

COMPETENCY MAPPING OF DIGITAL SUPPLY CHAIN SYSTEM USERS

**Amay Suryadi* , Lina Asnamawati, Is Eka Herawati,
Timbul Rasoki**

*Agribusiness Study Program, Science and Technology
Faculty, Universitas Terbuka (INDONESIA)*

**Corresponding author: amaysuryadi28@gmail.com*

Abstract

The development of digital technology affects all aspects of life, especially in the agribusiness sector. Digital technology offers convenience for agribusiness actors, namely with a digital supply chain system. Based on the digital entrepreneurship strategy and Indonesian digital literacy framework, this study aims to determine the competence of digital agribusiness actors in utilizing Gokomodo's e-Procurement and Agri Commerce platforms. The research paradigm is carried out using the constructivist method and a study of the process of using the platform and the competencies required in the platform developer paradigm. The results show that the use of digital supply chains requires competent users, including the ability to think in leadership attitudes, knowledge of technology, utilization of commodities, market knowledge strategies, to the use of platforms used such as filling in personal data correctly and understanding using platform features.

Keywords: digital supply chain, agribusiness digitization, agribusiness, agribusiness supply chain

1 INTRODUCTION

1.1. Background Information

The development of digital technology affects all aspects of life, especially in the field of agribusiness. In accordance with the theme “Accelerating Sustainable Innovation towards Society 5.0”, competent actors are needed to keep up with the development of this technology. The presence of information technology is an opportunity for digital startups to develop the agricultural sector. Procurement opportunities and online marketing are the main attraction for startup digital business models. Startups are now developing and providing many solutions to problems in social life. One of the technological developments in the field of agribusiness is the existence of a digital supply chain system, with a digital supply chain system the actors utilize various tools such as the internet, hardware and software.

Data shows that Indonesian internet users are currently ranked 4th in the world, this number will continue to grow along with the easier access to internet in Indonesia. The Ministry of Communication and Information of the Republic of Indonesia stated that Indonesia's internet users reached 73% or 202 million users of the 274 million population [15].

Based on Startup Ranking data, Indonesia is ranked 6th in the world with 2,422 startups until 2022, after the United States, India, Britain, Australia, and Canada. Tech in Asia data shows that in the second quarter of 2017, the dominating startups in Indonesia came from the e-Commerce and Agritech (Agriculture) industries. Along with the increasing number of people using the internet and increasing penetration of e-commerce, the contribution of this sector to the Indonesian economy has the potential to continue to increase [22].

In simple terms, e-commerce is the process of buying and selling products or services over the internet. As the largest e-commerce market in Southeast Asia with a contribution of up to fifty percent of all transactions in the region, Indonesia is also known as an agricultural country with agriculture as one of the main sectors supporting the economy and national welfare. Although the share of the agricultural

sector in the formation of Gross Domestic Product (GDP) tends to decline, the role of the agricultural sector in absorbing labor cannot be replaced by other economic sectors [14]. On the other hand, the agricultural sector also contributes as a provider of industrial raw materials, creates added value, generates foreign exchange, and provides employment.

Supply chain is a business process that connects several actors to increase the added value of raw materials/products and distribute them to consumers. It should be seen that the main objective of the supply chain is in terms of increasing added value. Thus, each actor in the supply chain network will contribute in the form of certain inputs or processes that can increase the value of a product. The supply chain is broad not only in terms of increasing added value, but also to meet consumer demand, increase competitiveness, increase profits, and build good relationships between actors in the supply chain [1]. Thus, it is not true that the supply chain only focuses on factories or processes, but there are other components that must be considered, one of which is building coordination and collaboration with other actors along the supply chain.

More specifically, Chopra and Meindl, [2] defined the supply chain is not limited to factories and suppliers, but also needs to look at the conditions of distributors, warehousing, retailers and even only need to look at consumer needs. Of course, this concept brings us into the scope of the supply discussion. Agricultural activities basically begin with the provision of distribution facilities, agricultural production and marketing of agricultural products or their processed products, known as agribusiness [11]. In the midst of the proliferation of technology startups that are generally engaged in the social, trade, game, and entertainment sectors, it turns out that not a few are willing to focus on developing systems that help manage agriculture, fisheries, and other agroindustry. Seeing this potential, technology and agriculture-based startups began to develop e-commerce businesses in the agribusiness sector.

Startups also need to design their branding strategy. The goal is to quickly introduce the company, either for the services it provides or as a business worthy of recognition. Startups have many important tasks at the beginning of their journey such as finding potential users, presenting quality products, and trying to understand market conditions. One of the complementary actions to boost the growth of a startup business requires a marketing strategy, from using social media for promotion to building a brand identity from scratch. Such as choosing a domain name, logo, color and other identity that can "stick" in people's minds [16]. The internet can have a positive or negative impact depending on the way and purpose of its use. Therefore, it takes an individual's ability to sort and select information. According to UNESCO, this ability is referred to as digital literacy. Specifically defined as the ability to use information and communication technology (ICT) to find, evaluate, utilize, create and communicate content or information, with cognitive, ethical, social emotional and technical or technological aspects [9].

The advancement of digital innovation and the ease of accessing the internet need to be accompanied by adequate quality of human resources. Moreover, in Indonesia, most of the dominant farmers only have basic education. While the demographic structure of the population has a complex structure. The average age of the Indonesian population is 27.2 years or is in the intermediate category, with a dependency ratio of 51.31. This means that there are 50% of Indonesia's population in unproductive conditions. Meanwhile, from the spatial distribution, 50.3% live in rural areas and 49.7% in urban areas. Meanwhile, the educational background is relatively varied with the Literacy Rate (AMH) around 92.37%. Based on data from Nielsen Media, the pattern of media use among the Indonesian population looks like the following matrix:

From **Table. 1**, television is still the media most accessed by Indonesians, while what is interesting is that the internet is one of the three main media that is widely used so that it has the opportunity to be optimized in marketing communications activity.

Table 1. Media Penetration in Indonesia.

Media	Penetration
Television	96%
Outdoor Media	53%
Internet	44%
Radio	37%
Newspapers	7%
Tabloids/Magazines	3%

Source: Nielsen Indonesia (2017)

In 2015, the Research and Development Center for the Implementation of Post and Information Technology (Puslitbang PPI) conducted a survey on the use of information technology (ICT) among farmers and fishermen. As a result, the literacy level of farmers and fishermen is still low. The most widely used types of equipment are televisions, cell phones, and radios. Another important finding noted by the Ministry of Communication and Information (Kominfo) is that fishermen use ICT for business development more than farmers [15]. However, it is assessed that farmers in remote villages have also begun to take advantage of advances in information technology by using smart phones. According to Prayoga [5], farmers often use gadgets to chat and look for agricultural information. Starting from cultivation activities, fertilizing, harvesting, to marketing a commodity. Based on the above trends, interesting competency studies were conducted. Especially now that information technology has become inevitable. Therefore, the author will map out what the competencies for using the Gokomodo.com digital supply chain platform is, especially for the procurement and marketing process. Knowing this, application platforms can be developed according to user needs and branding strategies can be designed for application managers like businesses in the agricultural sector as the target user.

1.2. Formulation Of Problem

The presence of information and communication technology allows everyone to be connected. Even within certain limits, everyone can form their own community in the world of the internet network. In line with the concept of Castells [3], this is referred to as cyber extension. Through this pattern, everyone is connected globally and in turn forms new social and economic communities. In a professional context, there is the term competence. According to Spencer and Spencer [8], the term refers to the fundamental characteristics of individuals associated with referential criteria in job requirements. Furthermore, it is said that competence shows how to act, think, or understand the situation well in the long term. In relation to the digital context, there is the term digital literacy. In general, digital literacy refers to the ability to use information and communication technology (ICT), to find, evaluate, utilize, create and communicate content/information, both with cognitive and technical skills [17]. Lipton and Hubble [10] explain that literacy is not just a basic ability to read, write, and count. Literacy in the modern sense includes language skills, counting, interpreting images, computer literacy, and various attempts to acquire knowledge. The results of Heriyanto's research [18] show that digital competencies in the field of education include knowledge assembly competencies, Computer Ethics, Internet Searching, Content Evaluation, Knowledge Assembly, Data Management, Computer Security, Data Backup, Hypertextual Navigation, and Computer Maintenance. ICT Watch (in [17]) released the Indonesian Digital Literacy Framework based on the pillars of internet rights and internet governance.

Based on **Figure. 1**, there are three main parts, namely protection, rights, and empowerment. Protection includes an understanding of the safety and comfort of internet users. Related matters include personal data protection, online safety & security, and individual privacy. The rights are a reference to basic rights that must be known and respected by internet users. This element includes freedom of expression and protected intellectual property rights, as well as the rights of assembly and association.



Figure 1. Indonesian Digital Literacy Framework [17].

The third section on empowerment relates to more productive performance, for example for entrepreneurship and the avoidance of hoax information. In the midst of high potential and demand, the use of digital technology in the agricultural sector is still conventional. Whereas the use of digital technology in the agricultural sector can make a positive contribution to agricultural actors and increase economic output to Rp 94,864 trillion or US\$ 6.6 billion per year. In order to create all of this, competent users are needed in the use of digital technology, one of which is in the field of agriculture.

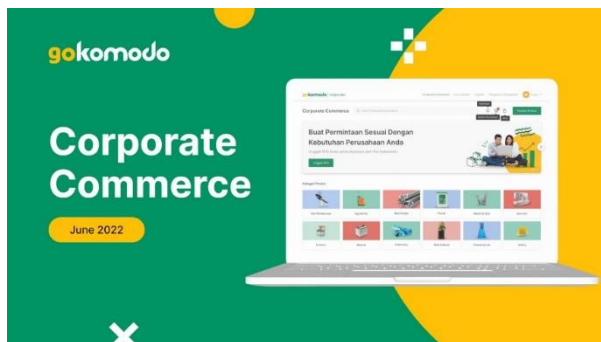


Figure 2. Gokomodo.com platform [19].

2 METHODOLOGY

This research uses constructivism paradigm with a qualitative approach. According to Patton, constructivist researchers study the various realities that individuals construct and the implications of these constructs for their lives with others [20]. This research is designed with a case study research method to provide a more detailed description of a symptom or phenomenon. The final result of this research is usually a typology or pattern regarding the phenomenon being discussed [21]. Case studies are taken because they are more suitable to answer the focus of research with contemporary (present) phenomena in real-life contexts [7]. This research uses exploratory and descriptive case studies [4],[12]. In its use, case studies are used to focus on aspects of the competencies required by users in using digital platform applications [7].

3 RESULTS

Gokomodo itself is a start-up that is modernizing the agricultural sector through two main products, namely digital procurement and B2B commerce. B2B Commerce is intended to facilitate the process of buying and selling agricultural needs such as fertilizers, iron and steel, plantation tools, civil materials, and others with an e-commerce system. Meanwhile, digital procurement is designed to support the smooth and transparent process of procurement of goods with centralized data collection in one system.

Gokomodo's digital platform aims to improve sourcing transparency, accessibility, and efficiency for agribusiness companies and small farmers. Gokomodo's enterprise platform offers efficiency in the procurement process, finding verified sellers, transparency, and digital control. The company also has the option to purchase competitive products through Gokomodo's e-commerce storefront. Gokomodo works closely with Waresix for smooth logistics to ensure on-time delivery.

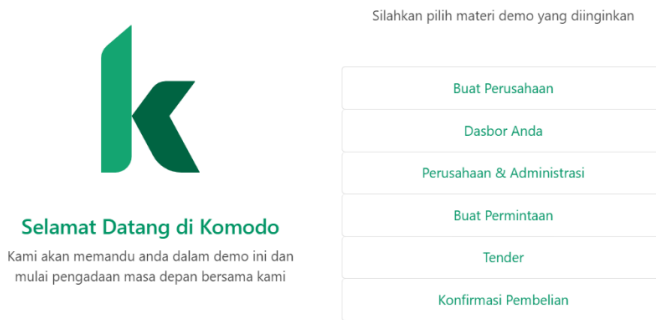


Figure 3. *GokomodoPlatform Menu [19].*

Meanwhile, smallholders benefit from lower product prices with reliable availability, as Gokomodo is able to deliver savings from greater purchasing power and combined logistics. “Gokomodo has proven to be a reliable partner for both large companies and small farmers, as a trusted solution for good quality agricultural supplies that arrive within a clear timeframe. Our goal is to leverage technology to bridge the gap between large companies and smallholders, supporting by leveraging our purchasing power and infrastructure on their behalf,” said William Pramana, Co-Founder & CTO of Gokomodo.

“The increasing number of Gokomodo customers, both corporate and retail, is proof that Gokomodo has succeeded in building the trust of many partners. Gokomodo can also more easily dig deeper into the most appropriate needs for them and improve services from time to time,” said Gokomodo Chief Commercial & Distribution Antonius Prabowo in his official statement, (Eas.vc, accsed on 2022).

Gokomodo was founded in 2019 by Samuel Tirtasaptura (Co-Founder and CEO), a former agribusiness executive, and William Pramana (Co-Founder and CTO), a serial technology entrepreneur. Gokomodo, Indonesia's leading agribusiness supply chain startup, has built the largest network of companies and land coverage in its sector.

To date, Gokomodo has more than 3,000 companies in its ecosystem including major agribusiness companies in Indonesia such as Sinar Mas, First Resources, and Sampoerna Agro. The target users of this application are company managers who have the following competencies, have leadership qualities, are able to operate platforms and have knowledge related to commodities.

In the application, you can find out step by step what needs to be done such as creating a company, there are also features of the number of requests, procurement processes, total tenders, confirmation of total purchases and request features that are connected with other suppliers. Gokomodo's various eProcurement features aim to create transparency and ease in the procurement process for the agricultural sector.

In addition, the entire history of procurement activities will be stored digitally by Gokomodo so that it can be accessed again if needed. Based on observations and platform trials, it can be mapped that the use of the Gokomodo application also requires digital literacy. Especially the introduction of the application and its use. The first is an understanding of access to apps, which includes an introduction to official apps and how to download and install apps. The second relates to account creation, including understanding of app logins that require verification and access to personal or company data.

3.1. Advantages and Disadvantages of the Gokomodo Platform

To promote the success of “Accelerating Sustainable Innovation towards Society 5.0”, almost all performance is carried out digitally, including in the plantation commodity sector, one of which is in the oil palm plantation sub-sector. Digitalization is carried out to increase competitiveness and efficiency so that it has an impact on increasing the economy. Furthermore, Indonesia currently has 42.3 million hectares of agriculture, of which around 16 million hectares are oil palm plantations with a market potential of US\$ 30 billion and is accompanied by around 2,000 plantation companies, 33 million farmers, 200,000 farmer associations, village unit cooperatives and

shops. farmer. Even so, in the midst of high potential and demand, the supply chain system in the agricultural sector is still conventional. Whereas the use of digital technology in the agricultural sector can make a positive contribution to agricultural actors and increase economic output to Rp 94,864 trillion or US\$ 6.6 billion per year. The obstacles that often occur in manual activities are; First, the approval and payment process takes a long time. Second, the use of physical documents changes to an inefficient process. Third, the lack of data transparency can trigger business losses. Fourth, the manual process takes a considerable amount of time. Fifth, the mistake of choosing an inappropriate vendor. "On this basis, Gokomodo (Go-Commodity Order Online) exists as a digital solution that aims to help encourage the agriculture sector, including the plantation and Indonesian commodity sub-sector," said Gokomodo's Comercial Corporate, Arif Dharmawanto in the wabinar "Choosing the Right Plant Protection Materials Responding to Dynamics Prices of Fertilizers and Pesticides" organized by Plantation Media [6]. To promote the success of "Accelerating Sustainable Innovation towards Society 5.0", almost all performance is carried out digitally, including in the plantation commodity sector, one of which is in the oil palm plantation sub-sector. Digitalization is carried out to increase competitiveness and efficiency so that it has an impact on increasing the economy. Furthermore, Indonesia currently has 42.3 million hectares of agriculture, of which around 16 million hectares are oil palm plantations with a market potential of US\$ 30 billion and is accompanied by around 2,000 plantation companies, 33 million farmers, 200,000 farmer associations, village unit cooperatives and shops. farmer. Even so, in the midst of high potential and demand, the supply chain system in the agricultural sector is still conventional. Whereas the use of digital technology in the agricultural sector can make a positive contribution to agricultural actors and increase economic output to Rp 94,864 trillion or US\$ 6.6 billion per year. The obstacles that often occur in manual activities are first, the approval and payment process take a long time; second, the use of physical

documents changes to an inefficient process; third, the lack of data transparency can trigger business losses. Fourth, the manual process takes a considerable amount of time; fifth, the mistake of choosing an inappropriate vendor.

"On this basis, Gokomodo (Go-Commodity Order Online) exists as a digital solution that aims to help encourage the agriculture sector, including the plantation and Indonesian commodity sub-sector," said Gokomodo's Commercial Corporate, Arif Dharmawanto in the webinar "Choosing the Right Plant Protection Materials Responding to Dynamics Prices of Fertilizers and Pesticides" organized by Plantation Media [6]. In addition, "To support the acceleration of digitization of the agricultural supply chain, Gokomodo launched e-Procurement, namely as a process of procurement of goods whose implementation is carried out electronically and based on web/internet by utilizing communication technology facilities which include electronic public auctions." Arif said, as for the advantages of Gokomodo e-Procurement, namely, first, meet the need for real-time data access; second, the administrative process is more practical and easier; third, it's easier to get offers; fourth, improve efficiency and transparency; fifth, a wide selection of trusted vendors. Sixth, quality products at competitive prices. Seventh, faster and safer delivery. Eighth, wide and deep network.

"In addition, Gokomodo also has other products such as service centers, logistics, and distribution points," Not only that, Arif said, inside Gokomodo everything is available. In this case, consumers can search for the products they need. In fact, to encourage agricultural actors, Gokomodo also provides various fertilizer and pesticide products with more competitive prices and quality assurance goods. So, in this case, Gokomodo is committed to supporting agricultural actors to be even better by increasing the economic value even higher. Even Gokomodo is also a digital supermarket for today's plantations. The shortcomings in the platform will be taken into consideration for potential users, such as the need for special competence, the special

tools used and the proper and correct way of managing the platform, so that this platform can be used as it functions.

3.2. Principles of Using Gokomodo

As an alternative to empowering users as well as platform developers, it is seen that the use of e-commerce and e-procurement for agribusiness products is mainly as a medium for marketing, supply, communication, and information. This utilization is very influential on the effectiveness and efficiency of the work process, if carried out intensively and maximally. So, it takes a leadership attitude, basic knowledge in using digital platforms, mastering the commodities owned, and filling in the data needed by the platform.

3.2.1. Platform Requirements

After further exploration, the use of the Gokomodo.com platform is specifically for companies and actors who have commodities and special requirements needed, such as the Company's Full Name, Company Telephone Number, List of Subsidiaries, Departments, and Company logos. Not only that, but users are also asked to fill in the location of the company which includes the Head Office Address, Subsidiary Address and Warehouse Address. After the data has been collected, the next step is to register an account by including the Account Holder Name, Account Holder Position, Email Address and telephone number. And the most important thing is to include official documents such as Deed of Business Establishment, Business License Number, Taxpayer Identification Number, Taxable Entrepreneur, Trade Business Permit, Company Domicile Certificate, Taxable Entrepreneur Confirmation Letter, so that the Gokomodo platform can be used.

3.2.2. Skills in Using the Platform

Next on the menu selection which requires the ability to understand each menu on the existing user interface. According to Lastiansah and Sena [13], this includes the accuracy of the data platform needs so that the platform used can be in accordance with its designation.

Table 2. Findings of Platform Usage Expertise.

Skills	Requirements or Stages required
Leadership	Can manage the platform as well as possible and know the stages that will be carried out in the process of using the platform against him.
Basic knowledge in using the platform	Mastery of the basics of the platform from logging in to the platform to effectiveness in its use.
Commodity Mastery	Understanding superior commodities to support the quality of the commodities produced
Able to download and install platform	The Gokomodo platform can be installed on a computer or mobile phone (smartphone) before use.
Able to fill in the data required by the platform	The Gokomodo platform can be filled with the required data
Able to select and use platform features	The Gokomodo platform can be used and can take advantage of the available features

Source: *Processed by Researchers (2022)*

Based on **Table 2**, in order for the platform to be used, skills related to entrepreneurship or business are needed which include leadership, then basic knowledge of using the platform that must be possessed, mastering commodities. Also, with the use of the platform on a computer or smartphone which includes the ability to download and install applications, correctly fill in personal data and select and use platform features. The Digital Supply Chain System Platform, namely Gokomodo as a partner, is devoted to company owners and individuals who own commodities. In addition, in using the platform, users simply follow the steps instructed on the platform. The platform

database will result in an evaluation of the platform's development team, which hopes to continue to develop the Gokomodo platform.

4 CONCLUSIONS

Utilization of Gokomodo's digital supply chain system platform and internet technology to assist the procurement process as well as an easy and fast transaction portal. Gokomodo understands this potential. From the results of the study it was found that to be able to take advantage of the digital supply chain system platform from Gokomodo, skills related to entrepreneurship or business are needed which include leadership, then basic knowledge of using the platform that must be possessed. , dominate the commodity. Also with the use of the platform on a computer or smartphone which includes the ability to download and install applications, correctly fill in personal data and select and use platform features.

ACKNOWLEDGEMENTS

The researcher would like to thank the Open University, Faculty of Science and Technology, Agribusiness Study Program which has provided support to participate in the 2022 ISST conference, with the theme "Accelerating Sustainable Innovation toward Society 5.0".

REFERENCES

- [15] Chauhan and Proth. "Analysis of a supply chain partnership with revenue sharing" *International Journal of Production Economics*, 2005.
- [16] Chopra and Meindl. "Supply Chain Management : Strategy, Planning, and Operation" . United States : Northwestern University, 2013.
- [17] Castells, Manuel. *The Rise of the Network Society*. Cambridge: Blackwell Publishers, 2000.
- [18] Burhan, Bungin. *Metodologi Penelitian Kuantitatif Komunikasi, Ekonomi, dan Kebijakan Publik Serta Ilmu-Ilmu Sosial Lainnya*. Edisi Pertama. Jakarta: Prenada Media, 2005.

- [19] Prayoga, Kadhung. “Dampak Penetrasi Teknologi Informasi dalam Transformasi Sistem Penyuluhan Pertanian di Indonesia.” JSEP, vol. 11, no. 1, pp. 46–59, 2018.
- [20] Mediaperkebunan.id : “Gokomodo Tingkatkan Nilai Ekonomi Pelaku Perkebunan”. <http://mediaperkebunan.id/gokomodo-tingkatkan-nilai-ekonomi-pelaku-perkebunan/>.2022. Accessed on July 29, 2022.
- [21] Yin, Robert K. Studi Kasus : Desain dan Metode . Jakarta: Raja Grafindo. 2002
- [22] Spencer, Lyle & Signe M. Spencer. Competence at Work, Models for Superior Performance. Canada: John Wiley & Sons, Inc. 1993.
- [23] Permadi, Deddy dan Viyasa Rahyaputra. Strategi Kewirausahaan Digital : Sebuah panduan untuk UMKM, Startup dan E-Commerce. Seri Literasi Digital. Jakarta: Kominfo – CfDS – Siberkresi. 2018.
- [24] Lipton, L dan Hubble, D. Sekolah Literasi : Perencanaan dan Pembinaan. Bandung: Nuansa Cendekia.
- [25] Kotler dan Keller. Manajemen Pemasaran. Edisi 12. Jakarta: Erlangga. 2012.
- [26] Mulyana, Deddy. Metode Penelitian Kualitatif Ilmu Komunikasi. Cetakan I. Bandung: Remaja Rosdakarya. 2001.
- [27] Lastiansah, Sena. Pengertian User Interface. Jakarta: PT. Elex Media. 2012.
- [28] Kementerian Pertanian RI. Rencana Strategis Kementerian Pertanian Tahun 2015 – 2019. Jakarta: Biro Perencanaan, Sekretariat Jenderal. 2015.
- [29] Kementerian Komunikasi dan Informatika. Data pengguna internet di Indonesia. Jakarta. 2020.
- [30] Eka Randy. Daftar Startup Indonesia di Bidang Pertanian, Perikanan, dan Peternakan. DailySocial.Id. 2016. Accessed on July 29, 2022.

- [31] Donny B.U (ed). Kerangka Literasi Digital. Jakarta:Siberkreasi, FIRAL, ICT WATCH, Relawan TIK, Internet Sehat. 2018.
- [32] Heriyanto. "Kompetensi Digital sebagai Strategi Peningkatan Pendidikan Tinggi di Era Modern (Studi Deskriptif pada Sekolah Tinggi Agama Buddha Negeri Sriwijaya Tangerang Banten)". Seminar Lokal Eas Tinggi Agama Buddha Negeri Sriwijaya. Tangerang Banten. (2017).
- [33] Gokomodo.com : "Leading Supply Chain Platform And Services For Agribusiness And Comodities" <https://gokomodo.com/>.2022. Accessed on July 29, 2022.
- [34] Lindlof, T.R. and Taylor, B.: "Qualitative Communication Research Methods". Sage,Thousand Oaks. (1995).
- [35] Kriyantono, Rachmat. "Teknik Praktis Riset Komunikasi". Jakarta: Prenada-Media Group. 2008.
- [36] Diaz Praditya : "*Prediksi Perkembangan Industri E-commerce Indonesia pada Tahun 2022*" <https://techinasia.com/> .2019. Accessed on July 29, 2022.