

THE EFFECT OF LAST-MILE DELIVERY AND E-COMMERCE (B2C) LOGISTICS SERVICES ON MEETING CUSTOMER NEEDS AND SATISFACTION DURING THE PANDEMIC

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Abstract: The Indonesian Government implemented a Large-Scale Social Restrictions (PSBB) policy during the COVID-19 Pandemic. This restriction aims to suppress the spread of the Coronavirus in Indonesia. With this restriction, people are not free to carry out activities and travel to other areas. The formulation and purpose of the research in this thesis are to find logistics and e-commerce services to meet the community's needs. The method used in this study was descriptive quantitative, where the sample used was 91 people with a random sampling technique. The type of data used was primary and secondary data, where under data was obtained from questionnaires while secondary was both from company data, journals and books. Data analysis techniques used in this study were simple and multiple Likert scale weighting, descriptive statistics, regression analysis, correlation coefficient analysis, determination coefficient analysis, and hypothesis testing. Based on the analysis and discussion results, both for statistical services on the custodian of community needs and e-commerce on the community's concerns, each has a positive and significant influence.

Keywords: Logistics Services, E-Commerce, Community Needs Meeters

Introduction

The Indonesian Government implemented a Large-Scale Social Restrictions (PSBB) policy during the COVID-19 Pandemic. This restriction aims to suppress the spread of the Coronavirus in Indonesia. With this restriction, people are not free to carry out activities and travel to other areas. This condition provokes the emergence of new habits to adapt to existing needs. For example, before the COVID-19 Pandemic and PSBB, people were free to carry out their activities for work, social activities, school, and economic activities. Then with these restrictions, the habitual

habits usually adopted become unworkable. For example, before COVID-19, people were free to visit markets, supermarkets, or malls to meet their basic needs. Since the COVID-19 Pandemic, people are prohibited from travelling outside the house if there is no urgent need, and there are restrictions on operating hours from markets and shopping places. In addition, the Government also implements strict health protocols or SOPs.

Many impacts are quite affecting people's habits in Indonesia. The effect that is very pronounced and easy to see is the weakening of household consumption or the decline of people's purchasing power. Until now, people have experienced a very significant decrease in purchasing power. PPKM, which continues with various tightening rules, prevents people from economic activities. The policy imposed by the Government has an impact or affects multiple fields such as the economic, social, educational, cultural, health, and other such things. In the financial sector, one of the impacts was the change in people's shopping patterns from direct to indirect shopping (online) to fulfill basic needs and their daily interests. This changing shopping pattern impacts sellers. Namely, conventional sellers becoming less marketable because buyers switch to online shopping. This condition requires sellers to adapt to new adjustments to survive immediately. Traders are required to trade online. Traders can take steps to anticipate this change include joining a marketplace, marketing goods through social media, joining an online application (gojek, grab) or creating their website. Here the use of information and communication technology during the Covid-19 Pandemic encourages everyone to no longer do conventional activities. Restrictions on gatherings and restrictions on crowding activities trigger the need for innovation with technology. (Chair et al., 2020)

Of the various kinds that exist at times like today, there is one logistics system that can certainly answer the need for logistics distribution needed in today's era. Therefore, what method can answer the logistics needs in Indonesia? The answer is the Last Mile Delivery System. Maybe some Indonesians still do not understand what the Last Mile Delivery system is. Last Mile Delivery is a series of distribution networks where a distributor or also known as a retailer, does not choose to use third-party delivery services. In this case, the distributor will send the package directly to the consumer's homes.

In summary, the Last Mile Delivery service is a term in supply chain management activities and transportation planning which describes the movement of people and goods from a transportation center to the destination to the consumer's home. Currently, Last Mile Delivery is quite often used by various existing business units, especially in the e-commerce business in Indonesia. Of course, with the Last Mile Delivery system adopted, this can make the delivery of goods faster and more transparent along with the workflow of the e-commerce business itself. (Firdaus et al., 2022)

For this reason, the need for shipping services that can cooperate reasonably, for example, several companies that offer delivery services such as Citing Momentum Works data, J&T leads the logistics market by having the most significant shipping volume in Indonesia. J&T can send 2 million packages every day. On the other hand, the old player in logistics, JNE, ranked second. JNE can send 1.6 million packages every day, SiCepat is ranked third with the delivery of 1 million packages every day. Furthermore, Ninja Express sends 0.65 million packets daily, among others.

PROBLEM FORMULATION

1. Whether last mile delivery logistics services affect the Fulfillment of Needs and customer satisfaction in the pandemic era.
2. Does E-Commerce affect the Needs and customer satisfaction in pandemic era
3. Whether the logistics last mile delivery and E-Commerce (B2C) services affect the Needs and Satisfaction of Customers in pandemic era.

RESEARCH OBJECTIVES

1. To find out the last mile delivery logistics services affect the Fulfillment of Needs and customer satisfaction during the Pandemic Period.
2. To Find Out E-Commerce (B2C) affects the Fulfillment of Needs and customer satisfaction during the Pandemic.
3. The logistics of last-mile delivery and E-Commerce (B2C) affect the Fulfillment of Needs and customer satisfaction during the Pandemic Period.

Review Literature**Logistics**

Logistics is the management of the flow of movement of goods from the point of origin that ends at the point of consumption to meet specific demands, for example, aimed at consumers or companies. The types of goods in the logistics field consist of physical, tangible objects such as food, building materials, animals, equipment and liquids. It is the same with the displacement of abstract things such as time, information, particles and energy. Physical objects' logistics generally involve the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and security. Complexity in logistics can be

analyzed, broken down into a model, visualized and optimized with existing simulation software (Li, X., 2014: 1).

Yolanda Siagian (2005) in Kasengkang et al. (2016) sees logistics in terms of the business world, namely, "Logistics is part of the supply chain process that functions to plan, implement, control effectively, efficiently the procurement process, management, storage of goods, services and information starting from the starting point (point of origin) to the point of consumption to meet consumer needs. Thus, logistics is everything in the form of materials, goods, tools, or means to assist the organization's activities in achieving goals. Based on this understanding, the mission of logistics is "to get the right goods, at the right time, with the right quantity, the right conditions, at an affordable cost, while still contributing profits to logistics service providers". The business world sees logistics as managing material flows ranging from raw materials to finished goods (Kasengkang et al., 2016).

Logistics, in its development until now, has been a science that must be given the increasingly complex history of economic growth, such as the productivity of goods produced by factories or companies, how they are distributed and stored and the management of product results as a whole requires special and severe handling. Achieving efficient results and the effectiveness of all of this requires a good organization, often termed integrated logistics management, so there is no inequality in carrying out its activities (Chandra, 2013). Logistics is the flow of goods and services between the origin and consumption point to meet customers' needs (Yasseri, Sumi, Rung, Kornai, & Kertész, 2012).

From the information above, we know the importance of the role of logistics (last mile delivery) in the e-commerce (B2C) business and the

fulfilment of community needs, especially during a pandemic. For example, buying and selling one commerce requires logistics services to facilitate producing, storing and distributing the products offered so that they can be handed over to consumers. In this pandemic situation, the most needed logistics services and the most developed along with the development of the commerce business are courier services, such as JNE, JNT, Si Cepat, Antaraja, and many more companies because shipping services are most needed in meeting the needs of the community during a pandemic. (Firdaus et al., 2022)

E-Commerce

According to Ahmadi Marcel and Astri (2018), e-commerce is buying and selling through the internet network where buyers and sellers do not meet directly but communicate through internet media.

According to Shabir Mitfa in Novita Sari et al. (2017), e-commerce is a process of buying and selling products electronically by consumers and from companies to companies with computers as intermediaries for business transactions. E-commerce is any activity for buying and selling goods or services using electronic media.

According to Kotler & Armstrong (2012), E-commerce is an online channel that a person can reach through a computer, which businesspeople use in carrying out their business activities and is used by consumers to obtain information using the help of computers which in the process begins with providing information services to consumers in making choices.

People will find it easier to find the product they are looking for because they only need to search on a computer or cellphone, so it will be more practical and convenient to choose a product. Not only for the public but brands, it will also be easier to promote their respective products. The

market reach has also become wider because everyone can look for it on the e-commerce platform. Of course, there is still competitiveness depending on the brand in providing services and promoting its products.(Firdaus et al., 2022)

The Pandemic has resulted in all activities being carried out online, inseparable from purchasing household needs and others. Nowadays, we know e-commerce as one of the media used to make buying and selling transactions. E-commerce platforms are rapidly changing people's lifestyles in buying and selling transactions, especially during a pandemic requiring people to carry out large-scale social restrictions (PSBB). Here we focus on the role of e-commerce during the Pandemic in meeting the needs of the same community. We know that the PPKM policy from the Government is enough to affect people's purchasing power which means that people need solutions for it, with the existence of e-commerce and couriers, of course, will help the community in making buying and selling transactions without having to go to the store, Malls, stalls and others directly.(Marina et al., 2020)

People will find it easier to find the product they are looking for because they only need to search on a computer or cellphone to make it more practical and convenient to choose a product. Not only for the public but brands, it will also be easier to promote their respective products. The market reach has also become wider because everyone can look for it on the e-commerce platform. Of course, there is still competitiveness depending on the brand in providing services and promoting its products.

Fulfilment of customer needs and satisfaction

As quoted by Alwisol, according to Murray, Necessity is a construct regarding brain power that organizes various processes such as perception,

thinking, and doing to change existing and unsatisfactory conditions. It can be aroused by internal processes but more often by environmental factors. Need is usually accompanied by unique emotions and has a particular way of expressing them in achieving problems.

According to Abraham Maslow, Kasia and Ni Wayan Rosmalawati, every human has five basic needs: physiological needs, security, love, self-esteem, and self-actualization. Human beings have basic needs of a heterogeneous nature. Everyone has the exact requirements, but these needs are also different because of culture. In meeting human needs adjusting to existing priorities.

If interpreted freely, Necessity is all that man needs to maintain and develop his life. The fulfilment of these needs can be achieved by achieving welfare. Of course, everyone's needs are different depending on natural conditions, place of residence, individual nature and character, lifestyle, religion, and culture. However, the basic principle of needs is the desire possessed by man. If one condition has been met, then another new requirement will appear. That said, human beings have multi-tiered needs.

E-commerce offers products from each brand, making it easy for consumers to order the product they need. At the same time, logistics services also provide courier services as dealers or parties who send ordered products to consumers. This certainly provides convenience for the public in ordering products, especially during the Pandemic. Thus, the existence of this e-commerce can undoubtedly affect the purchasing power of the people who had previously decreased due to the Covid-19 Pandemic, and PPKM will increase again.

According to Tjiptono (2019:79), customer satisfaction is a comparison between expectations and expectations before purchase and perceptions of

performance after purchase. Then what about the quality of service from e-commerce itself? The company provides quality service, including comfort, reliability, trust, and responsibility. Service quality is a consumer assessment of the level of service perceived by what consumers expect and factors that affect the quality of other services (Lumempow, Mandey, & Jopie, 2015). The quality of service in e-commerce is essential. This is because the quality of service is the main factor in determining the level of public trust in using the platform so that people become loyal to the e-commerce. (Tjiptono & Gregory, 2016) Quality is defined as a global assessment or attitude regarding service superiority. The quality of service on the forum is known as E-Service Quality or E-ServQual, the latest version of service quality. E-Servqual is the most comprehensive and integrative model of online service quality (Sastika, 2017).

However, some still are not wise in selling products, such as sending products that do not match the quality of those ordered by consumers. In addition, with the convenience and ease of buying and selling through e-commerce, risks must be accepted, such as the possibility of incorrect addresses in the delivery of products, inappropriate products, etc. However, in the e-commerce application or web, there is a comment column for each product offered so that potential consumers can conclude comments given by other consumers who have purchased the product and whether the brand or store can be trusted. There is also a submission for product returns if the product does not match what was ordered.

Method

The research used quantitative type research. This research first collected data, theory, and data analysis. This quantitative method was performed through using data retrieval techniques by spreading questionnaires. Then

the author collected Primary Data, namely by filling out a questionnaire. The subjects in this study took the Indonesian community and took a sample of 91 respondents

Discussion and Result

Multiple linear regression

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.836 ^a	.699	.692	1.358	1.921
a. Predictors: (Constant), X2, X1					
b. Dependent Variable: Y					

The calculation results have a correlation coefficient of 0.836, stating that the three variables have a very strong and linear positive relationship according to the table of correlation levels and relationship strength.

Correlation Coefficient

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.836 ^a	.699	.692	1.358	1.921
a. Predictors: (Constant), X2, X1					
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The calculation results have a correlation coefficient of 0.836, stating that the three variables have a very strong and linear positive relationship according to the table of correlation levels and relationship strength.

Coefficient of determination

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.836 ^a	.699	.692	1.358	1.921
a. Predictors: (Constant), X2, X1					
b. Dependent Variable: Y					

It can be known that the coefficient of determination is adjusted or (r^2) of 0.836. This result means that independent variables (Logistics Services and E-Commerce) can explain 69.9% of the dependent variables (Community Needs Concerns). The remaining 30.1% are explained by other variables not included in this model.

T Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.060	1.407		3.597	.001
	X1	.775	.068	.770	11.392	.000

a. Dependent Variable: Y

The calculated t value for Logistics Services is 11,392, while the table t value is 1.987. Then it can be known $t_{\text{count}} 11,392 > t_{\text{table}} 1.987$ and the significance value $0.000 < 0.05$. So that the hypothesis that reads there is a positive and significant influence between Logistics Services and Community Needs.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.353	1.683		1.992	.049
	X2	.823	.078	.745	10.525	.000

a. Dependent Variable: Y

The calculated t value for E-Commerce is 10,525, while the table t value is 1.987. Then it can be known $t_{\text{count}} 10,525 > t_{\text{table}} 1.987$ and the significance value $0.000 < 0.05$. So that the hypothesis is that reads there is a positive and significant influence between E-Commerce and Community Needs.

Test F

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	377.603	2	188.802	102.336	.000 ^b
	Residual	162.353	88	1.845		
	Total	539.956	90			
a. Dependent Variable: Y						
b. Predictors: (Constant), X2, X1						

If $F_{\text{calculates}} > F_{\text{of the table}}$, then H_a is accepted, meaning that the free variable simultaneously significantly influences the independent variable. The F value of the table can be searched by the equation $df_1 = \text{the number of free variables}$; meaning $df_1 = 2$, while $df_2 = n - k - 1$; $(91 - 2 - 1)$; $df_2 = 88$. Using the significance of 5% (0.05) is seen in table F in column 2 of row 88, which is 3.10. Then it can be concluded that $F_{\text{counts}} > F_{\text{of the table}}$ ($102,336 > 3.10$) and the significance value of $0.000 < 0.05$ so that H_0 is rejected, and H_a is accepted. Variable Logistics Services (X_1) and E-Commerce (X_2) positively and significantly affect the Variables of Community Needs.

Conclusion

1. In Test t it can be known $t_{\text{count}} 11,392 > t_{\text{table}} 1,987$ and significance values $0.000 < 0.05$. This means $H_0 = \text{rejected}$ and $H_a = \text{accepted}$, so the hypothesis that reads there is a positive and significant influence between Logistics Services on Community Needs.
2. In Test t it can be known $t_{\text{count}} 10,525 > t_{\text{table}} 1,987$ and significance value $0.000 < 0.05$. This means $H_0 = \text{rejected}$ and $H_a = \text{accepted}$, so the hypothesis that reads there is a positive and significant influence between E-Commerce and Community Needs.
3. In Test F, it can be concluded that $F_{\text{calculates}} > F_{\text{of the table}}$ ($102,336 > 3.10$) and the significance value of $0.000 < 0.05$. This means $H_0 = \text{rejected}$ and $H_a =$

accepted, so H_0 is rejected, and H_a is accepted. The Logistics Service Variables (X_1) and E-Commerce (X_2) have a significant and simultaneous positive effect on the Community Needs Fulfillment Variable (Y).

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