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The Effect of Collaboration, Information Sharing and Digitalization Strategies on Logistics Performance with Logistic Capabilities as a Mediation Variable

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Abstract

This study aims to analyze the impact of collaboration, information sharing, and digitization strategies on logistics performance. This is mediated by the logistics function of companies operating in the supply chain industry. Researchers used primary data obtained from questionnaires that were included in the criteria for distributing questionnaires and designed to be answered by respondents which contained several statements. The sample size for this study is the index of each variable multiplied by 5. The number of indicators included in this survey is 5 times 26 indicators, the number of samples needed is 130 samples, and 135 responses are collected. Based on the results of the research, information sharing has a positive and significant impact on logistics capabilities, which is reflected by indicators explaining that information sharing has a positive impact on the organization both internally and externally. Logistics capability has a positive and significant influence on logistics performance which is reflected by various indicators in logistics capabilities which are supported by the quality of existing resources.

Keywords
Information sharing; digitalization strategies; logistic performance

I. Introduction

Globalization has accelerated business turnover in the last two decades due to the rapid development of technology in the process of creating and disseminating information, increasing competition and moving markets more dynamically. Business is driven by stronger competitiveness than ever before, demands to keep costs down and customers move more aggressively. Companies were forced to reorganize their business processes and networks that allowed them to move quickly and cost efficiently.

Still in the process of adapting so that companies can survive in the era of globalization, the last two years the world has experienced extraordinary disruptions due to the Covid-19 Pandemic which has caused the level of VUCA (Volatility, Uncertainty, Complexity and Ambiguity) in the supply chain world to be higher. Prior to the pandemic, most companies around the world implemented lean supply chains, with a focus on minimizing costs and delivering goods on time. This resulted in reduced inventory so that the company did not have a buffer to maneuver in its operations.

Supply chain actors need to develop recovery plans as the industry slowly recovers, while supply and demand mismatches persist (Simchi-Levi, 2020). The logistics process is an important factor that can help the process of recovering the industrial situation. Optimization of supply and distribution in the company's network or utilization of freight transport only has a limited impact on resource efficiency. Individual companies with limited shipping volumes do not have access to highly efficient and productive

transportation networks. In order to adapt, many companies are changing their business models by acquiring or strengthening networks by outsourcing their logistics functions to logistics service providers.

Business strategy by strengthening networks and especially cooperation in logistics is one possibility to increase efficiency and collaboration between partners or different stages of the supply chain, the more balanced it is to adapt to the current global business conditions. In addition, the company's ability to create "added value" is very necessary, especially in winning the competition in the market. In an effort to create a “sustainable competitive advantage”, companies are required to work more efficiently by applying the concept of integrated management of all existing management functions.

Sharing information is believed to be able to encourage better company performance. Information can be obtained from all integrated and also collaborating resources that are in one supply chain flow. Kocoglu et al. (2011) found that there is an effect of integration/collaboration on information sharing and supply chain performance and the role of information sharing in achieving performance. The results show that supply chain integration has a positive effect on information sharing and both have a positive effect on performance.

According to Vereecke and Muylle (2006), collaboration can lead to improved performance in the supply chain. Companies build collaborative relationships with their supply chain partners to achieve efficiency, flexibility and sustainable competitive advantage (Nyaga et al., 2010) which ultimately leads to improved company performance. Bititci et al. (2004) stated that information sharing has a positive impact including: to build and improve organizational capabilities; to share effective information between partners which can be a key driver of collaborative efforts; and improve performance in the supply chain (Prajogo and Olhager, 2012). Collaboration is said to have three components which are reflected through partnership, trust, and network quality. The development of collaborative efforts can be strengthened through partnership relationships because partnership relationships tend to be transactional which can determine the position of collaboration, Koschmann et al., (2012) and Seitanidi and Crane (2008), such as: dealing with negotiations, consensus, facilitating collaboration, combining resources power, ability and join the agreement to achieve profit targets (Gray and Stites, 2013).

II. Review of Literature

2.1 Signaling Theory

a. Logistics Performance Logistics

Management is part of supply chain operational management which is tasked with planning, implementing, and controlling flow efficiency to store goods/services, save money and forward related information in the process starting from the point of origin to the end point to meet customer needs. Customer satisfaction, and has a relationship with the level of customer loyalty and the expansion of the target market. Customer satisfaction depends on the quality of service providers in managing the flow of goods and services provided. Efforts made by the organization to increase competitiveness include collaborating with partners, adding information channels and increasing transparency to partners through digitalization.

b. Collaboration

Collaboration is a strategy based on the idea that it is impossible for a company to compete successfully in a competitive market if it works alone (Mehrjerdi, 2009).

Collaboration aims to identify and achieve a win-win situation between two or more companies operating at the same supply chain level, regardless of whether they are competitors or not, similar or different in size. In other words, collaboration enables the companies involved to achieve superior performance compared to what they would achieve individually. These companies may be manufacturers or suppliers, retailers or service providers (Pomponi et al., 2013).

c. Sharing Information

Sharing is one of the factors that can increase the element of collaboration within the company or between business actors as a whole and is an important factor in improving company performance. Performance can be influenced by various factors, both internal factors and environmental factors directly or indirectly. According to Ivancevich, Konopaske and Matteson (Busro in Edward, 2020) that performance shows the ability and skills of workers. Performance is a person's success in carrying out tasks, work results that can be achieved by a person or group of people in an organization in accordance with their respective authorities and responsibilities (Wulandari, 2021). The more disparate the collaborating parties are, the better they are at coordinating and building long-term business relationships (Kirono et al., 2019). Sharing information is needed to overcome uncertainty, the more collaboration that is carried out, the more information will be received and disseminated. Thus, the overall system performance will increase because each party in the collaborative relationship gets an increase from sharing information (Z. et al., 2001).

d. Digitization

The acceleration of the digitization process in the industrial era 4.0 has changed business content and contributed to an increasingly dynamic market environment and structure (Kayikci, 2018). So far, the digitization process in the supply chain has experienced rapid development. The core idea of Industry 4.0 is to use emerging information technology to implement Internet of Things (IoT) and services so that business processes and engineering processes are deeply integrated in production to operate in a flexible, efficient, and environmentally friendly manner with always high quality and cost. low (Wang et al., 2016). Some of the main digitalization tools in the supply chain are *big data*, *internet of things* (IoT) and *blockchain*. Digitization in the supply chain makes the entire network in it experience very fast changes. Tracking product location is easier, all partners have access to all data thus making the supply chain more efficient (Gupta et al., 2021).

e. Logistics Ability Logistics

Capability consists of 2 factors, namely internal factors and external factors. The internal logistics factors must work more closely with other related functions in planning, coordinating and integrating various cross-functional activities in it (Bowersox, D. J; Closs, 1996). Distribution of logistics as the dominant component of business activities in the field of forwarding and expedition business requires efforts to increase its competitiveness. The company's goal, apart from creating competitive advantage in the long term, is also to create value for its customers (Kirono et al., 2019).

2.2 Previous Research

There are two main journals that form the basis for the birth of the latest conceptual framework in this research.

a. The Research of Kirono et al., (2019)

The aims to analyze the impact of collaboration, logistics capability and information sharing on logistics performance which is devoted to the following framework:

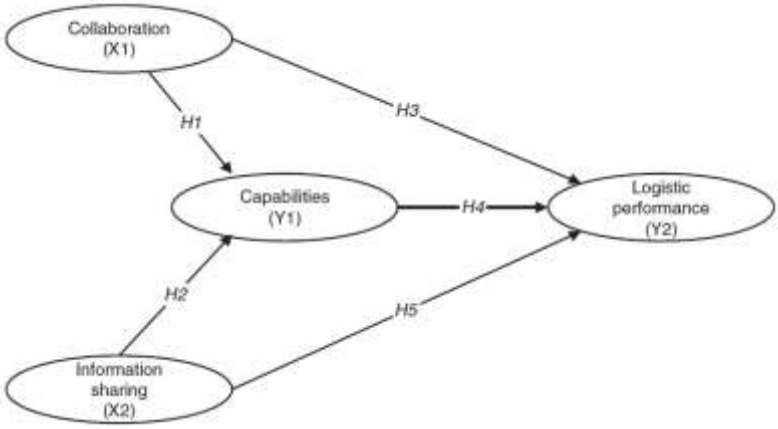

Figure 1. *Kirono et al. Conceptual Framework, (2019)*
Source: Kirono et al.., (2019)

Kirono et al., (2019) found that collaboration has a positive impact on logistics capabilities, logistics capabilities have a positive impact on logistics performance, collaboration does not directly affect logistics performance, and logistics capabilities as a mediation of information sharing in building performance logistics. Increasing the intensity of information sharing does not directly contribute to increased flexibility and collaboration driven by partnerships and networks, while trust can be ignored, as it has not been shown to make a dominant contribution to collaboration with partners and networks. The essence of Kirono et al., (2019)'s research that can be taken for future research is collaboration and information sharing will only have an impact on logistics performance if mediated by logistics capabilities.

b. Research Gupta et al., (2021)

Gupta conducted a study aimed at identifying and prioritizing a list of enablers of digitization that can improve supply chain performance. Gupta uses best and worst methods to evaluate, rank and prioritize a list of enablers of digitization that can be useful for improving supply chain performance. There are a total of 25 enablers that have been identified and ranked in this study. The results found that *big data/data science skills*, product tracking and localization, and visibility to help implement *big data* are the top three *enablers* of digitization.

III. Research Method

The focus of this research is to analyze the effect of collaboration, information sharing, and digitization strategies on logistics performance, which is mediated by logistics capabilities in companies engaged in the Supply Chain Industry. This study is limited to 5 conceptual variables consisting of collaboration, information sharing, digitization, logistics performance and logistics capabilities. The researcher uses primary data obtained from a questionnaire that has been designed and contains several points of statement so that the respondents who are included in the criteria for distributing the questionnaire then respond to it. The number of samples in this study is an indicator multiplied by 5 for each variable.

The total indicators contained in this study are 26 indicators, multiplied by 5 then the number of samples needed is 130 samples, while the responses collected are 135. The data testing method that researchers use in this study is Structural Equation Modeling - Partial Least Square (SEM- PLS) using the software SmartPLS.

IV. Discussion

4.1. The Research Description

The purpose of this research in general is to analyze the effect of collaboration, information sharing, and digitization strategies on logistics performance, which is mediated by logistics capabilities in companies engaged in the Supply Chain Industry. This study is limited to 5 conceptual variables consisting of collaboration, information sharing, digitization, logistics performance and logistics capabilities. The data was obtained by using the survey method. The survey method is a primary data collection method by providing a list of questions or statements to a group of respondents who represent a population. The research instrument used was in the form of a questionnaire distributed online on Whatsapp, LinkedIn and Instagram tools. Questionnaires are used to collect primary data which is done by providing a list of written statements to respondents. Statements in the questionnaire were measured using a Likert scale (1-5). Meanwhile, the hypothesis test was analyzed using *partial least squares* (PLS-SEM) to estimate the structural equation model.

4.2. Descriptive Statistics

a. Characteristics of Respondents

The population in this study are companies engaged in the supply chain industry, where every company engaged in this field is closely related and supported by logistics activities. The sampling method used is the *probability sampling*, namely the observation units have the same opportunity to be selected as respondents. The determination of the number of samples that can represent the population is an indicator variable multiplied by 5 to 10 (Hair et al., 2014). The number of samples in this study is an indicator multiplied by 5 for each variable. The total indicators contained in this study are 26 indicators, multiplied by 5 then the number of samples needed is 130 samples, while the responses collected are 135.

As the beginning of the analysis process in the results of this study, an analysis of the characteristics of respondents who are grouped by gender, last education, type of company, position, and length of work.

Table 1. Characteristics of Respondents

Characteristics of Respondents	Total	Percentage
of Last Education		
Male	63	47%
Female	72	53%
Total	**135**	**100%**
Last Education		
High School/Equivalent	7	5%
Diploma (D1/D2/D3/D4)	53	39%
Strata (S1/S2 /S3)	73	54%

Others	2	1%
Total	**135**	**100%**
Type of Company		
Logistic and Distribution	97	72%
Manufacturing	17	13%
Supplier	14	10%
Procurement and purchasing	7	5%
Total	**135**	**100%**
Position		
Staff	83	61%
Supervisor	17	13%
Assistant Manager	9	7%
Manager	24	18%
Owner	2	1%
Total	**135**	**100%**
Years worked		
1-5 Years	69	51%
6-10 Years	29	21%
11-15 Years	21	16%
>15 Years	16	12%
Total	**135**	**100%**

Source: Data processed (2021)

From table 1 above, it can be seen that of the 135 respondents who filled out the questionnaire, the largest number of respondents was filled by female respondents, amounting to 72 people (53%) of the total respondents and the number of male respondents being 63 people (47 %). This can illustrate that there are not a few women who work in industries engaged in the supply chain.

b. Descriptive Statistical Analysis of Research Variables Descriptive

Statistical analysis of research variables was used to determine the tendency of answers to the questionnaire or the extent to which the responses from respondents were in accordance with the category of answer choices using a Likert scale from a scale of 1 (strongly disagree) to 5 (strongly agree) on the statements for each variable. Descriptive statistics provide an overview or description of data seen from the average value (*mean*), standard deviation, maximum, and minimum. The table of variable descriptive statistical test results can be seen in Table 2 below.

Table 2. Descriptive Statistics Test Results

Variable	Item Code	Min	Max	Mean	Standard Deviation
Collaboration	X1.1	1	5	4.578	0.672
	X1.2	1	5	4.593	0.624
	X1.3	1	5	4.644	0.626
	X1.4	1	5	X1.5	0.708

	4.496	1	5	4.474	0.687
	X1.6	2	5	4.400	0.732
	X1.7	1	5	4.348	0.801
	X1.8	2	5	4.415	0.724
Total mean and standard deviation				**4.494**	**0.697**
	X2.1	2	5	4.326	0.718
Information sharing	X2.2	2	5	4.281	0.737
	X2. 3	1	5	4,133	0.850
	X2.4	1	5	4.207	0.780
Total mean value and Standard Deviation				**4.237**	**0.771**
	X3.1	3	5	4.830	0.431
Digitization	X3.2	3	5	4.563	0.628
	X3.3	3	5	4.452	0.685
Total mean and Standard Deviation				**4.615**	**0.581**
	Y1.1	2	5	4.400	0.762
	Y1.2	1	5	Y1.3	0.708
Logistics capability	4.519	3	5	4.444	0.663
	Y1.4	3	5	4.444	0.685
	Y1.5	2	5	4.356	0.755
Total mean and standard deviation				**4.433**	**0.715**
	Y2.1	3	5	4.556	0.605
	Y2.2	3	5	4.467	0.653
Logistics	Y2.3	2	5	4.207	0.895
performance	Y2.4	3	5	Y2.5	0.541
	4.630	2	5	Y2.6	0.694
	4.356	2	5	4.296	0.870
Total mean score and Standard Deviation				**4.419**	**0.710**

Source r: The data is processed by the researcher using SmartPLS version 3.0, (2021)

Based on table 4.2, it can be seen that the collaboration has a minimum value of 1, a maximum of 5, a mean of 4.494 and a standard deviation of 0.697. From these results, it shows that most of the respondents gave agreeable responses to the questions regarding the Collaboration as perceived by the respondents, followed by quite agreeable answers.

4.3. Data Analysis

This research uses SEM analysis and uses the SmartPLS version 3.0 application. *Partial Least Square* (PLS) is one of the alternative methods of *Structural Equation Modeling* (SEM) that can be used to overcome these problems (Haryono, 2017).

a. Measurement Model Test Results (Outer Model)

Evaluation of the measurement model or *outer model* is carried out to assess the validity and reliability of the model. *Outer models* with reflexive indicators are evaluated through *Convergent Validity* and *Discriminant Validity* of the indicators and *Composite Reliability* for indicator blocks (Ghozali and Latan, 2015).

b. Convergent Validity

Testing Convergent validity testing is done by calculating convergent validity. Convergent validity is known through *the loading factor* and *Average Variance Extracted* (AVE), the following will explain each of the convergent validity tests:

c. Convergent Validity Test with Loading Factor

An instrument is said to meet the convergent validity test if it has a *loading factor* of > 0.7. The results of the convergent validity test with the *loading factor* are presented in Table 3.

Table 3. Convergent Validity Test with Loading Factor

Variable	Item Code	*Outer Loadings*	Description
Collaboration	X1.1	0.746	Valid
	X1.2	0.751	Valid
	X1.3	0.706	Valid
	X1.4	0.767	Valid
	X1.5	0.866	Valid
	X1.6	0.771	Valid
	X1.7	0.734	Valid
	X1.8	0.752	Valid
Share information	X2.1	0.786	Valid
	X2.2	0.849	Valid
	X2.3	0.875	Valid
	X2.4	0.856	Valid
Digitization	X3.1	0.740	Valid
	X3.2	0.893	Valid
	X3.3	0.873	Valid
Logistics ability	Y1.1	0.734	Valid
	Y1.2	0.774	Valid
	Y1.3	0.840	Valid
	Y1.4 0.834	Valid	Y1.5
	0.712	Valid	Logistics
performance	Y2.1	0.706	Valid
	Y2.2	0.760	Valid
	Y2.3	0.795	Valid
	Y2.4	0.717	Valid
	Y2.5	0.818	Valid
	Y2.6	0.742	Valid

Source: Data processed by researchers with SmartPLS version 3.0, (2021)

Based on Table 4.3, it can be seen that all indicators produce a *loading factor* value of > 0.7. Indicators with *loading factor* have a higher contribution to explain the latent construct. On the other hand, indicators with low loading factors have a weak contribution

to explain the latent construct. In most references a factor weight of 0.7 or more is considered to have strong validation to explain latent constructs (Hair et al, 2010; Ghozali, 2008). Thus it can be said that all indicators are able to measure variables, so that the analysis can be continued. The results of the calculation of the measurement model with SEM PLS version 3.0 which are then seen by the *loading factor* on all indicators in each research variable have met the value > 0.7 as can be seen in Figure 1 below.

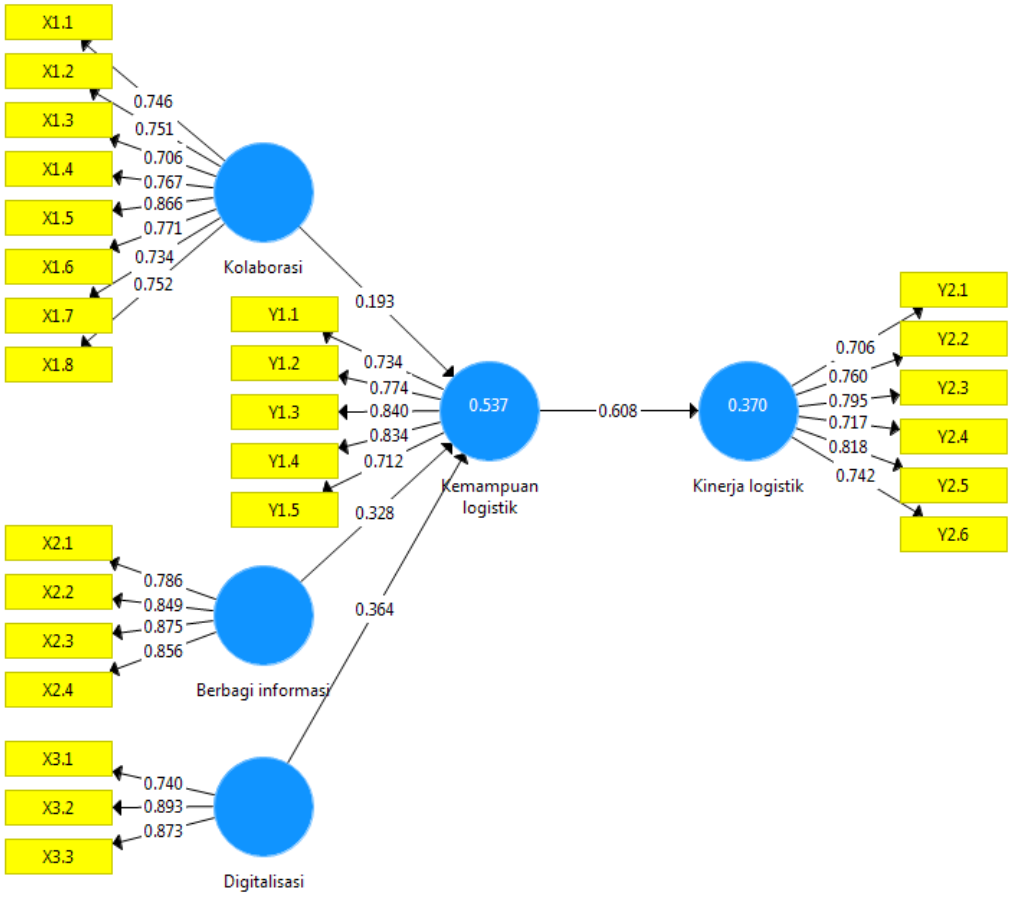

Figure 1. *Outer Model*

Source: Data processed by researchers with SmartPLS version 3.0 (2021)

Based on Figure 1 it can be seen for the Collaboration variable the *loading factor* is 0.866 and the *loading factor* is 0.706, in the Sharing information variable the *loading factor* is 0.875 and the *loading factor* is 0.786, in the digitization variable the *loading factor* is 0.893 and the smallest is 0.740, all indicators in each variable are known to be greater than 0.7 then each indicator is considered capable of explaining its latent construct.

d. Convergent Validity Test with *Average Variance Extracted* (AVE)

Convergent validity can also be known through *Average Variance Extracted* (AVE). Another way that can be used to examine *discriminant validity* is to compare the square of the AVE for each construct with the correlation value between the constructs in the model. The acceptable AVE value must be greater than 0.5 (Ghozali & Latan, 2015). *Convergent validity* from the *Average Variance Extracted* (AVE) examination illustrates the large diversity of *manifest variables* that can be owned by latent constructs. The greater the diversity of *manifest variables* that can be contained by the latent construct, the greater the representation of the *manifest variable* on the latent construct. The term *Manifest Variable*

is often interpreted as an indicator. The AVE value must be greater than 0.5. The results of the convergent validity test are presented in table 4 below:

Table 4. Average Variance Extracted (AVE) Test *Variable* Average

Variance	Extracted (AVE)	Description
Collaboration	0.582	Valid
Information sharing	0.709	Valid
Digitization	0.702	Valid
Logistics ability	0.609	Valid
Logistics performance	0.574	Valid

Source: Data processed by Researchers with SmartPLS version 3.0, (2021)

Based on Table 4, it can be seen that all variables produce an *Average Variance Extracted* (AVE) value greater than 0.5. Thus the indicator is declared valid to measure the dimensions or variables.

e. Testing *Validity*

Validity is calculated using *cross loading* with the criterion that if the value of *Cross Loading* in a corresponding variable is greater than the correlation value of indicators on other variables or dimensions, then the indicator is declared valid in measuring the corresponding variable. *Discriminant Validity* of the measurement model with reflective indicators is assessed based on *Cross Loading* measurements with constructs. It is expected that each measured latent variable is compared with indicators for other latent variables (Ghozali & Latan, 2015). The results of the *Cross Loading* are presented in Table 5.

Table 5. Discriminant Validity Test (*Cross Loading*)

	Collaboration	Information sharing	Digitizing	Logistics capabilities Logistics	performance
X1.1	**0.746**	0.252	0.329	0.348	0.358
X1.2	**0.751**	0.206	0.319	0.303	0.285
X1.3	**0.706**	0.161	0.312	0.209	0.266
X1.4	**0.767**	0.371	0.392	0.435	0.347
X1.5	**0.399**	0.411	0.500	0.390	X1
0.866 . 6	**0.771**	0.436	0.414	0.437	0.400
X1.7	**0.734**	0.294	0.383	0.370	0.286
X1.8	**0.752**	0.454	0.428	0.442	0.432
X2.1	0.339	**0.786**	0.476	0.524	0.428
X2.2	0.440	**0.849**	0.474	0.488	0.556
X2.3	0.330	**0.875**	0.439	X2.4	0.586
0.504	0.393	**0.856**	0.482	0.555	0.574
X3.1	0.440	0.386	**0.740**	0.474	0.360
X3.2	0.432	0.491	**0.893**	0.568	0.562

X3.3	0.385	0.513	**0.873**	0.568	0.632
Y1.1	0.491	0.406	0.558	**0.734**	0.480
Y1.2	0.327	0.437	0.482	**0.774**	0.359
Y1.3	0.383	0.565	0.551	**0.840**	0.510
Y1.4	0.409	0.536	0.540	**0.834**	0.479
Y1.5	0.409	0.451	0.364	**0.712**	0.529
Y2.1	0.353	0.372	0.458	0.412	**0.706**
Y2.2	0.340	0.476	0.481	0.452	**0.760**
Y2.3	0.339	0.556	0.464	0.491	**0.795**
Y2.4	0.317	0.399	0.560	0.484	**0.717**
Y2.5	0.417	0.577	0.469	0.515	**0.818**
Y2.6	0.335	0.502	0.407	0.393	**0.742**

Source: Data processed by researchers with SmartPLS version 3.0, (2021)

Based on the measurement of *cross loading*, it can be seen that overall the indicators of all dimensions on all variables result in loading on the dimensions (bold font) greater than the *loading* on other dimensions. Thus it can be stated that each indicator is able to measure the latent dimension that corresponds to the indicator.

In addition (Henseler et al., 2015) argues that there is a new criterion for testing *discriminant validity*, namely by looking at the results of the *Heterotrait-Monotrait Ratio* (HTMT) matrix in PLS. Where it is recommended that the measurement value must be smaller than 0.85 and although values above 0.85 to a maximum of 0.90 are still considered sufficient, the HTMT matrix can be seen in Table 6 below:

Table 6. Test *Discriminant Validity* (*Heterotrait-Monotrait Ratio*)

	Collaboration	Information sharing	Digitizing	Logistics capabilities Logistics	performance
Collaboration					
Information sharing	0.478				
Digitizing	0.588	0.673			
Logistics capability	0.571	0.720	0.789		
Logistics performance	0.516	0.741	0.756	0.712	

Source: Data processed by researchers using SmartPLS version 3.0, (2021)

f. Reliability Testing

According to Ghozali & Latan (2015) *composite reliability* aims to test the reliability of the instrument in a research model. If all latent variable values have *Composite Reliability* > 0.7 and *Cronbach's Alpha* > 0.7, it means that the construct has good reliability or the questionnaire used as a tool in this study is declared reliable or consistent. Reliability test is used to determine the consistency of the research instrument, so that it is always used consistently to collect data. The results of the calculation of *Composite Reliability* and *Cronbach's Alpha* can be seen through the summary presented in Table 7.

Table 7. The Results of the Calculation of *Composite Reliability* and *Cronbach's Alpha*

Variable	Cronbach's Alpha	Ket.	Composite Reliability	Note.
Collaboration	0.899	Valid	data	in
Source	:	Data	processed	by
researchers	with	SmartPLS	version	3.0
,	(	2021	)	Based
the	on	4.8	Table	Valid Information sharing 0.863 Valid 0.907 Valid Digitization 0.784 Valid 0.875 Valid Logistics ability 0.838 Valid 0.886 Valid Logistics performance 0.851 Valid 0.890 Valid

It can be seen that the *Cronbach's Alpha* is greater than 0.7 and the *Composite Reliability* is greater than 0.7. Therefore, Based on the calculation of the *Cronbach's Alpha* value and the *Composite Reliability* all indicators are declared reliable or consistent in measuring the variables.

g. Structural Model Test Results (*Inner Model*)

Structural model testing by looking at the significance of the relationship between constructs or variables according to Siswoyo (2017:374). This can be seen from the path *coefficient* which describes the strength of the relationship between variable constructs. The sign or direction in the path (*path coefficient)* must be in accordance with the hypothesized theory, Structural model tests are carried out to assess the coefficient of determination ($R2^{)}$), *Effect Size* ($f2^{,}$Predictive Relevance Value ($Q2^{)}$, T-statistics. As can be seen in Figure 2.

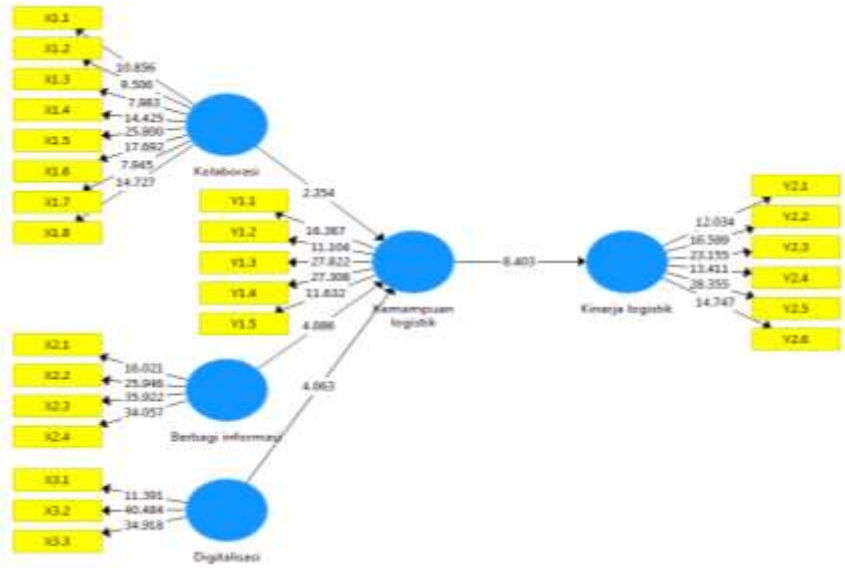

Figure 2. *Structural Model Test Results (Inner Model)*
Source: Data processed by Researchers with SmartPLS version 3.0, (2021)

h. Hypothesis

Testing Significance testing is used to test whether there is an effect of exogenous variables on endogenous variables. The test criteria state that if the T-statistics value T-table (1.96) or the *P-value* < *significant alpha* 5% or 0.05, it means that there is a significant effect of exogenous variables on endogenous variables.

4.4. The Research Results

a. Effect of Collaboration on Logistics Ability

Based on the calculation results, the t-statistical value is 2.354 which means > 1.96 and the value of sig. 0.019 below 0.05 then H1 is which means that Collaboration has a positive and significant impact on logistical capabilities, meaning that changes in the value of Collaboration have a unidirectional effect on changes in logistics capabilities or in other words if Collaboration increases, there will be an increase in the level of logistics capability and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the coefficient value of the Collaboration path on logistics capabilities is 0.193, which means that Collaboration has a positive relationship to logistics ability.

b. The Effect of Information Sharing on Logistics Ability

Based on the calculation results, the t-statistical value of 4.086 means > 1.96 and the value of sig. 0.000 below 0.05 then H2 is which means that sharing information has a positive and significant impact on logistical capabilities, meaning that changes in the value of information sharing have a unidirectional effect on changes in logistics capabilities or in other words when sharing information increases, there will be an increase in the level of logistics capability and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the value of the information sharing path coefficient on logistics capabilities is 0.328, which means that sharing information has a positive relationship to logistics ability.

c. The Effect of Digitalization on Logistics Capabilities

Based on the calculation results, the t-statistical value of 4.063 means > 1.96 and the value of sig. 0.000 below 0.05 then H3 is$_{\text{accepted}}$, which means that the digitization has a positive and significant impact on logistical capabilities, meaning that changes in the value of digitization have a unidirectional effect on changes in logistics capabilities or in other words if digitalization increases, there will be an increase in the level of logistics capability and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the value of the digitization path coefficient on logistics capabilities is 0.364, which means that the Digitalization has a positive relationship to logistics ability.

d. The Effect of Logistics Ability on Logistics Performance

Based on the results of the calculation, the t-statistic value is 8.403, which means > 1.96 and the value of sig. 0.000 below 0.05 then H_4 is accepted, which means that the logistics ability has a positive and significant influence on logistics performance, meaning changes in the value of logistics capabilities have a unidirectional effect on changes in logistics performance or in other words if the logistical ability increases, there will be an increase in the level of logistics performance and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the

path coefficient value of Logistics Ability on logistics performance of 0.608, which means that the logistics ability has a positive relationship to logistics performance.

e. The Effect of Collaboration on Logistics Performance through Logistics Capability

Based on the calculation results, the t-statistic value is 2252 which means > 1.96 and the value of sig. 0.025 below 0.05 then H5 is$_{accepted}$, which means that Collaboration has a positive and significant effect on logistics performance through mediating variables Logistics ability, meaning change in value Logistics ability have a unidirectional influence on the change in influence between Collaboration on logistics performance or in other words if the logistical ability increases, there will be an increase in the level of influence between Collaboration on logistics performance and statistically has a significant effect.

f. The Effect of Information Sharing on Logistics Performance through Logistical Capability

Based on the calculation results, the t-statistical value of 3,896 means > 1.96 and the value of sig. 0.000 below 0.05 then H_6 is accepted, which means that Sharing information has a positive and significant effect on logistics performance through mediating variables Logistics ability, meaning change in value Logistics ability have a unidirectional influence on the change in influence between information sharing on logistics performance or in other words if the logistical ability increases, there will be an increase in the level of influence between information sharing on logistics performance and statistically has a significant effect.

g. The Effect of Digitalization on Logistics Performance through Logistics Ability

Based on the calculation results, the t-statistic value is 3,155 which means > 1.96 and the value of sig. 0.002 below 0.05 then H_7 is accepted, which means that the digitization has a positive and significant effect on logistics performance through mediating variables Logistics ability, meaning change in value Logistics ability has a unidirectional influence on the change in influence between Digitalization on logistics performance or in other words if the logistical ability increases, there will be an increase in the level of influence between Digitalization on logistics performance and statistically has a significant effect.

V. Conclusion

Information sharing has a positive and significant impact on logistics capabilities, which is reflected by indicators that explain that information sharing has a positive impact on the organization both internally and externally. Digitalization has a positive and significant impact on logistics capabilities which is reflected by the quality of the data produced by the company to stakeholders, traceability and visibility in every logistics process that occurs. Logistics capability has a positive and significant impact on logistics performance which is reflected by various indicators in logistics capabilities which are supported by the quality of existing resources within the company, the speed and accuracy of the company's response to customer requests and the uniqueness of its service products. Collaboration has a positive and significant effect on logistics performance through the mediating variable of logistics capability. Information sharing has a positive and significant effect on logistics performance through the mediating variable of logistics capability. Digitization has a positive and significant effect on logistics performance through the mediating variable of logistics capability.

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