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Fish Supply Chain Management Strategy Analysis for *Warung Tegal* during Covid-19

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Abstract

Warung Tegal is a small, lower-middle class restaurant in Indonesia. *Warung Tegal*, like many other small businesses, has been affected by the impact of the Covid-19 policies. Due to that, *Warung Tegal* need to focused on improving supply chain management strategies especially for fish as one of the menus. This study aims to analyze supply chain management strategies in order to understand FSCM at *Warung Tegal* in the Administrative City of South Jakarta. Using qualitative descriptive methodology, the data was collected from ten respondents through structured interviews and observation. The results of the study showed that the fish at *Warung Tegal* is usually sourced from the nearest market, but the menu does not take into account the requests of the consumers and is never marketed through digital marketing due to the lack of knowledge in this field. In addition, the restaurant's income has been reduced as a result of the Covid-19 policies.

Keywords *Covid-19 impact, Fish Supply Chain Management, Digital marketing*

INTRODUCTION

Indonesia has long been known as a maritime country with a distribution of more than 70% water area and less than 30% land area. Indonesia has a sea area of 6.4 million km² out of the total 8.3 million km² of Indonesia's territory. This vast area of sea in Indonesia has a great economic potential in Marine and Fisheries (Sari & Muslimah, 2020). Prof Rohmin Dahuri as an advisor to the minister of Ministry of Marine Affairs and Fisheries (MMAF), stated that the Indonesian sea economic potential can reached US\$ 1.4 trillion/year. Despite of possessing a great amount of potential, Indonesia has only managed to achieve 12% realization which represent a lost opportunity since the expected outcome do not align with its potential (KKP Statistics, n.d. 2021). This circumstance makes Indonesia a suitable country to implement the blue economy approach (Sari & Muslimah, 2020).

The blue economy is a concept or strategy to protect the resources of oceans and water around the world (Lee et al., 2020). Blue economy has marine industrial focus including construction, transportation, mineral resources development, ship building, communication cable laying, pharmaceutical enterprises, equipment deployment, sustainable energy from waves, currents, seaside leisure tourism, and fisheries and aquaculture (Wenhai et al., 2019). In Indonesia, fisheries and marine sector has an important role impact on economic support. This sector needs to develop so that it becomes a priority for sustainable economic development (Sari & Muslimah, 2020). The blue economy aims to increase human well-being and social equality by significantly reducing environmental risks and ecological scarcity (Lee et al., 2020). This definition explains that the fishing sector is one of the important sectors of the blue economy. In Indonesia itself, the fishing and shipping industry is one of the advocates, which plays an important role in the development of

the national economy. This sector must develop to become a priority for sustainable economic development (Fahrurrozi, 2020). The concept of sustainable development is very compatible with the concept of the blue economy, which prioritizes the development and growth of the fisheries and marine economy while ensuring the sustainability of resources (Zamroni et al., 2019).

In 2021, the value of Indonesia's national fisheries GDP will increase by 9.69% compared to the previous one, so it can supply 2.83% of the national GDP (KKP Statistics, n.d. 2021). This increase is closely related to the demand for fish consumption in Indonesia, which continues to increase nationwide as the public becomes more aware of fish consumption (Setiadi et al., 2018). In 2020, according to the report of the Ministry of Maritime Affairs and Fisheries (MMAF), the national consumption of fish in 2020 was 56.39 kg/person. This figure was 3.47% higher than the previous year, which was 54.5 kg/person (KKP Statistics, n.d. 2021). However, total national fish production fell to 23.16 million tons in 2020, down from 23.86 million tons in the previous year (KKP Statistics, n.d. 2021). The increase in national fish consumption cannot be separated from the supply chain management system (Setiadi et al., 2018).

Indonesia's status as a maritime country makes fishing an important industry and also a significant part of the Indonesian diet. A 2014 data has it that Indonesia is only second to China in terms of fish catching and cultivating industry size (Wantimpres, 2017). The importance of fishing industry in the country has also contributed a gross domestic product (GDP) worth USD 26,9 billion, which is equals to 2.6% of the overall Indonesian GDP value (Thomas, 2019).

Meanwhile, supply chain management is the planning, coordination, and control of all processes and business activities in the supply chain in order to meet the needs and demands of consumers at a minimum cost (Khadijah et al., 2019). While the supply chain can be defined as a process made up of various parts to satisfy the needs and wants of the consumers. This process can be referred to as the supply chain, as it is the process of extracting raw materials, sourcing raw materials, processing raw materials transforming raw materials into raw materials, and continues until the raw materials are transformed into final products that satisfy consumers' wants and needs (Warella et al., 2021). Warung Makan Tegal (warteg) is one of the parties with a high demand for the consumption of fish.

Warteg serves Central Javanese and East Javanese specialties that are familiar to the tastes of the lower classes because the prices are cheap and the portions are quite large. Warteg with lower-class consumer segmentation, many choose to maintain simplicity so they don't improve sales techniques, especially in the field of entrepreneurship as if they are confident about their conditions (Hitopa Sukma & Pranawukir, 2020).

The confidence of warteg in running their businesses also extends to the Covid 19 pandemic. On one side, many consumers rely on warteg food through online delivery methods as a result of social restrictions and restrictions on crowds and leaving the house. Covid 19 or Coronavirus disease 2019 is a pandemic that appeared in 2019 in China and spread to Indonesia in March 2020. The rapid spread of Covid-19 forced the government to make maximum prevention efforts are known as PSBB or large-scale social restriction policies with campaigns to stay at home and limiting mobilization and interactions force consumers to order warteg dishes online. This policy has a major impact on micro, small, and medium enterprises (MSMEs), so on June 8, 2020, it was reported that 3,322 cooperatives and 185,184 MSME business actors were affected by the Covid outbreak. MSMEs that experienced the biggest losses were food and beverage MSMEs where these MSMEs experienced decreased sales, lack of capital, and distribution barriers. There are at least 4,000 medium to lower scale food stalls (warteg) which have closed due to the domino effect of the Covid-19 pandemic. The 2 years of pandemic hit the turnover. That's why, until now, the average turnover of our warteg is still around under IDR 3 million. Because it hasn't really recovered yet. (Manutur et al., 2021).

In the previous study done by Musa in 2020 the research is conducted with literature study method from the fisherman viewpoint. This paper complemented the previous paper by conducting research from the seller viewpoint. This paper aims to gain a comprehensive understanding of Fish Supply Chain Management at Warung Tegal in the Administrative City of South Jakarta.

LITERATURE REVIEW

Blue Economy

Blue economy is a macro-economic concept that has been supported by various parties (Lee et al., 2020). Though its popularity, the blue economy is not very well understood since it has different interpretations and definitions (Schutter et al., 2021). The blue economy terms are mainly used without any clear definitions since its originated in 2012 from the United Nations Conference on Sustainable Development until recently defined by the World Bank as "the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem". Based on the previous definition of the blue economy, it can be seen that the scope of the blue economy is a wide range of economic activities that oversee and utilize sustainable marine and coastal resources both directly and indirectly. Blue economy aims at "the improvement of human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (Lee et al., 2020). The blue economy focused on conserving and sustainably using oceans, seas, and marine resource, its also essential to maintain a healthy ecosystem on land and sea (Wenhai et al., 2019). According to the European Commission in 2017 (Garland et al., 2019), blue economy dominates five sectors including; (1) Coastal and marine tourism; (2) Marine biotechnology; (3) Deep-sea mineral mining; (4) Renewable marine energy; (5) Aquaculture. These five areas are identified as utilizing 'Blue Growth' to materialize the blue economy and its various strategic interests. Agencies such as Research and Development and the European Union have provided sectoral, financial and resource support to these five focus areas over the following years.

If previously mentioned that the blue economy is the embodiment of blue growth, then on the other hand the blue economy has a relationship in line with sustainable development and was created after the green economy. Child and Hicks (Hicks & Childs, 2019) argue that blue economy actors, supporters and experts believe that this economic movement can enhance national and regional cooperation, minimize marine biota scarcity and other risks, and improve equality and human welfare. Government departments globally have their own perspective on the blue economy that oceans and coasts are zones that have vast economic potential, need to be explored, which can create prosperity and wealth. After all, the main function of the blue economy is to prevent inequalities in social justice and environmental sustainability as is done in the implementation of the green economy.

There are many opportunities that can be explored in implementing the blue economy for the benefit of all parties. Hazra and Bhukta (Hazra & Bhukta, 2022) mentioned that various norms, principles, and ideas of the blue economy have presented significant opportunities to reduce poverty, maximize nutrition and food security, provide sustainable livelihoods for coastal communities, and reduce the impact of climate change. Therefore, it is important for users and implementers of blue economy activities to take a stable approach to using marine ecosystems and other minerals in a sustainable and planned manner. In terms of climate and geographical situation, Indonesia's coastal area is one of the most productive economic sectors in Southeast Asia. This is due to the unlimited biodiversity that Indonesia has. One of the advantages of Indonesia's coastal areas is that it supports the survival of aquatic organisms and fish and has a good effect on the preservation of mangrove forests. The blue economy provides various benefits such as making it

easier for humans to determine where to live, maximizing the socio-economic structure, prioritizing development, and sharpening the nature of dependence on natural resources.

Supply Chain Management

Supply chain is defined as a set of producers, manufacturers, intermediaries, traders, processors, retailers, consumers and/ or any other companies, organizations or entities which linked directly through the flow of products, services, finances, or information from the source to the costumer. Supply chain management is the coordination, utilization and management of the supply chain components to gain maximum value and minimum cost. Supply chain management focus on the activities involving the sourcing, procurement, conversion, and logistic management in supply chain (SCM). According to Pujawan and Mahendrawati, supply chain management is a method, tool, and approach based on a collaborative spirit that covers a broad scope of work and responsibilities (Khadijah et al., 2019). Chopra and Meindhl explained that supply chain management is a combination of planning, coordination, and control of all processes and business activities in the supply chain which aims to reduce costs while still meeting consumer needs (Khadijah et al., 2019). On the other hand, the supply chain according to Rahmat, et.al., (Rahmat et al., 2018) is recognized as a series of joint business operations that include various phases starting from the acquisition of raw materials to delivery to the end consumer. This supply chain has the main objective of distributing the right product to customers at a reasonable price and at the right time effectively and efficiently. Supply chain management aims to keep materials running from the source of production to the final consumer. Understanding supply chain management can indeed help reduce costs, but the most important main goal is to provide a competitive advantage by being responsive to demanding and critical consumers (Khadijah et al., 2019). Another goal of supply chain management is to maximize collaboration and mutual trust between partners, so that the speed of inventory movement and inventory visibility can also increase.

Thus, supply chain management goes beyond focusing on processes that have the utility of cutting costs in the budget and the mission of designing greater operational efficiency in an organization (Kleab, 2017). Despite the fact that it is a schematic part of the entire management process, supply chain management prioritizes the end-to-end alignment of the process strategy so that the expected economic and market value can be achieved, and encourage the company to excel in the competitive aspect with other business rivals. Supply chain management has various characteristics according to Kreye's (Kreye, 2022) ideas, including:

1. Flow, which means that supply chain management is able to provide the possibility and certainty of information flow through logistics networks, services, finance, physical goods, and other materials.
2. Relationship, which means that supply chain management is able to create and manage internal and external relationships by utilizing channel partners, involving the role of customers, third-party service providers, intermediaries, and suppliers.
3. Value, which means that supply chain management is able to create added value through efficiency by identifying and improving supply chain processes.
4. Performance, which means that supply chain management is able to provide customers with the expected satisfaction in performance delivery while aiming to achieve the expected business results.

Supporting the various explanations above, an understanding can be drawn that to start the supply chain begins with distributing raw materials from suppliers to producers, followed by sending services and products to the last consumer. Supply Chain Management acts as a supervisor at every point of contact of the service or product provider company from the beginning of production and final sale. A company's value can increase through value loss or efficiency, with the

presence of various places along the supply chain. Properly managing the supply chain can have a significant positive impact on a company's bottom line, cutting costs and increasing revenue. The effect according to Kleab (Kleab, 2017) is to increase the number of organizations involved to meet customer requirements for products or services, as well as to cut managerial control over daily logistics operations. The concept of supply chain management is to multiply partners and minimize control.

Covid-19 Policies

The Covid-19 pandemic has spread globally from Wuhan, China to over 200 countries worldwide, including Indonesia with more than 497,668 cases reported in 2020 (Devy, 2021). The Covid-19 virus is highly contagious and can be easily transmitted from one infected person to another through droplets as well as touching an infectious object (Salian et al., 2021). Coronavirus can cause mild disturbances in the respiratory system, severe lung infections, to death. severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), better known as the name coronavirus is a new type of coronavirus that is transmitted to humans. This virus can attack anyone, infants, children, adults, the elderly, pregnant women, and nursing mothers (Handayani, 2020).

Covid-19 then became the most serious public health threat in respiratory illness since the pandemic of Spanish flu in 1918 (Olivia et al., 2020). To mitigate the spread of Covid-19, World Health Organization (WHO) has recommended several measures such as the use of face masks, physical distancing, regular hand washing, and reducing crowds by closing offices, schools, worship places, cafes, and many other places for social gathering.

The Indonesian government has implemented a regulation based on the WHO suggestions, including large scale social restrictions or in Bahasa "*Pembatasan Sosial Berskala Besar*" (PSBB). The PSBB regulation required to shut down public places and facilities including workplaces, public transportations, schools, malls, traditional markets, and others. This regulation aims to slow down the spread of Covid-19 virus and to protect the public from infection(Purnama & Susanna, 2020).

The impact of this regulation shocked the Indonesian economy, it has dominated policy discussions of economy, health, and poverty (Olivia et al., 2020). As the result of Covid-19 regulation, many people income has been destroyed and the decreased people's purchasing power. The implementation of the Covid-19 policy, in this case the PSBB, for economic sustainability according to Ameliany, et.al. (Ameliany et al., 2021), the most important thing is the drop in demand for both purchasing power and public consumption, with the end impact being the emergence of threats of credit defaults to termination of employment. This has led to the suppressed income of the Micro, Small and Medium Enterprises (MSMEs) which has been the backbone of Indonesian economy. People whose been lost the source of household incomes need to hold back on spending, those tend to only spend on basic needs while unplanned purchases are decreased. This has a ripple effect on the economy, as the decreased spending has impacted on the sales and revenue of business, leading to further economic slowdown (Ongkosaputri, 2021).

According to the Ministry of Cooperatives and SMEs cited by Ameliany, et.al. (Ameliany et al., 2021), there are 37 thousand MSMEs that claim to be seriously affected by the pandemic, especially the PSBB policy, which is characterized by a percentage where 4 percent claimed to have difficulty finding raw material suppliers, 15 percent claimed to be hampered by product distribution issues, 22 percent claimed to have problems related to payment aspects, and finally 56 percent with reports of a decrease in sales figures. Based on the Ministry of Finance's study data, PSBB raises concerns for MSME players and the national economy in their daily economic activities, especially in the production, distribution and sales processes that will be disrupted. This concern is even greater when looking at the number of MSME businesses running in Indonesia and the number of workers absorbed in MSMEs.

In 2018, the Central Bureau of Statistics (BPS) issued survey results that the Gross Domestic Product (GDP) in Indonesia received a contribution of MSMEs up to 61.41 percent. Knowing that the number will continue to increase until now, in facing the PSBB policy and various other Covid-19 policies by the government, a new policy is needed from the government that relaxes MSME business actors to pay credit or debt-installments, or delays the payment process for six months by considering the financial liquidity of MSMEs. As for personal opinions that can support the government's strategy for the sustainability of MSME businesses, the administrative process needs to be simplified so that funding loans can be obtained without going through complicated stages. The purpose of this method is none other than so that MSME players and their employees are able to maintain people's purchasing power and consumption levels to stabilize the national economy.

Warung Tegal

Warung Tegal is a small, lower-middle class restaurant in Indonesia firstly appear in the 1950s-1960s. *Warung Tegal* was initially made for construction workers lunch breaks while Indonesia has a massive infrastructure development at that time. It was first made as a temporary building around construction projects. The name *Warung Tegal*, comes from Bahasa Indonesia, where "Warung" translates to "stall" and Tegal refers to a city in Central Java. KBBI defines 'stalls' as a reference to a place of medium size, which functions as a place of sale, generally for selling drinks, food, groceries, and so on. The growth of *Warung Tegal* is a phenomenon that is now recognized as a form of gastronomic business in cities or urban areas on a micro scale (Ivanovich et al., 2020). Gastronomy is a terminology that represents everything related to the presentation or provision of food. *Warung Tegal*, provide Indonesian meal with low prices and some *Warung Tegal* has subventions for some of the menus. As time passed by, *Warung Tegal* is now known as the eating place for lower-middle class in big cities. Today, *Warung Tegal* is growing rapidly with the adjusted taste for the consumer and a permanent place. The owner and employees of *Warung Tegal* are mainly villagers immigrate to the city (Tampubolon, 2020).

Warteg in its operation is one form of micro-enterprise known for its regional nature. The function of warteg business is not only as a means to fulfill food needs, but also as a place to tell all topics and seek information from people who come as customers (Kadarisman, 2019). In addition, the ownership of the warteg business is not for personal use but is owned by the family and together with turns. The spread of the warteg business occurs widely and rapidly so that it is easy to find it in various corners of the city because its existence is quite sought after by people with middle to lower social status.

In warteg, the dishes sold are generally not specific but consist of a variety of main dishes such as vegetables and side dishes that are typical of quality Indonesian cuisine and can be purchased at low prices (Qasmal Maulana & Wachidin Widjaja, 2020). Examples of food and drinks that can be served include rice, chicken, eggs, fish, spinach, fresh vegetables, milk, coffee, iced tea, and so on. Talking about the architecture of the warteg building, it expresses the culture it carries even though the majority of it looks simple without any striking designs. Unfortunately, warteg has now competed with western and other countries' restaurants so that its existence in the midst of a pandemic is increasingly threatening the existence of warteg (Qasmal Maulana & Wachidin Widjaja, 2020).

RESEARCH METHOD

The purpose of this study is to gain a comprehensive understanding of the phenomenon under investigation through the utilization of a descriptive qualitative approach and thematic interpretation. To collect the data, two observers were employed to conducted structured interviews and observations with ten selected respondents. The descriptive qualitative approach

allows for a rich, in-depth exploration of the subject matter and the thematic interpretation provides a systematic method for analyzing the collected data. The use of structured interviews and observations as data collection methods ensures that the information obtained is reliable and valid. Through the combination of these methods, the study aims to achieve a thorough understanding of the phenomenon being examined.

Sampling

This research is conducted in Administrative City of South Jakarta which have a lot of populations. The population is too large to approach, so sampling can be employed to gather data to be representative of the population (Stratton, 2021).

The field of population research recognizes two principal categories of sampling methods: probability sampling, where each member of the population has a definite chance of being included in the study, and non-probability sampling, where the selection of participants is based on specific inclusion and exclusion criteria (Stratton, 2021).

This study utilizes non-probability sampling method as it requires the implementation of specific inclusion criteria in the selection of the sample. Among the various forms of non-probability sampling, purposive sampling was utilized in this research to select the most appropriate sample to meet the objectives of the study (Stratton, 2021). Although purposive sampling has some disadvantages as researcher bias, it can only be a disadvantage when the judgements are poorly considered or misconceived.

The samples in this study are selected with such inclusion criteria; possess prior experience with both pre- and post-Covid-19 policies, are located in South Jakarta, and are identified as *Warung Tegal*. Any sample candidate with one or more exclusion such as; established while Covid-19 policies are already enforced, a small culinary business which did not identified as *Warung Tegal*, and *Warung Tegal* who did not sell fish in their menus. In accordance with these criteria, ten samples were chosen to participate in this research.

Data collection

In qualitative research, bias can be occurred by the explicit or implicit assumptions of the researcher (Mackieson et al., 2019). To minimize that, data is collected through several methods. Some of the practiced used to this research are interviews, observation, audio-visual materials, and documents (Johnson et al., 2020). A single-blind masking procedure also employed, with two researchers conducting the interviews. In single-blind masking, the sample did not know the identity of the observer (Bazi, 2020).

The first observer employed an unstructured one-on-one interview approach, characterized by an absence of predetermined questions or patterns. This type of interview was selected in order to have extended conversation and gather descriptive data for the study (Mashuri et al., 2022). To minimize potential biases, the participants were not informed of the observer's intention to conduct the interview. The duration of each interview ranged from 10 minutes to 1 hour and were not recorded in order to avoid arousing suspicion among the participants.

The second observer employed a semi-structured one-on-one interview approach, in which a framework of themes was established but additional questions during the interview are allowed (Mashuri et al., 2022). This method was selected to provide greater flexibility in the participants' responses. The participants were informed that they would be participating in a research study and that the interviews would be recorded and transcribed prior to coding and analysis. The semi-structured format was chosen to allow for open-ended responses and greater adaptability. The duration of each semi-structured interview was 10 to 15 minutes.

Observation also employed in this research by the same two observer with direct and indirect

observation with hidden and known roles. The interviews are transcribed and become a document to be analysis. Recorded interviews also become the audio-visual data collection.

Data analysis

There are many methods to analyze qualitative methods. In this study, a thematic analysis approach was employed due to its adaptability in characterizing the data and its provision of the opportunity for interpretation during the stages of coding and theme formation. Following are the six steps of thematic analysis developed by Braun and Clarke:

1. Familiarization: The audio recordings of the interviews were transcribed into written text and combined with the transcripts of the unrecorded interviews. This enabled the researcher to read the text and take notes to familiarize themselves with the data.
2. Coding: The transcript data of the interviews was then marked with various labels or codes to describe their content. Sentences or phrases that contained ideas and feelings were highlighted in different colors to match the codes. The data was then collated into groups based on the color-coded highlights.
3. Generating themes: The codes were transformed into themes to identify the most commonly occurring and relevant data and eliminate data that was less frequent or not relevant.
4. Reviewing themes: themes are reviewed, compared, and refined to achieve the purpose of this study.
5. Defining and naming themes: all the final list of themes are named and defined into understandable name.
6. Writing up the thematic analysis.

Answers are translated into results to each interview questions and categorized by frequencies.

FINDINGS AND DISCUSSION
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In the chapter on the results of this research and discussion, the results are described observation, interview results, research results, and discussion of research namely Fish Supply Chain Management Strategy Analysis for Warung Tegal (WarTeg) while Covid-19 Policy is Enforced in the Administrative City of South Jakarta. This study aims to analyze supply chain management strategies for the development of fish demand in Warung Tegal, Administrative City of South Jakarta. This research was conducted in the city of South Jakarta by seeking respondents who meet the criteria set out in this study. At the analysis stage carried out by the researcher is to make list questions used for interviews with informants as data collection, which is then analyzed to find out how information provided by respondents. This in-depth interview aims to answer the questions in this study, namely: (1) Does fish supply chain management affect the demand for Warung Tegal fish? (2) Does the Covid-19 pandemic affect the demand for fish at Warung Tegal? (3) How do the effect of price differences in the fish supply chain on the demand for fish in Warung Tegal?

The table below are the analyzed answer of the merged data taken by two researchers with single-blind masking.

Table 1. Fish Supply Chain Management Strategy Analysis for Warung Tegal (WarTeg)

Interviews	Code
Q: How long was this business established?	Experienced the pre and post Covid-19 policies.
A: This business has been established more than 5 years though its up and down with the covid-19 policies.	
Q: how much differences does the covid-19 makes in your business?	Covid-19 has negatives impacts in Warung Tegal.
A: The covid-19 policies has limit the way Warung Tegal usually does business. Some Warung Tegal even close their business due to bankruptcy. Some other that can survive feels great impacts through the covid-19 policies, the income are greatly reduced since everyone in the city have to stay home and close their business to avoid the spread of covid-19. The first year of covid-19, Warung Tegal stop operating every time the Large-scale social restrictions or LSSR (Indonesian: Pembatasan Sosial Berskala Besar or PSBB) and The Community Activities Restrictions Enforcement or CARE (Indonesian: Pemberlakuan Pembatasan Kegiatan Masyarakat, commonly referred to as the PPKM) policies come back. The second year of covid-19, the policies starting to loosen up. Warung Tegal can continue to do their business but still feel the great impact of the first year of covid-19. In the third year, the policies are rarely conducted therefore Warung Tegal business can slowly restore their income.	
Q: Does your business feels the impact of increasing number in fish consumption demand?	The increased fish demand does not take impact in Warung Tegal.
A: Warung Tegal managers know that fish is suggested as healthy food in the era of covid-19 pandemic but Warung Tegal cannot feel the increasing fish demand impact. Because Warung Tegal usually keep providing the fish menu without the account of its consumptions.	
Q: How do you usually buy the fish for your business? Does covid-19 make changes to where you usually buy it?	Warung Tegal know the first chain of fish supply chain management.
A: Warung Tegal usually buy fish from the nearest market. Some Warung Tegal knows that they can buy fish directly from fisherman, but some others did not have the idea. Some Warung	

Tegal who acknowledge the idea of buying fish from fisherman still bought fish from nearest market due to the lack of facilities and infrastructure.

Q: Have you heard about fish supply chain management? A: Warung Tegal did not know about fish supply chain management. Some Warung Tegal has heard of the name but said it is only implied to the high-end restaurant where the fish brought in a massive amount for massive consumption while Warung Tegal only bought small amounts of fish with a minimum of one kilogram and a maximum of three kilograms per day. Warung Tegal said it could be expensive to do the fish supply chain management.	Minimum understanding of fish supply chain management is gained but there are no implications due to the lack of knowledge, facilities and infrastructure.

Every Warung Tegal in this research has been established before the effect of Covid-19 policies and survived through the Covid-19 policies. Covid-19 policies has decreased the income of Warung Tegal greatly. Some Warung Tegal stop their business due to the covid-19 policies and become active after the new normal. Warung Tegal still buy the fish supply from the same place before and after covid-19 policies are enforced. Warung Tegal still provide fish menu without the account of its consumption. Due to the lack of understanding, the knowledge of fish supply chain management is not implied.

CONCLUSIONS

Based on the research above, it can be concluded that the fish at *Warung Tegal* is usually sourced from the nearest market due to the lack of facilities to buy fish directly from the small fisherman. Small fisherman cannot sell fish directly to *Warung Tegal* because of the limited time, sources, and distances. *Warung Tegal* always provide minimum of 1 kilogram and maximum of 3 kilograms of fish served for customer in varies menus. The fish menu does not take into account the requests of the consumers. *Warung Tegal* manager knows the basics of fish supply chain management but it has not been implied due to the lack of facilities and infrastructures. Some *Warung Tegal* managers know the studies of fish supply chain management but did not notice it is a fish supply chain management. The manager of *Warung Tegal* also stated that the restaurant's income has been reduced as a result of the Covid-19 policies because *Warung Tegal* is forced-closed. But covid 19 did not affected on the process of fish supply chain in *Warung Tegal*. Fish price are still stable from before and after the covid-19 policies are enforced.

LIMITATION & FURTHER RESEARCH

The present study was carried out within a limited time frame and with limited resources, and its focus was confined to 10 samples in the South Jakarta area. This delimited scope of the study prevents the generalization of the findings to the entire DKI Jakarta metropolitan area. Therefore, further research is deemed necessary to encompass the DKI Jakarta region in its entirety. The limitations of time and resources are common constraints in research studies. While these limitations may affect the extent of the study's coverage and depth, it does not necessarily mean that the study's findings are invalid or unreliable. The findings of this study provide a useful insight into the South Jakarta area, which may have implications for urban planning and policy-making in the region. However, the South Jakarta area only represents a small portion of the DKI Jakarta metropolitan area, and therefore, it is essential to extend the scope of research to include the entire

metropolitan area to ensure that the findings are representative of the region as a whole. This expansion of scope can provide a more comprehensive understanding of the issues that exist within the metropolitan area, such as transportation, housing, and environmental concerns. The extension of the study's scope to include the entire DKI Jakarta metropolitan area may require additional resources and a more extended time frame. Nevertheless, the benefits of such an expansion in scope would be significant. It would provide policymakers and urban planners with a broader perspective and a more detailed understanding of the challenges facing the region. It would also help in the formulation of more effective policies and strategies to address these issues.

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