project-related severe fines, they made sure the firm met the customer's expectations and wishes.

18.1 ActiveSecurity(AS)

19. The client was able to better monitor their transactions due to the process's transparency. Gain end-to-end insight into all supply chain operations with the help of the real-time information system. Improve your supply chain operations with the help of GPS tracking, G-force sensor-equipped cameras, and RFID-based temperature sensors. Make better decisions with the help of a personalised dashboard that displays operational, financial, and marketing data. In order to ensure the safety of your equipment or goods as they are transported throughout the world, 5plsolutions will include you actively in the transaction process.

19.1 PreciseProduct Integrity(PPI)

20. Every logistics provider should assure their clients that their items will be safe from the warehouse all the way to their ultimate destination. Additionally, it is challenging to verify the condition of the items at the destination. Therefore, 5PL Solutions offers end-to-end product safety by providing real-time information on the container specifics, including the temperature inside and any vibrations that might damage the products. Both the complete security of the merchandise and its punctual arrival at the destination are guaranteed by them.

20.1 ColdChainIntegrityLiveManagement(CCLM)

21. This method is primarily used to ensure the safety of foods, pharmaceuticals, and certain chemical products. The vehicle can monitor and track the temperature level and issue an alarm to any deviations in the specified criteria by utilising the GPS device and G-force cameras. The 5pl solutions actively control the cold chain using the most current technologies.

21.1 Reverselogistics

22. Not only does the supply chain play an important role in delivering products, but it also takes into account the needs of customers. The provision for repair and refurbishment is part of it. 5pl solutions offers cutting-edge infrastructure for product service and repairs, saving a tonne of time and money.

22.1 Supplychainriskmanagement

23. There is an inherent risk in optimising and improving the efficiency of supply chain management. In the early stages, there are a lot of problems that arise when the company implements integrated technology for better performance. They are able to detect and resolve the various supply chain risks thanks to their optimised and enhanced technology. They were able to successfully predict the company's future by using cutting-edge technologies that helped them comprehend various market scenarios. Upon careful examination of 5PL logistics solutions, it becomes evident that their primary job is to enhance an organization's logistics function via comprehensive supply chain planning and organisation. Keep up with the latest market trends; they impact every company. Attracting clients is a top priority for any business, so they make sure their facilities and goods are efficient. The firm will become a market success factor by adopting and syncing with the newest market technologies.

24. FINDINGS AND CONCLUSION

25. With the help of the case study and the literature analysis, the researchers hoped to ascertain the slight benefits of 5 PL. Logistics outsourcing patterns like Fifth Party Logistics Providers (5PLP) and Seventh Party Logistics (7PL) provide organisations the chance to save both time and money. New approaches to leadership, the market, and transport are born out of rethought procurement and customer service responsibilities. Recently, electronic commerce has embraced dramatic changes in supply chain management, particularly in the transportation and distribution sectors. Therefore, in order for organisations to stay competitive, the capacity to efficiently handle logistics services is vital. Company confidence in SCM providers has grown in recent years due to a confluence of factors including rising prices, more sophisticated logistics systems, fiercer competition in the market, and other similar developments. The value of Fifth Party Logistics (5PL) outsourcing is being recognised by both present and future trends. To carry out 5 PL, modern tools and trained staff are needed. Thanks to their innovative approaches and state-of-the-art equipment, 5 PL Logistics Solutions has been able to successfully manage their business. This company stands out because it caters to the consumer in every way possible. Organisational strategies that guarantee on-time logistics substantially increase customer satisfaction. With 5 PL, logistics is made more easier, and the issues that were formerly linked to product transportation are diminished. The 5PL logistics model was born out of advances in the 3PL and 4PL sectors; this study focused on the manner in which the global supply chain and logistics industry went through a transitional phase after that. Established logistics companies have fantastic new opportunities to expand into

global 5PLs as a result of this change. Technological advancement is a major factor in the rapid digitalization of the logistics and supply chain industry. The rapid digitalization that caused the change in logistics from 1PL to 5PL has made this industry a vital part of economies throughout the world. It would seem that the main roles of 4PLs in the present day are quite similar to the variety of services provided by 3PLs. The interviewees' familiarity with large logistics groups (c1) as a 4PLP could be the reason for this. Specifically, they focused on the potential operational improvements and immediate cost reductions that a 4PLP may bring about. Consequently, the 4PLP may provide new IT-driven and value-added offerings to its current service offerings. The 5PL logistics solutions case study explains how this tech-savvy company tracks its supply chain in real-time using cloud-based monitoring and recording, as well as technologies like radio frequency identification (RFID), global positioning systems (GPS), temperature and road dynamics sensors, and more. The question of whether the company can maintain the installed technology in the long run is, nevertheless, reasonable. Therefore, 5PL providers should be well-versed in and current on the system's technology components to avoid misunderstanding and duplication of work in each transaction. As a result, market 5PLs need to stand out from the competition by being experts in logistics. In conclusion, it is important to highlight that the logistics and supply chain business has had a tremendous transformation from 3PL to 4PL to 5PL, which has brought about several new uncertainties and modifications to the services provided by this niche. Even if they are grounded on previous research, the authors' own opinions may nevertheless be woven into the ideas made above. Continuous R&D improvements in general and sector-specific technology will surely aid the logistics and supply chain industry. These advancements will simplify operations and provide 5PL providers a competitive advantage. At the same time, organisations are under intense pressure to stay abreast of market conditions and expectations in order to thrive among all this tech-driven innovation happening in the industry.

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