LOGISTICS DYNAMIC CAPABILITIES AS A STRATEGY TO ENHANCE THE PERFORMANCE OF 3PLS COMPANIES IN INDONESIA

Edi Supardi[1], Suryana[2], Lili Adi Wibowo[3], Mokh. Adib Sultan[4]

Abstract

The goal of this study was to examine at how supply chain orientation, relational resources, and logistics uncertainty affect company performance as mediated by logistical dynamic capacities. The sample was selected from middle to top managers at several 3PLs Company who operated in Indonesia both for domestics or global own 3PLs. 156 questioners were analyzed in order to get a detail and meaningfull conclusion. The hypotheses were tested using SPSS AMOS 20 to discover relationship between supply chain orientation, relational resources, logistics uncertainty, logistical dynamic capabilities and firm performance. The outcome showed that every variable has a positive and significant effect on the performance of the 3PLs company. Supply chain orientation and relational resources had the biggest indirect impacts on firm performance (PF) through logistical dynamic capacities, with values of 0.371 and 0.317, respectively. The conclusion indicate that the improvement in company performance is strongly explained by the logistical dynamic capabilities that develop as a result of firms' ability to effectively manage supply chain orientation and relational resources.

Keywords: Firm Performance, Logistical Dynamic Capabilities, Supply Chain Orientation, Relational Resources, Logistics Uncertainty

[1] Sekolah Pasca Sarjana, Universitas Pendidikan Indonesia, Bandung, Indonesia & Logistics Administration, Universitas Logistik dan Bisnis Internasional Bandung, Indonesia

[2] Economic and Business Education Faculty, Universitas Pendidikan Indonesia, Bandung, Indonesia

[3] Economic and Business Education Faculty, Universitas Pendidikan Indonesia, Bandung, Indonesia

[4] Economic and Business Education Faculty, Universitas Pendidikan Indonesia, Bandung, Indonesia

Corresponding author: edisupardi.disertasi@gmail.com

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Introduction

Company performance is a relevant concept in management strategy and is repeatedly used in various studies as the dependent variable (Taouab & Issor, 2019). Research on company performance has been carried out in various industries including manufacturing(Chung et al., 2019), (Tang et al., 2018), (Aziz et al., 2020), (Kengatharan et al., 2020), (Shi et al., 2019), (J. Xu & Li, 2020), SMEs or small and medium enterprises (Tajvidi & Karami, 2021), (Chege et al., 2020), (Zulu-Chisanga et al., 2021), (Eniola & Entebang, 2015a), (Eniola & Entebang, 2015b) , (Ikram et al., 2019), (Alderete, 2019), (Cowling et al., 2018), (Valtakoski & Witell, 2018), banking industry (Almoneef & Samontaray, 2019), (Singh & Rao, 2017), (Innayah & Pratama, 2021), (Soliman & Adam, 2017), (Nomran & Haron, 2020), Industri jasa (Chao & Shih, 2018), (Mariani & Borghi, 2020), (Yee et al., 2010), (Abbu & Gopalakrishna, 2021), Industri logistik (Sezen, 2005), (Polova & Thomas, 2020), (Cao, 2011), (Zhang & Okoroafo, 2015), (Q. Wang et al., 2006), (M. Wang et al., 2020), and others.

According to the data above, there is still a high level of study on business performance in both the production and service sectors, including the logistics sector. Firm performance research is an ongoing study to determine what important aspects might affect an improvement in company performance. Nevertheless, research on 3PL business performance, particularly the discussion of firm performance linked with dynamic logistics capabilities strategies from the perspective of 3PL firms, is quite limited. As a result, the problem of 3PL company performance is interest for further investigation.

Third-party logistics (3PLs) are companies that provide various logistics services for their customers, where the logistics activities carried out are integrated and not on an independent basis (Halldórsson & Skjøtt-Larsen, 2004). The problem of the performance of 3PLs companies is an important and crucial issue because 3PLs have an important role in helping their customers to improve their logistics capabilities both independently and through their supply chain network (Zhang & Okoroafo, 2015). 3PLs have a role in improving the firm performance of their customer companies, especially in increasing company profits/profitability (Jiang et al., 2006), especially for companies that have global operations and/or marketing (Wouters, 2010), (Rao & Young, 1994) both through cost reduction (Rahimi et al., 2018) (Q. Wang et al., 2006) as well as market expansion (Mitra & Bagchi, 2008).

The performance of 3PLs companies in Indonesia in general has not met expectations, based on the 2018 Logistics Performance Index (LPI) data in table 1, Indonesia is ranked 46th (World Bank, 2018), still below the rankings of other Southeast Asian countries such as Singapore, Thailand , Malaysia and even Vietnam. In this regard, the government has issued Policy Package XV with a focus on developing businesses and increasing the competitiveness of national logistics service providers. The consideration for issuing this policy package is based on the fact that the ratio of Indonesia's logistics costs to Gross Domestic Product (GDP) is still quite high, ranging from 24% to 26% (Ellen, 2019). Compared to other countries Indonesia's logistics costs are relatively high. Logistics costs in Vietnam are 20%, Thailand 15%, China 14%, Malaysia Philippines and India 13%, Taiwan and South Korea 8% and Singapore and Japan 7% (Ellen, 2019). Meanwhile, from the selling price component of retail products (consumer goods), in Indonesia logistics costs absorb 40% of the selling price of retail products. The biggest component of logistics costs, 72% of which, is transportation costs. (Zaroni, 2017).

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Logistics Performance Index Indonesia

Country	Code	score	lower bound	upper bound	rank
Germany	DEU	4,20	4,16	4,25	1
Sweden	SWE	4,05	3,90	4,20	2
Belgium	BEL	4,04	3,92	4,16	3
Austria	AUT	4,03	3,88	4,17	4
Japan	JPN	4,03	3,96	4,09	5
Singapore	SGP	4,00	3,86	4,13	7
Denmark	DNK	3,99	3,82	4,16	8
United Kingd	GBR	3,99	3,93	4,05	9
Finland	FIN	3,97	3,68	4,26	10
United Arab	ARE	3,96	3,86	4,05	11
Hong Kong S.	HKG	3,92	3,83	4,01	12
United States	USA	3,89	3,83	3,94	14
France	FRA	3,84	3,79	3,90	16
Spain	ESP	3,83	3,74	3,92	17
Australia	AUS	3,75	3,60	3,90	18
Italy	ITA	3,74	3,68	3,80	19
Korea, Rep.	KOR	3,61	3,49	3,74	25
China	CHN	3,61	3,55	3,66	26
Taiwan, Chin	TWN	3,60	3,42	3,78	27
Thailand	THA	3,41	3,29	3,53	32
Vietnam	VNM	3,27	3,11	3,44	39
Malaysia	MYS	3,22	3,00	3,44	41
India	IND	3,18	3,10	3,26	44
Indonesia	IDN	3,15	2,85	3,45	46

Source: (World Bank, 2018)

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The COVID-19 pandemic has had a positive effect on the growth and improvement of the performance of logistics companies in general (Goel et al., 2021). On the other hand, the results of research on the impact of Covid-19 on logistics firm performance in the G-20 countries produced varying results from the 20 countries studied, 6 of which experienced negative growth and performance (Atayah et al., 2021). Meanwhile, Covid-19 has had a negative impact on logistics performance in Asian countries including Indonesia (Ikram et al., 2021).

3PLs companies in Indonesia are one of the important industrial sectors that have an impact on improving the country's economy through increasing the country's logistics capabilities, with the rapid development of free trade between countries and the e-commerce industry which has radically changed shipping into door to door service, the function of 3PLs has become very important for exporting or importing companies in a country because the dependency on services provided by 3PLs is getting higher, however, as demand grows, in theory the supply market also increases, with many 3PLs companies operating in Indonesia, both with PMDN status, mixed PMDN and PMA, as well as original FDI, which has resulted in increasingly fierce competition at the national level, this requires creativity from 3PLs companies to continue to exist and survive, especially in the current pandemic era. On the basis of the above, 3PLs companies must establish good relations with all related parties, both shippers, consignees, customs, quarantine, trade departments, ports, airports, agents, and other related parties. The problem facing 3PLs companies today is the negative growth rate for local companies where many local companies have just been established and on the other hand many local companies are experiencing bankruptcy.

Based on the explanation regarding Indonesia's logistics performance problems, it is very necessary to take corrective action from all stakeholders, considering the negative impacts that will occur if this problem is not resolved, including; 1) Globalization has fundamentally changed the business environment, whereby the manufacturing industry (shippers and consignees) have embraced companies (3PLs) as key players (logistics specialists) in their supply chains. This allows the manufacturing industry to concentrate on its core competencies (Yuan et al., 2018) 2) Logistics capability will increase the shipper/consignee's competitive advantage (a national manufacturing industry that has a global market target) which will ultimately increase the firm performance of 3PLs companies and industries national manufacturing (Rattanawiboonsom & Khan, 2020) 3) If logistics capability is not increased, the firm performance of the manufacturing industry will not increase (Aziz et al., 2020) 4) If linked to globalization and free trade, the firm performance potential of the manufacturing industry in Indonesia will decreased, considering that manufacturing companies in developed countries which are competitors to Indonesian manufacturing companies have collaborated with their country's logistics companies with the aim of increasing their logistics capability and firm performance (Yulia M Zai et al., 2018). 5) opportunity for the national manufacturing industry to benefit from the low difference in local and international selling prices (ICC, 2020) (BPS) 6) Low collaboration between the national manufacturing industry and the logistics industry, especially national 3PLs will have an impact on low sensing capability, innovation capability and firm performance and sustainability of both parties, both the national logistics and manufacturing (Ikram et al., 2021)(Sudrajat et al., 2019) 7) The loss of foreign exchange amounted to 22% of total GDP as a result of the national manufacturing industry using foreign logistics services such as which is explained in table 2 which shows that Indonesia's logistics costs are 22% of GDP or USD 233. Billion where 7.7% of Indonesia's total logistics costs or USD 18 billion is the income of 3PLs companies (Armstrong & Associates, 2021).

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Table 2
Global Logistics Costs and 3PLs Revenue
October 2021 (in USD Billion)

Country	2020 GDP	Logistics (GDP%)	2020 Logistics Cost	3PL Revenue %	2020 3PL Revenue
Brunei Darussalam	12.0	15.0%	1.8	8.5%	0.2
Cambodia	26.0	16.4%	4.3	8.0%	0.3
China	14,722.8	14.5%	2,134.8	10.6%	227.4
India	2,708.8	13.0%	351.8	7.4%	26.0
Indonesia	1,059.6	22.0%	233.1	7.7%	18.0
Malaysia	338.3	13.0%	44.0	7.5%	3.3
Myanmar (Burma)	81.3	17.2%	14.0	7.7%	1.1
Philippines	362.2	13.0%	47.1	7.4%	3.5
Singapore	340.0	8.5%	28.9	12.0%	3.5
South Korea	1,630.9	9.0%	146.7	11.5%	16.9
Thailand	501.9	15.0%	75.3	7.7%	5.8
Vietnam	340.8	20.0%	68.2	7.9%	5.4
Grand Total	**84,574.8**	**10.8%**	**9,092.1**	**10.6%**	**961.8**

Source: (Armstrong & Associates, 2021)

This study uses the Dynamic Capability View (DCV) theoretical approach initiated by David J. Teece in 1997 (Teece et al., 1997) in his theory Teece states that dynamic capabilities are created as a general framework for gathering knowledge about firm-level competitive advantage in under conditions of vigorous innovation and global competition. Dynamic capabilities denote a company's ability to integrate, build, and reconfigure its internal and external competencies to cope with rapidly changing businesses in a dynamic environment (Pundziene et al., 2021) The use of DCV theory in this study is that to build competitive advantage in a rapidly changing environment, 3PLs and manufacturing companies must be able to accommodate and combine internal capabilities, dynamic capabilities and cooperative relationships that can generate innovation (Yuan et al., 2018).

The negative impact of Covid-19 on the firm performance of 3PLs companies requires 3PLs companies to adapt to the environment and re-change their strategies to adapt to increasing pressures and business competition (Ikram et al., 2021)(Y. Xu et al., 2021)(Atayah et al., 2021), The theory of dynamic capability helps 3PLs in rearranging their business and strategies, with new strategies that suit the needs and changes in the environment (Yuan et al., 2018). Based on the DCV theory approach, there are several factors that can affect the performance of 3PLs, namely internal resources, external environment and dynamic capabilities as the main keys in implementing a

strategy to improve the performance of 3PLs companies.

Internal Resources for 3PLs companies are assets that belong to an organization or company as the most basic foundation for an organization, which includes tangible assets (transportation and warehousing) (Liu & Lai, 2016), human assets (number of employees, skills, and motivation them), and intangible assets (such as technology, patents and copyrights, culture, and reputation of an organization or company) (Grant, 2006) in (Wheelen et al., 2018), in this study the internal resources to be examined include Supply Chain Orientation and Relational Resources (Chu et al., 2018a; Esper et al., 2010; Gligor, 2014; Shou et al., 2017; Y. Xu et al., 2021).

The external environment or external environment is the environment outside the company which includes the macro environment and industrial environment, where changes that occur will affect the company both in the short and long term (Hubbard, 2011), in this study the external environment that will be examined related to 3PLs companies is Logistics Uncertainty (Giuffrida et al., 2021; Hofer et al., 2021).

Literature Review
Logistics Uncertainty
Market Uncertainty is an uncertainty or volatility caused by changing customer preferences and unpredictable demand (Chu et al., 2018a; Wong et al., 2011). Market Uncertainty is a situation where market conditions and future events cannot be anticipated (Chu et al., 2018b). While Logistics Uncertainty is an uncertainty in business and logistics activities which includes uncertainty in delivery, uncertainty in customer expectations for the level of service provided, uncertainty in regulatory compliance, uncertainty in the external environment, uncertainty in inventory management, damage to goods and uncertainty in demand (Giuffrida et al., 2021)

Market uncertainty is an external environmental factor whose behavior cannot be controlled by management. Manifestations of

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market uncertainty include; demand fluctuations, price elasticity, seasonal changes and others (Lu et al., 2018). Market uncertainty is also one of the most extensively studied and well-documented factors that seems to have received a lot of attention in the literature (Lu et al., 2018). Giuffrida, (2020) defines market uncertainty in the logistics business as logistics uncertainty. There are four main ways to enter China, which are determined by the international mode of transportation used and the presence of local warehouses. The most important risk factors influencing the selection of a logistics solution are changes in CBEC regulations, product value, expected level of service and level of demand. Where Giuffrida considers this as a form of uncertainty (Giuffrida et al., 2020).

Relational Rescources

Relational resources have been considered as one of the important resources for 3PLs providers to achieve competitive advantage. According to Karia et al. (2015), relational resources refer to the strong relationships that companies build with their suppliers and customers (Karia et al., 2015) . Relational resources are defined by Morgan and Hunt as "resources acquired through relationships, these relationship ties encompass both those within the company (i.e., between different internal units) and those outside it (i.e. between the company and its suppliers and customers). .Such resources are difficult and costly for rival firms to imitate, as they require a long term to develop and involve significant ambiguity (Hunt & Morgan, 1995). Relational resources allow 3PLs providers to collaborate closely with their customers to increase competitiveness level and mutual benefit (Chen et al., 2019a).

According to Shou et al. most of the innovation ideas of 3PLs providers come from contact with clients. This implies that relational resources promote the advancement of 3PLs providers (Shou et al., 2017). It is also stated that logistics service providers must innovate in order to gain a competitive advantage (Grawe, 2009; Shou et al., 2017; Wagner, 2008). As a result, innovative and dynamic capabilities can act as a potential link between relational resources and the performance of companies providing 3PLs.

Supply Chain Orientation

Supply Chain Orientation (SCO) is the company's focus in taking a supply chain system-oriented approach, collaborating with other companies to synchronize intra- and inter-company capabilities and create unique added value with the aim of increasing customer satisfaction and loyalty (Esper et al., 2010), (Yee et al., 2010) dan.(Chen et al., 2019a) . SCO is defined as the strategic and systemic coordination of traditional business functions within specific companies and across businesses in the supply chain, with the aim of improving the long-term performance of each company and the supply chain as a whole (Beske, 2012).

SCO, on the other hand, is defined as "recognition by the company of the system, strategic implications of the activities and processes involved in managing various flows in the supply chain" (Mentzer et al., 2001). Hence, while SCM focuses on flow management exchanges within and across supply chain members, SCO emphasizes strategic awareness and embraces SCM within a company's individual supply chain SCO is a necessary antecedent for effective SCM, suggesting that an organization must first look within before it can effectively engage in strategic supply chain process management (Mentzer, 2004).

SCO adopts a systems approach to look at the supply chain holistically. LSP seeks to understand the skills and capabilities of its supply chain partners. The aim is to understand the various capabilities that exist along the supply chain and understand when and where each might be best used for the benefit of the entire supply chain (Defee & Fugate, 2010).

3PLs must proactively interact and negotiate with supply chain members to define value added services in the industry. LSP aims to make their customers competitive, evaluate their own core business and align external resources to meet customer needs, and develop new service mixes in developing business networks to justify their existence. This requires supply-customer chain analysis for continuous service improvement. New resources and capabilities are often created through interactions between LSPs and their supply chain members leading to sustainable competitive performance (Hakkansson, 1995). In general, a supply chain orientation adopts a

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systems approach to view the supply chain holistically (Chen et al., 2019b)

Logistical Dynamic Capabilities
Dynamic capabilities define as the company's ability to integrate, build, and reconfigure its internal and external content in order to get competitive advantage in rapid environmental changes (Teece et al., 1997), dynamic capabilities are a set of organizational capabilities consisting of sensing, orchestration, value capture and transformation, to addressing rapid environmental changes Teece 2020 in (Pundziene et al., 2021). The company's ability to update its competencies so that the company is able to achieve competitive advantage over time and survive in a turbulent business environment (Cao, 2011).

Logistical Dynamic capabilities is the ability of 3PLs companies to be able to improve their operational activities in providing higher services to their customers including information management services, logistics contracts and supply chain financing (Selviaridis & Spring, 2007) , dynamic logistics capabilities can also be interpreted as adaptive and innovative capabilities of 3PLs companies in serving, forecasting environmental changes, evaluating different operational plans, deploying resources, being flexible, and improving services through innovation and providing services that are continuously profitable for its customers (Chen et al., 2019a). The input and output of materials and finished goods is the focus of logistics planning. There are three clear trends associated with this strategy: centralization, outsourcing, and use of the Internet. The company started to centralize logistics in the head office group to achieve synergies in the cross-departmental supply chain. Experts in various modes of transportation, such as rail and trucking, are usually part of this centralized logistics team. They pool shipping volumes of companies to negotiate more favorable terms with carriers. Organizations such as Georgia-Pacific, Marriott, and Union Carbide see logistics as a means to separate themselves from competitors, increase profits, and lower costs.(Weelen et al., 2018).

Firm Performance
Company performance has been variously defined by researchers, this definition includes

the end result of an activity that can be measured through profit levels, market share, reduced costs, and others (Weelen et al., 2018). A complete view of the company's condition over a certain period of time, is a result or achievement that is influenced by the company's operational activities in utilizing its resources as measured by increased sales, income stability and profit levels (Khan & Quaddus, 2018). The company's success over time and in certain markets in both financial and non-financial forms, which is measured through comparisons with competitors and the industry in general (Pundziene et al., 2021).

Firm performance is an exogenous construct that is measured through indicators: financial, customer, internal process, and learning and growth (Wu & Lu, 2012) and (Kaplan & Norton, 2001). Company performance is the company's ability to integrate, build, and reconfigure its internal and external competencies to cope with rapid environmental changes (Teece et al., 1997), company performance is the company's ability to renew its competencies so that companies are able to achieve competitive advantage over time and survive in a turbulent business environment (Cao, 2011).

The Firm Performance dimension based on Kaplan opinion is the most common, comprehensive and widely used dimension in firm performance research, covering four things, namely financial and customer increases/growth, improvements to internal processes within the company and a learning perspective which allows the ability of employees to increase (KAPLAN et al., 2010). The dimensions of firm performance based on previous research on 3PLs companies, in general are the same as Kaplan's opinion, but reduced to a more specific size including opinion (Evangelista et al., 2012) namely the dimensions of an increase or improvement in Turnover, market expansion, increase in the number of customers, improving operations, improving customer service, improving flexibility and effectiveness of asset use, the dimensions according to (X. Wang et al., 2020) are summarized into two things, namely improving logistics services and expanding markets. (Henrique & Lima, 2021) who conducted a more detailed study of the firm performance dimensions of 3PLs companies,

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which has summarized the opinions of various experts and researchers, 164 main indicators were obtained and then 27 indicators were determined which were most widely used in research which were summarized in 4 dimensions namely: cost improvement/efficiency, turnover, timeliness and accuracy (Henrique & Lima, 2021).

Method

This research was a quantitative research with descriptive and verification method. The population were 3PLs companies in Indonesia. The samples, were obtained from purposive sampling data, questionnaires were distributed using google forms, e-mails, whatsapp, direct interview and interview via zoom to about 500 targeted respondents. The sample consisted of 156 respondents both form middle and top manager at 3PLs company in Indonesia. The analytical tool employed was SPSS SEM AMOS. Based on the research objectives, the research hypothesis are outlined below:

H_1 : Logistics uncertainty has a direct impact on logistical dynamic capabilities

H_2 : Relational resources has a direct impact on logistical dynamic capabilities

H_3 : Supply chain orientation has a direct impact on logistical dynamic capabilities

H_4 : Logistical dynamic capabilities has a direct impact on firm performance

Table 3

Measures used in the study

Construct and item	Source
Firm Performance	
Financial Performance - Sales Achievement Level - Profit Achievement Level - Cost Achievement Level	Mikalef dan Pateli (2017), (Evangelista et al., 2020),
Customer Performance - Market Share Achievement Level - Customer retention Level - Customer satisfaction Level - Number of New Customer Achievement Level - Number of Most Profitable Customers Achievement Level	(Evangelista et al., 2020),
Internal Process Performance - Logistics Service Quality Level - Logistics Process Innovation Level - Logistics operation efficiency Level - Logistics operation effectivity Level	Mikalef dan Pateli (2017)
Learning and Growth Performance - Communication effectiveness level - Employee competency level	Pundziene et al, 2021
Logistical Dynamic Capabilities	
Sensing - Environmental Scan Level	Teece (2020) in (Pundziene et al., 2021)
Organizing / Orchestrating - Employee engagement Level	Teece (2020) in (Pundziene et al., 2021)

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Construct and item	Source
Value Capture - Innovation Commercialization Level	Teece (2020) in (Pundziene et al., 2021)
Transformation - Organizational Learning Level	Teece (2020) in (Pundziene et al., 2021)
Supply Chain Orientation	
Supply Chain System Orientation - Job distribution and business process relationships orientation level - Quality and total cost orientation level - Service orientation level	Chen (2019)
Collaboration and synchronization of intra and inter-company capabilities - Collaboration and synchronization level with shippers and consignees - Collaboration and synchronization level with other logistics companies - Collaboration and synchronization level with other related parties - Anticipation level of business change	Chen (2019)
Creation of a unique source of value for customers - Level of ability to develop new resources in changing supply chain networks - Level of ability to develop new business opportunities in changing supply chain networks - The level of ability to create added value that benefits the supply chain network	
Relational Resources	
Coordination Establishment - The level of close coordination/collaboration with Customers - Close level of coordination/collaboration with logistics Suppliers/Vendors - Close level of coordination/collaboration with other Business Partners (government, ports and others)	(Chen, 2019)
Sharing Information Commitment - The degree of commitment to sharing information with customers - Level of commitment to share information with Suppliers/Vendors - Level of commitment to share information with other business partners (Government, Ports and others)	(Chen, 2019)
Good Communication Skills - Level of good communication skills with customers - Level of good communication skills with suppliers/vendors - level of good communication skills with other business partners	(Chen, 2019)

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Construct and item	Source
Logistics Uncertainty	
Delivery Uncertainty – Degree of uncertainty over delivery times and costs	(Giuffrida et al., 2021)
Customer service expectation uncertainty – The degree of uncertainty over the logistics service perceived by the end customer	(Giuffrida et al., 2021)
Inventory management uncertainty – The level of uncertainty over the lack of good inventory management	(Giuffrida et al., 2021)
Product damage uncertainty – The degree of uncertainty regarding damage to goods either physically or in quality.	(Giuffrida et al., 2021)
Demand uncertainty – The level of uncertainty over demand caused by low forecasting ability	(Giuffrida et al., 2021)

Result

About 500 questionnaires were distributed via e-mail, Whatsapp messages, SMS messages, in-person interviews, interviews via Zoom and on-site data entry for 182 respondents. A total of 156 samples were used in this study, and 26 samples could not be used for various reasons including respondents who were not practitioners from 3PLs companies, respondents who were 3PLs practitioners but domiciled outside Indonesia and others. Companies that do not return questionnaires for several reasons cannot participate, including global company data policies, also there are companies that have merged at the time of collecting the questionnaires, changed management so that they no longer have access and other things,

Measurement model identification which related to the items in each construct, validity and reliability were calculated using the CFA model. The fifth construct analyzed are logistical uncertainty, relational resources, supply chain orientation, logistical dynamic capabilities and firm performance.
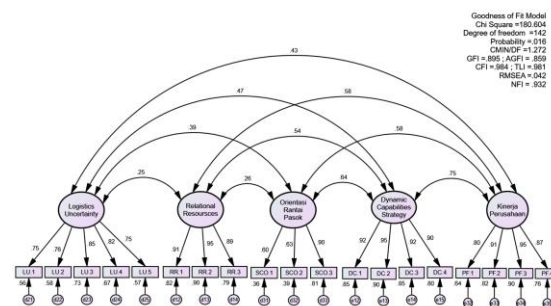

Figure 1. CFA Model

The results of the fit model on the CFA model is chi square = 180.604 (df = 142), GFI = 0.895, AGFI = 0.859, CFI = 0.984, TLI = 0.981, RMSEA = 0.042 and NFI = 0.932. In overall the fit of the model from various model fit indices explains the existence of a high model fit. GFI and AGFI results range from 0.80 to 0.90, RMSEA less than 0.08 is an absolute indication of good fit. While CFI and TLI are worth more than 0.95, NFI is worth more than 0.90 indicating a good incremental fit.

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Table 4
Validity and Construct Reliability

Variable / Indicator	Loading Factor	Composite Reliability	Average Variance Extracted (AVE)	Alpha Cronbach
Logistics Uncertainty				
LU1	0.750	0.890	0.619	0.910
LU2	0.758			
LU3	0.852			
LU4	0.817			
LU5	0.752			
Relational Resources				
RR1	0.906	0.939	0.838	0.904
RR2	0.948			
RR3	0.891			
Supply Chain Orientation				
SCO1	0.597	0.758	0.520	0.823
SCO2	0.625			
SCO3	0.901			
Logistical Dynamic Capabilities				
DC1	0.920	0.958	0.852	0.904
DC2	0.950			
DC3	0.924			
DC4	0.897			
Firm Performance				
PF1	0.798	0.934	0.780	0.823
PF2	0.908			
PF3	0.948			
PF4	0.872			

The measurement model will explain the construct validity and reliability of the five variables in the hypothetical model. construct validity and reliability are explained by the magnitude of loading factor, composite reliability and average variance extracted (AVE). The measurement model has good validity and reliability. Loading factor in the range of 0.597 – 0.950 is good because it is worth more than 0.50. The reliability of each construct is also good, the composite reliability value in the range of 0.758 – 0.958 has exceeded the recommended limit of 0.70. Likewise, construct reliability as measured by the AVE value is in the range of 0.520 – 0.852, exceeding the recommended limit of 0.50.

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Table 5
Discriminant Validity

Variabel	LU	RR	SCO	DC	PF
Logistics Uncertainty (LU)	(0.787)				
Relational Resources (RR)	0.254	(0.915)			
Supply Chain Orientation (SCO)	0.388	0.260	(0.721)		
Logistical Dynamic Capabilities (DC)	0.470	0.538	0.637	(0.923)	
Firm Performance (PF)	0.434	0.576	0.580	0.751	(0.883)

In addition to meet convergent validity, a measurement model that is reflective must have discriminant validity. A measurement model meets discriminant validity if the AVE root of a construct is greater than the correlation coefficient with other constructs. For example, the logistics uncertainty construct has an AVE value of 0.619 (see Table 4), so an AVE square root of 0.787 is obtained. The correlation coefficient of logistics uncertainty with other constructs ranges from 0.254 – 0.470 so that the discriminant validity of the logistics uncertainty construct is good. Thus it can be concluded that the measurement model of this study has met discriminant validity.

After the measurement model has met the requirements, then the suitability of the model in the structural model will be described. Hair et. al. (2014) suggested using a minimum of three or four model fit indices which include at least one incremental fit and one absolute fit. Absolute fit includes the results of the chi square test and its probability value, the goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI) and the root mean square error of approximation (RMSEA). Meanwhile, for incremental fit, we can use the following fit indices: normed fit index (NFI), tucker lewis index (TLI), comparative fit index (CFI).
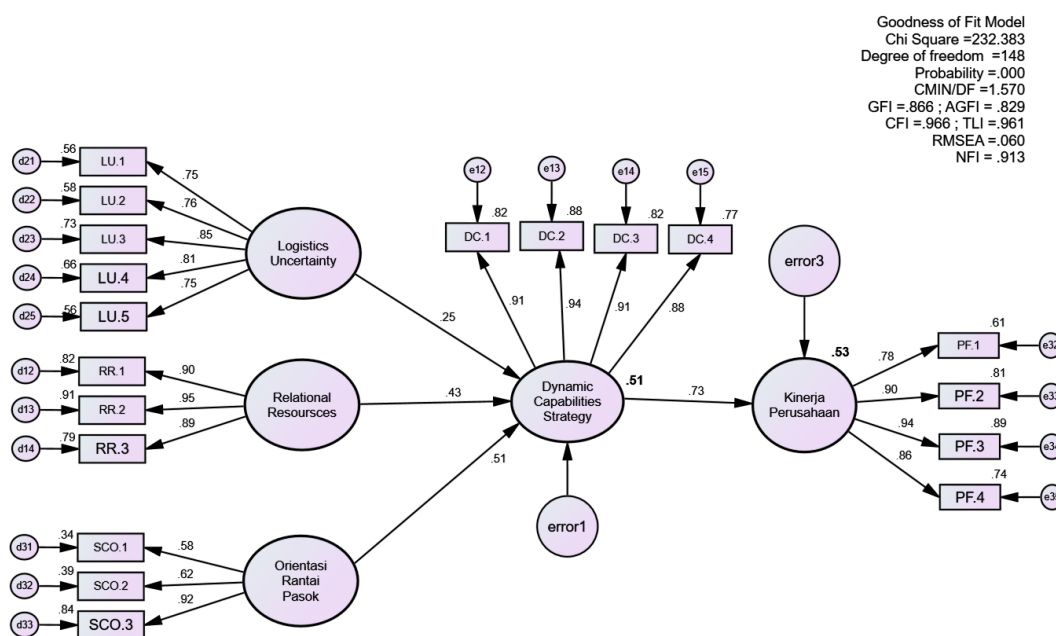

Figure 2. Model Hypothesis Model

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Table 5
Hypothesis Model Path Coefficient Test Results

			Regression Weights	C.R.	P	Standardized Regression Weights
$R^2 = 0.512$						
DC	<---	LU	0.358	3.753	<0.001	0.254
DC	<---	RR	0.455	6.596	<0.001	0.434
DC	<---	SCO	0.770	5.637	<0.001	0.508
$R^2 = 0.533$						
PF	<---	DC	0.682	9.274	<0.001	0.730

The results of the fit model on the hypothesis model is as follows; chi square = 232.383 (df = 148), GFI = 0.866, AGFI = 0.829, CFI = 0.966, TLI = 0.961, RMSEA = 0.060 and NFI = 0.913. Overall the fit of the model from various model fit indices explains the existence of a high model fit. GFI and AGFI results range from 0.80 to 0.90, RMSEA less than 0.08 is an absolute indication of good fit. While CFI and TLI are worth more than 0.95, NFI is worth more than 0.90 indicating a good incremental fit.

The path coefficient of 0.358 (p<0.001) from logistics uncertainty to logistical dynamic capabilities is significant. The path coefficient of 0.455 (p<0.001) from relational resources to logistical dynamic capabilities is significant. The path coefficient of 0.770 (p<0.001) from supply chain orientation to logistical dynamic capabilities is significant. The contribution of logistics uncertainty, relational resources and supply chain orientation in explaining variations in logistical dynamic capabilities data is 51.2%, while the rest is explained by other variables.

The path coefficient of 0.682 (p<0.001) from logistical dynamic capabilities to firm performance is significant. The contribution of logistical dynamic capabilities in explaining variations in company performance data is 53.3%, while the rest is explained by other variables.

Table 6
Result of direct, indirect and total influence

Variable relationship	Direct Influence	Indirect Influence	Total Influence
LU --> DC	0.358	-	0.358
RR --> DC	0.455	-	0.455
SCO --> DC	0.770	-	0.770
DC --> PF	0.682	-	0.682
LU --> PF	-	0.185	0.185
RR --> PF	-	0.317	0.317
SCO --> PF	-	0.371	0.371

The factors with the highest indirect effects on firm performance (PF) via logistical dynamic capabilities are supply chain orientation (SCO) and relational resources, with respective effects of 0.371 and 0.317. We can therefore draw the conclusion that the improvement in company performance is strongly explained by the logistical dynamic capabilities that develop as a result of firms' ability to effectively manage relational resources and supply chain orientation.

Discussion

For the last few decades, 3PLs companies in Indonesia have been struggling to face conditions full of challenges as a result of market turbulence, globalization, and the pandemic; however, there is an interesting fact that there has been a decline in the performance of 3PLs companies in Indonesia during the co-19 pandemic. This study was conducted using Weelen et al. strategic management approach. In general, based on Weelen approach and previous research, external factors were the

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dominant and main factors influencing company performance (Weelen et al., 2018); however, the results revealed that the two internal factors studied, namely supply chain orientation and relational resources, had a greater influence on 3PLs company performance than the external factors studied, namely logistics uncertainty.

Logistics Uncertainty which is characterized and measured through the level of delivery uncertainty, customer service uncertainty, inventory management uncertainty, goods damage uncertainty and demand uncertainty has positively proven to be able to have a influence on logistics dynamic capabilities (logistical dynamic capabilities) although the level is lower than the two internal variables examined in this study, this occurs because 3PLs business is a dynamic business filled with uncertainty so that in general 3PLs companies perceive logistical uncertainty as an opportunity.

In addition, research results show that 3PLs companies that have a supply chain orientation and relational resources tend to have high dynamic logistics capabilities, this is because 3PLs companies that are supply chain oriented will generally have better logistics operations, this happens, as a result of there is better planning as a result of thinking that is integral not only from the point of view of the sender and receiver but from all parties involved in a supply chain. Meanwhile, 3PLs companies that have good relational resources will get more complete and specific information from their customers so that the planning and logistics operations carried out will also be better. Therefore, 3PLs with a high level of logistical dynamic capability will perform a better firm performance. Previous research broadly validated the findings of this analysis. Logistics uncertainty contributed to increased logistical dynamic capabilities (Giuffrida et al., 2020, 2021), (Chu et al., 2018b), (Lu et al., 2018). Relational Resources contributed to increased logistical dynamic capabilities (Karia et al., 2015), (Chen et al., 2019a), (Shou et al., 2017), (Raddats et al., 2019). Supply chain orientation contributed to increased logistical dynamic capabilities, (Chen et al., 2019a), (Barker et al., 2021). (Shaharudin et al., 2014), (Esper et al., 2010), (Yee et al., 2010), and logistical dynamic capabilities contributed to increased firm performance (Pundziene et al., 2021),

(Cao, 2011), (Chen et al., 2019a), (Weelen et al., 2018), (Teece et al., 1997).

Conclusion

Based on the analysis's findings, it can be said that supply chain orientation, relational resources, and logistical uncertainty all indirectly influence a company's performance via logistical dynamic capabilities or in other words the improvement in 3PLs company performance is strongly explained by the logistical dynamic capabilities that develop as a result of firms' ability to effectively manage supply chain orientation, relational resources and logistics uncertainty.

The findings of this study must be interpreted with some caution. Firstly, the results cannot be generalized because the quantity and sample criteria utilized do not represent all 3PLs in Indonesia, particularly different types of logistics organizations. As a result, the study's conclusions must be used with caution, particularly when applying the same research to other logistics industry types in Indonesia, such as shipping, trucking, forwarding, warehousing, and others, because the characteristics of each type of organization varies. As a result, additional study on other sorts of logistics companies can be conducted. With the inclusion of other mediating variables such as invention, collaboration, and others.

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