

# Drivers of logistics service innovation in Third Party Logistics business

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**Abstract.** The desire to focus on the company's core business processes has impacted companies to outsource their logistics activities to Third Party Logistics (TPL). These conditions create the demand for logistics services so that the TPL business grows significantly. Service innovation from TPL holds a critical role in the development of logistics business clusters because TPL is a new growth source from the regional and national economy. What factors drive TPL business to innovate has not been much studied in the logistics research literature. Few studies have addressed drivers of logistics service innovation. Deficiency of empirical research on the drivers of logistics service innovation in TPL business, so that this paper study empirical studies on the factors that influence innovation in TPL business. This study aims to identify the factors that drive innovative logistics services from TPL business so that they can provide the basis for developing innovation in TPL. Content analysis of extant literature was conducted. This study found that a lot of knowledge about innovation drivers in TPL was identified in theoretical based, but many of these components were not implemented yet. This study shows that TPL will achieve successful operational performance if innovation is executed with suitable knowledge management so the TPL can achieve effective communication networks.

## 1. Introduction

The service industry plays an increasingly important role in a knowledge-based economy. The logistics industry is an example of developing a service-based industry. The logistics industry is a business concept that has evolved from a transportation business concept to a broader business concept that serves all the logistics needs of customers. The growth in science, technology and communication has forced companies to consider the potential of new resources consisting of technology, knowledge and networks. Companies must take advantage of opportunities to innovate [1]. One type of companies that plays an important role in logistics industry is third party logistics.

TPL business is an example of a new service-based industry. Currently, that business grows rapidly. TPL transform from the transportation business concept to logistics business concept. They serve the logistics needs of customers. Service innovation from TPL holds an important role in the advancement of logistics business industry because TPL is a new evolution source from the national and regional economy. It can be concluded that it is very important to study about service innovation from TPL Business. TPL needs to pay attention on innovation in order to provide better services for customers.

What factors influence TPL business to innovate has not been studied extensively in the logistics research literature. Few studies have addressed drivers of logistics service innovation. A comprehensive study is needed to find out the role of each driver of the innovation process in TPL business. Several



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innovative logistics service drivers were featured in several leading logistics journals, but very little empirical testing was carried out. Deficiency of empirical research on the drivers of logistics service innovation in TPL business, so that this paper delivers empirical studies on the factors that influence innovation in TPL business.

This study aims to identify the factors that drive innovative logistics services from TPL business so that they can provide the basis for developing innovation in TPL. The paper starts with introduction and theoretical framework that identify drivers of logistics innovation. This part is followed by the research methodology, discussions, conclusion and implications of the research.

## 2. Theoretical framework

An effective supply chain must develop the logistics activities extra efficient [2]. The global supply chain has led companies to advance logistics strategies as part of their company strategy [3]. In order to deliver products quickly, companies are trying to outsource their logistics functions to third party logistics. This condition triggers a trend in the use of TPL services as logistic service providers [4,5].

The successful of a company in the era of knowledge-based business depends on how to increase the ability of innovation. Several studies have identified that adopting innovation is the most significant tool for companies to maintain competitive advantage. Innovation in logistics is one of the key variables for third party logistics [5,6].

Several studies reveal that in order to meet customer diversification requirements, TPL must improve the efficiency of their services by adopting innovations [6]. TPL must pay more attention on innovations in their logistics services. Innovation in logistics could be implemented by network relationships, knowledge and technology [1]. Adopting innovative logistics enables TPL to improve their service capabilities [5].

Companies can accomplish competitive advantage through creating innovation. Various definitions about innovation have been discussed. Innovation is a way to provide different services. Innovation can be done by introducing new products, processes or services that are better than competitors. Innovation can also be interpreted as the process of creating opportunities into creative ideas. Innovation can be implemented through the use of new administrative and technical knowledge to deliver new services to customers [5].

Effective logistics operations can create competitive advantage and buildup market share for companies [7]. Logistics operations can also increase the value of a company's output and ultimately increase customer value. Logistics value is produced from the company's capability to decrease costs and provide solutions to customer needs [8].

The innovation concept has not been widely discussed extensively in logistical journals. There is a meaningful gap in terms of research objective. Few studies investigate the factors of logistics innovation. Logistics innovation is very useful because logistical innovation contributes to cost reduction and is difficult to emulate by competitors [8,9]. Logistics innovation not only give benefits for practitioners in logistics but also give benefits for marketing, finance and end customers. Some models of innovations in logistics include cross-docking, EDI and RFID impacting on business management. Many logistics innovations are not identified by competitors. A greater understanding of innovation can help companies build processes aimed at producing logistical innovation [8]. Innovation is broadly described as a new idea or practice. Logistics innovation mentions to logistics services that are considered new and beneficial to customers. Logistics innovation can be applied to service customers [9].

There are diverse theories of innovation used to recognize how innovation occurs and to understand what the consequences are. Researchers who study logistics innovation must consider various theories to understand innovation in a logistical context. Some theories that can be used are a) "the knowledge-based view of the firm centers on knowledge"; b) "the resource-based view of the firm"; c) "The exploration-exploitation framework"; d) "the theory of S-curves"; e) "network theory" and f) "resource-advantage theory" [8,10–15]. Based on from supporting theories, some researchers study the drivers of innovation. The following table shows a compilation of previous studies.

**Table 1.** Drivers of logistics innovation.

	[16]	[8]	[17]	[5]	[1]
Governmental support				√	
Environmental uncertainty				√	
Organization of labor		√			
Competition	√	√			
Outsourcing Pressure	√				
Customer Demand	√				
Capital Scarcity		√	√		
Knowledge		√	√		√
Technology	√	√	√		√
Relationship network		√	√		√
Financial resources		√			
Management resources		√			
Organizational encouragement				√	

The literature review on logistical innovation provides a set of propositions derived from previous studies. Many propositions are developed from conceptual articles and have not been empirically tested. Future research must be directed to test these propositions. Further research also needs to be directed at developing appropriate steps of logistics innovation. This study will examine some of these factors in influencing the adoption of innovations in TPL in East Java, Indonesia.

### 3. Research method

In order to achieve a comprehensive concept of logistics innovation, a review of the logistics journals was performed. Furthermore, content analysis of extant literature was conducted. Through extensive literature review, this paper examines the factors that drive logistics service innovation in TPL and identifies the contribution of resources owned by TPL to logistics service innovation by identifying key dimensions of drivers of logistics service innovation. Questionnaire survey on TPL business is conducted to study the logistics service innovation.

Factors influencing logistics innovation will be tested in the logistics industry in the East Java Province of Indonesia. The questions contained about the factors that influence TPL to the adoption of innovation in East Java, Indonesia. Items are measured using a five-point Likert scale from "strongly disagree" to "strongly agree". The sample framework was taken from logistical firms in the region. A total of 100 questionnaires were sent directly to sample companies in the region. In total, 80 complete questionnaires were returned from respondents. The overall response rate is 80 percent.

### 4. Results and discussion

This study presents a conceptual framework for logistics innovation based on innovative models. This study also responds to managers' concerns to improve their logistics processes and company performance. This model reveals that implementing the right logistics innovation will benefit the company in terms of competitive advantage, customer satisfaction, speed of delivery, reducing logistics costs and financial benefits.

Developments in the field of science and technology encourage TPL to consider new resources such as knowledge, technology and relationship networks to achieve innovation. These components are essential for TPL to improve the effectiveness of its operations and to achieve market leadership [18-20]. This study conducted a survey of TPL in East Java.

This study found that a lot of knowledge about innovation drivers in TPL was identified in theoretical based, but many of these components were not implemented yet. This study shows that TPL will achieve successful operational performance if innovation is implemented with proper knowledge management so the TPL can achieve effective communication networks.

From the results of the study, it can be found that the majority of TPL in East Java began to emphasize innovation in logistics. This study categorizes the factors that influence innovation in logistics into governmental support; environmental uncertainty; organization of labor; competition; outsourcing pressure; customer demand; capital scarcity; knowledge; technology; relationship network; financial resources; management resources; organizational encouragement. The results of the statistical analysis revealed that all these factors had a significant positive effect on logistics innovation for TPL in East Java of Indonesia.

This study shows that logistics companies will have successful operational and financial performance if innovation is applied with appropriate knowledge and technology management, which in turn will enable companies to have effective communication networks. This innovative process will provide an excellent solution for customer demand [16].

Based on innovations research in logistics for the logistics industry in East Java, TPL can develop better strategies to build their innovation systems. TPL in East Java can improve their innovative capabilities by training and educating their employees to become high-quality human resources. The TPL and its leaders must also provide support and better resources to drive innovation, such as knowledge; technology; relationship network; financial resources; management resources; organizational encouragement. In addition, the environment and government must provide strong support for the logistics industry in adopting innovative logistics through governmental support and organization of labor to overcome environmental uncertainty; competition; outsourcing pressure; uncertain customer demand.

The government can develop public policies to encourage the improvement of this sector through policies, investment and infrastructure development, tax incentives, safety regulations, partnerships and other special programs. Innovation will be strengthened for TPL if the government can provide a variety of supporting resources for innovation and a policy of continuous encouragement [1,5,8,16].

In addition, the use of information technology will create strong innovative communication between TPL and their customers. The customers will be able to verify the status of international shipments via the internet and the system provided. Information needed should be available online for the customer to verify and track information. This procedure will maintain a competitive advantage for global companies in the appropriate logistics industry. Finally, managers need to respond to customer investigations so that companies can create superior logistical innovations for customers in a turbulent and competitive environment [16].

## 5. Conclusion

The implication of the findings of this study is that TPL can compare their innovation management practices to the scientific knowledge of this study. TPL can adapt the general concepts found in this study according to their service needs. The innovation process will provide excellent solutions to increase customer demand. Innovation can help TPL to differentiate their services against competitors. The solutions proposed by this study will contribute positively to the implementation of the company's innovative system. In general, this study can help Indonesia's TPL business to develop better strategies in adopting logistics service innovation and can make them become innovative TPL.

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