

E-COMMERCE LOGISTICS IN SOUTHEAST ASIA IN THE FACE OF COVID-19

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Abstract

Although e-commerce was already gaining significant traction before the COVID-19 outbreak, it is at an infancy level in Southeast Asia. However, it has a great potential because Asia is one of the world's fastest-growing regions. It is expected that its further development will have far-reaching effects, perhaps even exceeding the changes that concerned trade over the past several decades. This development of e-commerce is related to a number of challenges, eg. logistics.

The main aim of this paper is to present e-commerce logistics in Southeast Asia in the face of COVID-19. In addition, four sub-objectives have been set: description of interdependence of e-commerce and logistics; diagnosis of opportunities and threats for logistics in the Asian region in the face of COVID-19; identification of the influence of e-commerce on the logistics market in the Asian region; and highlighting the best practices in the area of the logistics market in e-commerce.

The research methodology of the paper includes a combination of theoretical and empirical analyses. The primary materials contains data obtained from managers. Interviews are helpful for triangulation of the information gained from supplementary sources, which ensure credibility of the study results. Studies have revealed that activities to support logistics are needed to meet the requirements and expectations of e-commerce.

Key words: e-commerce, ASEAN, in-depth interviews.

1. INTRODUCTION

The pandemic has left a lot of damage to the society and the economy, such as the health crisis, the reduction of public life, the lagging regional economy, the collapse of the financial sector. The ASEAN GDP was contracted by 3.7% in 2020 (Statista 2021a), it is the first decline in 22 years (Anbumozhi, 2020). However, there are the winners of the COVID-19 pandemic. One of them is e-commerce. It has turned out to be a way to solve the lockdown problem (Loh, 2020). Thanks to the Internet physical presence while shopping is not needed. Customers buy products, placing

orders electronically, and the purchased goods are delivered to their workplaces, homes, PUDO (pick up drop off) points and parcel lockers. Shopping in this way replaces the trip to a store, and the delivery of the consignment eliminates the way back with the purchased goods (Kawa, 2020b). This is of great importance because social distancing is required during the COVID-19 pandemic.

Customers, staying at home, can access information about companies and thus their products at any time. They can easily find offers, compare them and read opinions of other users. They may also purchase new products, which they did not previously use due to their unavailability in the form of location in distant places (e.g. goods from abroad), lack of time or a different lifestyle. E-commerce beneficiaries are companies, too. Online selling creates new opportunities for expansion on a larger scale for already existing entities and offers prospects for rapid development to emerging ones. This is possible due to low entry barriers that encourage more and more companies to sell their products on the Internet.

Although e-commerce was already gaining significant traction before the COVID-19 outbreak (OBG, 2020), it is at an infancy level in Southeast Asia (relatively underdeveloped in comparison to the EU, US, Chinese markets) (MTS, 2020). However, it has a great potential because Asia is one of the world's fastest-growing regions. It is expected that its further development will have far-reaching effects, perhaps even exceeding the changes that concerned trade over the past several decades. Further intensive development of e-commerce is related to a number of challenges. One of them is logistics. E-shops struggle with fulfilment (Kawa, 2021) and delivery time and cost, quality of delivery and return service (Kang, 2020). However, efficient logistics can be a source of competitive advantage (Banker, 2020). Thanks to the availability of goods, different forms of delivery, and low shipping cost, e-commerce attracts new customers, but timeliness and compliance of goods with the order help retain them. This is particularly important in the case of cross border e-commerce in which sellers look for new buyers abroad, while customers want to have a greater choice of suppliers (Kawa, 2020b).

The COVID-19 pandemic caused companies to rethink their logistics and supply chains (WEF, 2020; Mueller, 2020). It accelerated the adoption of new solutions in deliveries and more advanced technology to substitute labour-intensive operations. Further dynamic development of e-commerce is inevitable. It will affect many other sectors of the economy, including not only logistics, but also financial, marketing and labour. This development needs to be supported by appropriate policies and actions to make ASEAN (Association of South-East Asian Nations) members more competitive (WEF, 2020).

This study addresses logistics e-commerce at the regional level, contributing to a greater understanding and achieving the objectives. It discusses initiatives and utilises most recent data to examine particular issues. The paper refers to one of the policies for overcoming COVID-19 proposed from Kimura (2020). It is policy for digital economy – „Further develop the ASEAN Digital Integration Framework, E-commerce Agreement, and other initiatives”.

With regard to the all above considerations, the research questions arise:

1. At what level is e-commerce in the Southeast Asia countries?
2. What are the most important drives for the e-commerce growth?

3. How does logistics (its characteristics, state) influence the development of e-commerce?
4. What features should logistics in Southeast Asia countries have in order to foster e-commerce development and improve regional economic integration?

In the light of the research questions, four objectives have been set in this paper:

1. Description of interdependence of e-commerce and logistics.
2. Diagnosis of opportunities and threats for logistics in the Southeast Asia region in the face of COVID-19.
3. Identification of the influence of e-commerce on the logistics market in the Asian region.
4. Highlighting the best practices in the area of the logistics market in e-commerce.

The research methodology of proposed paper incorporates a combination of theoretical and empirical analyses. It is based on different data collection techniques such as document review, direct observations, and archival records originating from primary and secondary sources. The primary materials includes data obtained from managers of companies operating in Asia or who know very well the specifics of the Asian market, and the secondary ones – reports, studies, statistics, and Internet sources which will constitute the basis for the theoretical considerations. Interviews with experts are also helpful for triangulation of the information gained from supplementary sources, which ensures credibility of the study results.

The structure of the paper is as follows. Section 2 describes e-commerce in Southeast Asia. In Section 3, e-commerce logistics in Southeast Asia is presented. In section 4, e-commerce logistics in the light of own research is presented. The main assumption of primary research, its methodology, and results are delivered. Section 5 concludes the whole paper.

2. E-COMMERCE

E-commerce is one of the most dynamic and important sectors of the economy as well as one of the main factors leading to better prosperity and competitiveness of many countries (Yean & Das, 2018). It has significant potential that may contribute to economic growth and employment. The phenomenon of e-commerce is ubiquitous and has a very big impact on many areas of the economy, particularly on trading and logistics companies. It is expected that its further development will have far-reaching effects, perhaps even exceeding the changes that concerned trade over the past several decades (Kawa, 2020b).

The dynamic development of e-commerce is driven by rapidly expanding internet access, but also by growing mobility and popularity of portable devices, via which customers order goods and services at a convenient time and place more and more frequently. They do not only order things of greater value, but, more and more often, everyday products to which they want to have very fast access (Kawa, Skowron-Mielnik, 2021).

The value of retail e-commerce sales worldwide in 2019 was \$3.54 trillion. In 2020, this value amounted to \$4.28 trillion (Statista, 2021c). The development level of individual countries in e-commerce is not equal. The Southeast Asia market was estimated at a value of approx. \$38 billion in 2019. In 2020, this value jumped to \$62 billion (Statista 2021b). It constitutes about 4% of Southeast Asia's total retail. This is far less compared to the European and North American market where this share accounts for even several percentages of the total revenue generated from retail. Statista (2021b) forecasts that it will be worth \$172 billion by 2025. Research from Google, Temasek Holdings and Bain even shows that the market will be rapidly driven and it will reach \$300 billion by 2025. The pandemic and the effect that remains after it will contribute to this growth (Lee, 2020).

The biggest market in Southeast Asia is Indonesia. They generate about 50% of the Southeast Asian e-commerce market (\$21 billion). The Indonesian e-commerce is predicted to increase to \$83 billion by 2025. Other important markets are Malaysia, Philippines, Thailand and Vietnam (Statista, 2020b).

The Southeast Asia e-commerce is only a very small part of the global e-commerce (1.75%). For example, in as little as a single day (Ali-double-11) Alibaba's merchants sold products within 11-day period in 2020 for \$74.1 billion (more than the Southeast Asia market in the whole year 2020), JD.com reported \$40.97 billion online orders the same time (Kharpal, 2020). As can be seen, Southeast Asia e-commerce is at an infancy level (ASEANup, 2017) (relatively underdeveloped in comparison to the EU, US, Chinese markets) but it has a great potential and room for growth because it is one of the world's fastest-developing regions. Google Analysts predict that this region will be the next major boom market for e-commerce in Asia-Pacific (Camhi, 2017). According to World Economic Forum and Bean experts, ASEAN will become the world's fourth-largest economy over the next decade (Yendamuri & Ingilizian, 2020).

3. E-COMMERCE LOGISTICS

Thanks to the Internet, trade has become as easy and convenient as never before. Its beneficiaries are both companies and customers. Almost each firm has the potential to become a successful trade. E-commerce creates new opportunities for expansion on a larger scale for already existing entities and offers prospects for rapid development to emerging ones. This is possible due to low entry barriers that encourage more and more companies to sell their products on the Internet. In turn, customers can access information about companies and thus their products at any time. They can easily find offers, compare them and read opinions of other users. They may also purchase new products, which they did not previously use due to their unavailability in the form of location in distant places (e.g. goods from abroad), lack of time or a different lifestyle (Kawa & Skowron-Mielnik, 2021).

The dynamic growth of e-commerce has a very big impact on many areas of the economy, particularly on trading, marketing, and logistics companies, even in the international dimension. It is in accordance with Master Plan on ASEAN Connectivity 2025 (2016) which takes into account the greater share of global flows in trade through

completing major trade deals and seeking to improve competitiveness in trade-related issues is the area with the highest potential for productivity and growth across South Asia countries (Kawa & Skowron-Mielnik, 2021).

E-commerce is dominated by business to consumer (B2C) transactions where the product is ordered by individual consumers and sold by businesses. Serving such clients is much more difficult and requires special procedures. They often make one-off purchases, and their expectations grow all the time. In addition, the philosophy of traditional sale is somewhat different from that of on-line sale. In the first case, the retailer sells a product that is available on the shelf, while in the latter – a specific promise of order fulfillment is, in fact, offered. E-customers do not only want the product itself, but also real-time information about the delivery, simplified and free returns of goods, flexible and fast delivery. If the product fails to arrive at the right time, is damaged or the driver's service is inadequate, the customer may not re-purchase at the store. For these reasons logistics is undoubtedly an important area of activity for a present-day enterprise (Kawa, 2020b) and is treated more and more as a game changer that gives companies the competitive advantage (Cainiao Network, 2020).

One of the weaknesses of logistics in the Southeast Asia countries is its high transactional costs due to the unsuitable and limited infrastructure which has significant impacts on the countries' and regions' competitiveness and consequently on the e-commerce development. Disparity on the logistics infrastructure and capabilities between countries is enormous (Kawa, 2020a). It is demonstrated by the logistics performance index (LPI), created by the World Bank. Singapore is the leader in Asia and ranks 5th in the World (amongst 167 countries). They have very good infrastructure, timeliness, efficient clearance process, and competent logistics services. Taiwan is also relatively well developed (ranked 24th). The worst LPI is in Myanmar (ranked 139th) (World Bank, 2021). That is why building of an appropriate infrastructure and create seamless connections is one of the biggest challenges in the development of e-commerce logistics. It is precisely this connectivity that is the key area highlighted by many experts and organizations supporting e-commerce development (Prakash, 2016; Tongzon & Cheong, 2014; Yean & Das, 2016). Logistics is related to the flow of goods and information about them. That is why the connectivity in this area must include physical connectivity which facilitates the movement of things and virtual connectivity which allows the flow of data (Kawa, 2020b).

The very important role in e-commerce is played by the online marketplaces. They link the sellers and the buyers in one place. They give the wide variety of goods that consumers can buy (Lim, 2020).

Today, more and more attention has been paid to expanding business activities beyond the borders of a single country. Sellers look for new buyers abroad, while customers want to have a greater choice of suppliers. This phenomenon is defined as cross-border e-commerce. It is based on selling products to customers who are located in another country (Kawa, 2020b). It is a big challenge for logistics, especially for time and cost delivery and returns. For example, 1 kg package in domestic delivery within 24 hours costs around \$3-5, but the same package in international flow is several times more expensive. The goal of Cainiao (Alibaba Group) is to deliver it

anywhere in the world within 72 hours for \$3. Wan Lin, CEO of Cainiao, says that the biggest barrier to globalization is logistics (Campbell, 2020). That is why to get all the CEOs of different delivery companies in a room to work out how to do logistics e-commerce.

4. E-COMMERCE LOGISTICS IN THE LIGHT OF OWN RESEARCH

4.1. Methodology

The next step of our research was the empirical studies. The information gathered from the secondary research was the basis for the preparation of qualitative research in the form of individual in-depth interviews (IDI) with experts. This study aimed to better recognize the e-commerce logistics in the Southeast Asia countries and the countries associated in Southeast Asia, especially to find interdependence of e-commerce and the logistics industry, to diagnose opportunities and threats and to estimate the magnitude of changes in the macroeconomic indicators related to the logistics e-commerce in Southeast Asia countries and the countries associated in ASEAN in the face of COVID-19.

The main assumption of the IDI study were as follows:

- Objective: development of e-commerce logistics, prediction of the macroeconomic and mesoeconomic impacts of the COVID-19 in Southeast Asia countries;
- Method of collecting information: direct semi-structured individual in-depth interview using questionnaires;
- General population: entities that are stakeholders of e-commerce and logistics (eg. logistics service providers, marketplaces, high-level industry experts, researchers and scientists);
- Respondents: people associated with e-commerce logistics;
- Sampling method: non-random purposeful sampling;
- Sample size: minimum five interviews are planned to be carried out.

These studies served as an initial analysis of the problem and can provide information necessary for proper organization of the quantitative method study, including in particular the design of the measuring instrument (content, type, order of the questions, etc.). This is in line with the qualitative approach to the research, the aim of which is to identify and understand an issue, while the search for truth is the aim of quantitative research (Rabiee, 2004). Plan for a minimum number of interviews to be conducted is consistent with the requirements of such research. In this case, it should include 3-10 interviews. We decided on a minimum of 5 interviews because we could sufficiently cover defined stakeholder types (Creswell & Creswell, 2018).

For the need of this paper a questionnaire survey which consisted of 8 parts. The question types used were only open-ended questions. The questionnaire was verified during pilot research. The first question concerned level is e-commerce in Southeast Asia and the difference between e-commerce in this region and other regions in the world (Europe, USA etc.). The second question was related to the most important drives for the e-commerce growth Southeast Asia. Next, the experts were asked to

indicate what the most important trends in e-commerce logistics are in Southeast Asia. The subsequent question was about the influence of the COVID-19 pandemic on commerce in South East Asia. The experts were supposed to present the opportunities and threats for logistics in the Southeast Asia region in the face of COVID-19. Next, the experts were asked to indicate what features logistics in Southeast Asian countries should have in order to foster e-commerce development and improve regional economic integration and what measures can be taken to support logistics to meet the requirements of e-commerce. Finally, the experts were asked to answer the question whether the environmental aspects are taken into account in e-commerce in Southeast Asian.

Recruitment for and implementation of the survey were carried out by the author himself. The respondents were searched for using the author's own contacts and social media – mainly LinkedIn. It will be checked whether these people were involved in e-commerce and the logistics sector. In some cases, these persons can be recommended another person to be contacted, who, in their opinion, could have more competence in this area.

The IDI studies are not characterised by representative samples of the population. For this reason, the selection of respondents to the survey was intentional. The main criterion was to ensure the greatest diversity of the participants in terms of sectors, types of businesses, handled goods, knowledge of the industry, etc. Moreover, the IDI research respondents were representatives of logistics service providers, marketplaces, high-level industry experts, researchers and scientists. Expertise in the field of logistics e-commerce supported by at least 5 years of professional experience were required from the respondents.

In total, we were able to conduct interviews with 5 people who represented different positions in their companies (CEO, executive director, business development manager, product manager, researcher, associate professor) from different types of entities (see table 1). The research was conducted between November and December 2020.

Table 1. Characteristics of the experts participating in the interview

No.	Position	Type of entity	Type of activity	Respondent's geographical experience
1.	Business Development & Senior Operations	E-marketplace	Online sales of products	Europe, Asia
2.	Associate Professor	University	Education	Asia
3.	International Product Manager	Logistics service provider	Logistics	Europe, Asia
4.	Executive Director	Bank	ASEAN insights & investments	Asia

No.	Position	Type of entity	Type of activity	Respondent's geographical experience
5.	CEO	Logistics service provider	Fulfilment	Europe, Asia

Source: own elaboration

Each interview started with a presentation of the purpose of the survey, the name of the project and information for which institution the survey was conducted. The participants were asked to express their opinions and give answers in a reasonably concrete way. If some questions could not be answered, the respondents were allowed to skip them. Some of the respondents entered their answers directly to the questionnaire forms, and some were interviewed. In the latter case, the form was filled in by the author during and after personal or telephone interviews.

All the completed questionnaires were analysed based on the generally accepted qualitative inductive approach. The analysis will consist in reading the answers several times in order to understand the relationships between them. After the analysis, the answers were synthesized and the most important fragments, in the author's opinion, were selected.

4.2. Results

The first issue in the questionnaire concerned presenting the level of e-commerce in Southeast Asia and the difference between e-commerce in this region and other regions in the world (Europe, USA etc.). One of the respondent remarked that "e-commerce in Asia is treated as one of the most technologically advanced markets in the world, both in terms of areas of typical e-shops or marketplaces, but also in terms of food supply, e-services and many aspects of social life". The experts unanimously admitted that the Southeast Asia region is an area with high potential for e-commerce growth. "It has grown tremendously and further rapid growth is expected. According to Google, Temasek, Bain report gross merchandise value is expected to triple by 2025" – said one of the experts. Another respondent even noticed: "Asian markets are developing at a much faster rate than the rest of the world. This is also related to mobility (smart phones) and the culture of a non-cash society. An important element is the infrastructure itself (logistics), which seems to be the engine of e-commerce. In the EU and the USA many solutions are 'ancient' compared to the region. It has to be admitted that the solutions, the facilitation of purchasing (advanced algorithms) are at a higher stage of development in this part of the world".

With regard to the second part of this question (the difference between e-commerce in this region) one of the experts emphasized, that: "It is difficult to generalise about the Southeast Asian market, because each of these countries is different and has different barriers. Some are insular, some have large areas, and others have very limited areas to do business. A common problem is certainly the lack of good infrastructure for transporting goods". "For example, Singapore has a high-

level e-commerce system such as payment and logistics. In contrast, customs clearance in Thailand is taking a very long time, so improvement is urgent. In countries that mainly use non-bank payment methods, such as Vietnam and the Philippines, there is friction between sellers and buyers due to COD payments during e-commerce payments” – said another expert. This diversity is also highlighted by another expert: “Due to its wealth of inhabitants and very limited areas (i.e. high costs), e-commerce in Singapore is highly developed along the entire supply chain. Singaporeans mainly do their shopping in China (cheap products), in Malaysia with which they are neighbours or in the USA (luxury goods). Other countries (such as Malaysia and Thailand) are not so rich, they have long distances, so e-commerce is not so developed in them. There is no good network of last mile services, so courier services are expensive and are not carried out so quickly”.

The second question was related to the most important drives for the e-commerce growth Southeast Asia. The experts most often listed: growing middle income, ongoing development of internet and fulfillment infrastructure and solutions. “The population is therefore mainly richer and more and more in demand. Asian countries are increasingly trying not only to be copies of solutions and technologies, but also to invent their own technologies and solutions, which are then copied by many competing companies. As a result, technology is quickly becoming widespread and cheap. Although in these poorer countries, I have noticed that the economy is still based on micro-business, small local shops and there are no dominant e-commerce platforms yet” – said one of the expert.

The next question concerned the most important trends in e-commerce logistics in Southeast Asia. One expert pointed out: „Recently, the most important trend related to e-commerce logistics in Southeast Asia is the increasing demand for fast delivery of overseas purchases. Southeast Asian customers use global e-commerce platforms such as Shopee, Lazada, and Amazon to purchase overseas goods more often and to diversify the types of goods they purchase. They prefer places that deliver products of various weights and volumes such as food, household goods, and exercise goods safely and quickly”. Another respondent confirmed it: “Speed of delivery is a priority. Another important element is the return of products. Both things come down to last mile logistics”. The next respondent paid attention to the “increased groceries shopping provides greater volumes for e-commerce logistics”. The experts pointed out a very strong emphasis on the development of IoT and AI: “I see a significant technological leap forward for this region in relation to the solutions of Europe and the USA, e.g. it manifests itself in a different way of payment (payment by phone vs. payment cards). As far as e-commerce logistics is concerned, while technological development is very advanced, physical logistics is still very backward. There are no modern warehouses, no modern car fleets, no road infrastructure, etc. Of course, there are modern warehouses, but there is no such infrastructure in the whole country”.

Then, the experts indicated how the COVID-19 pandemic has affected e-commerce in Southeast Asia. The supply chain that has been developed over the years was broken. This has resulted in the need to seek to improve this part of the business. “COVID-19 has caused a surge in e-commerce. Given restrictions in movement and potential concerns with exposure, consumers have taken to digital channels to get their shopping done. During the strictest periods, consumers started to move orders to more

basic items such as groceries and household items. Google, Temasek, Bain report indicated that ASEAN added 40 million Internet users in 2020 and 94% of new users will stay” – stressed one of the experts. “Due to the increasing demand for ASEAN e-commerce, overseas sellers' interest in sales to the ASEAN region has increased. For example, the demand for products from overseas countries such as Korea and Japan has been very high, and in fact, sales of Korean sellers to ASEAN are increasing very rapidly. However, there is a problem that delivery is very delayed due to insufficient transportation services to meet the explosive logistics demand. In some countries, due to problems such as the occurrence of COVID-19 confirmed cases and illegal cargo, it takes a very long time for customs clearance, increasing user inconvenience” – another expert noticed. “I think that the COVID-19 pandemic will have the greatest impact on e-commerce in the next two years. It is this pandemic which is the source of much accelerated progress in the digitisation of sales. The beneficiaries of this situation will be logistics service providers, as well as those companies which have been successfully gaining sales experience for a good few years” – claimed one of the experts.

Another effect of the COVID-19 pandemic is purchasing trends and customer behaviour. “Many product categories have remained in the same position in the sales rankings and some have changed their position, e.g. products from the 'home' category are often simply not available because there were too many orders. The same was of course true of the 'health' category. Some manufacturers simply did not keep up with production and orders. All this is now being improved. The e-commerce industry was too confident until the pandemic. A number of strategies and B plans are now being introduced to ensure the continuity of the 'no matter what' business” – one of the expert said.

The next question concerned the opportunities and threats for logistics in the Southeast Asia region in the face of COVID-19. The experts agreed that the pandemic caused growing business opportunity for e-commerce: „First of all, as the intact life continued, demand for e-commerce increased significantly, and as a result, logistics infrastructure such as fulfillment centres are being introduced faster than expected”. But at the same time, the experts notice that the threatening side is also increasing: “The key threat related to COVID-19 is disruption to logistics operations. If the ports, airports close or if there are disruptions to the delivery vehicles, the delivery operations potentially could grind to a stop. Besides negative customer experiences, the cost of holding or storing the goods incurs additional cost. Should there be lost items or pilferage, the potential losses could be substantial“. Another expert noticed other problems: „For example, if an employee of a logistics company is confirmed with COVID-19, there is a delay in delivery, which can damage both buyers and sellers. In addition, the fact that logistics services that can satisfy both buyers and sellers have not yet been provided in the event of problems such as returns or after-sales as the number of products purchased abroad increases, which can hinder further market growth”.

The next question was about the features of logistics in Southeast Asian fostering e-commerce development and improving regional economic integration. “During the pandemic, we have learned a lot about the logistics and improvement of this part of the sector. We also know that you should not rely on just one local logistics partner.

It is worth expanding this network continuously” – said one of the expert. “It is of utmost importance to close the gap in the level of logistics systems and infrastructure by country. It is necessary to establish a joint logistics warehouse or a joint logistics system that can be used jointly by e-commerce business operators. It is also an important factor that real-time freight tracking is possible through information sharing with local logistics companies and global logistics companies” – another expert added.

Next, the respondents were asked about measures which can be taken to support logistics to meet the requirements of e-commerce. The experts mainly draw attention to customs issues: “There is a need to ease regulations on customs clearance of e-commerce goods. For counterfeit goods and illegal transactions, it is necessary to introduce a system with high accuracy and speed through cooperation between countries and to discuss related systems”. “In order to e-commerce to grow in Southeast Asia, it is necessary to quickly clear customs for e-commerce items. Second, a payment system that is advantageous for overseas payments and settlements should be utilized in all countries. Third, high-level logistics services should be provided without risk of loss or damage. Finally, a stable logistics network that can reach customers within a certain period is needed” – one of the experts clearly emphasized. “National and regional efforts to standardize track and trace data formats and systems at the parcel level would be helpful” – the next expert added.

The last question concerned environmental aspects taken into account in e-commerce in Southeast Asian. According to one of the expert: “With the increase in e-commerce transactions, the use of one-off products to protect products such as paper boxes and packaging is increasing. This can lead to environmental problems that increase waste that is difficult to recycle. There is a need for a system that encourages and incentivizes the use of durable, lightweight and eco-friendly packaging materials for companies with large volumes of traffic”. Awareness and attitudes towards ecology are at a very different level which was confirmed by the opinion of one respondent: “It varies from company to company. The more enlightened players are moving towards reducing their carbon ‘footprint’ for transportation. They developed a view on the future of packaging and how to make it more environmentally friendly“. One of the respondents remarked: „The largest marketplaces carry out a range of environmental activities, mainly through vendor education, but no less importantly, through continuous improvement of global supply chains, consolidating cargo to make even more use of space and using the best local solutions in each target country with the greatest sales potential. But can we talk about a truly green approach? Daily practices in many warehouses in Asia are no longer different from those used in Europe, such as re-use of packaging, use of paper packaging tapes, etc. The standards in this part of the world are based on pragmatism, maximising profit while minimising costs”.

5. CONCLUSIONS

The very rapid development of e-commerce is a great opportunity for many economies in the world, especially for Asian countries. Southeast Asia is one of the

fastest growing regions in the world in terms of e-commerce. Due to its large population, increasing mobility and the popularity of mobile devices, this region is regarded as a very attractive market for both smaller local players and global companies. The latter have recently invested a lot of money in local businesses and logistics infrastructure. These incentives have a major impact on the region, as they increase its dynamism and lead to competition between e-shops and, consequently, to a reduction in costs and an improvement in the quality of services for customers. Moreover, it is an incentive for other companies to consider entering this market.

One of the key values in e-commerce is logistics. This is confirmed by the words of one of the experts who took part in the study: "Consumers perception of e-commerce will continue to be tied to the logistics experience and will potential be the key determinant on who does better in e-commerce. In other words, consumers are likely to equate a brand's success in e-commerce to its ability to deliver a positive logistics experience".

The conducted research have shown that measures are needed to support logistics to meet the demands of e-commerce.

Some limitations and future work should be identified in our research. Our work is based on a qualitative method, therefore the research results cannot be generalised. However, they are the first stage of research, on the basis of which further types of investigation may be prepared. One of them is research using the quantitative method, the results of which will enable hypotheses testing.

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7. REFERENCES

- Anbumozhi, V., (2020). ACRF: Potential green recovery, new social contract towards sustainable ASEAN future, *The Jakarta Post.com* [available at: <https://www.thejakartapost.com/academia/2020/12/09/acrf-potential-green-recovery-new-social-contract-towards-sustainable-asean-future.html>, access May 30, 2021].
- Banker, S. (2020). What Will Last Mile Delivery Look Like Post-Coronavirus?, *Forbes*.
- Cainiao Network (2020). *The New Face of E-Commerce Logistics in the Post-Pandemic World* [available at: <https://cainiao.medium.com/the-new-face-of-e-commerce-logistics-in-the-post-pandemic-world-2a46a54c21e8>, access May 30, 2021].
- Campbell, Ch. (2020). *China's Cainiao Is Revolutionizing How Goods Get Delivered. Will the Rest of the World Follow Its Rules?*, *Time* [available at:

<https://time.com/5914173/cainiao-logistics-alibaba-china-trade/>, access May 30, 2021].

Creswell, W. J. & Creswell, D. J (2018). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage publications.

Kang, S. Ch. (2020). *COVID-19 whets appetite for e-commerce in Southeast Asia, but bottlenecks remain*, S&P Global Market Intelligence.

Kawa, A. (2020a). *Improving Logistics Connectivity of E-commerce in the ASEAN Region*, in Chen, L. and F. Kimura (eds.). *E-commerce Connectivity in ASEAN*. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia, pp. 51-77.

Kawa, A. (2020b). *Network Cooperation in Cross-border E-commerce: A Conceptual Model of a Logistics Platform*, in Chen, L. and F. Kimura (eds.). *E-commerce Connectivity in ASEAN*. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia, pp.195-217.

Kawa, A. (2021). *Fulfilment as Logistics Support for E-Tailers: An Empirical Studies*. Sustainability, 13(11), 5988.

Kawa, A. & Skowron-Mielnik, B. (2021). *The importance of e-commerce development for shaping the labour market in the Southeast Asia region*, in Chen, L. and F. Kimura (eds.). *Labour in East Asia*. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia (in press).

Kharpal, A. (2020). *Alibaba, JD set new records to rack up record \$115 billion of sales on Singles Day as regulations loom*, CNBC [available at: <https://www.cnbc.com/2020/11/12/singles-day-2020-alibaba-and-jd-rack-up-record-115-billion-of-sales.html>], access May 30, 2021].

Kimura, F. (2020). Exit Strategies for ASEAN Member States: Keep Production Networks Alive Despite the Impending Demand Shock, *ERIA Policy Brief*, No. 2020-03.

Lee, Y. (2020). *Southeast Asia's Internet Economy on Verge of a Post-Covid Boom*, *Bloomber* [available at: <https://www.bloomberg.com/news/articles/2020-11-10/southeast-asia-s-internet-economy-on-verge-of-a-post-covid-boom>], access May 30, 2021].

Lim, R. (2020). *Alibaba's logistics arm Cainiao launches 500m yuan global tender*, *The Business Times* [available at: <https://www.businesstimes.com.sg/garage/alibabas-logistics-arm-cainiao-launches-500m-yuan-global-tender>], access May 30, 2021].

Loh, D. (2020). *Coronavirus pandemic fuels Asia e-commerce boom*, *Nikkei Asian Review*.

Master Plan on ASEAN Connectivity 2025 (2016). Association of Southeast Asian Nations (ASEAN). Jakarta.

- MTS (2020). *COVID-19 Drives Digital Transformation for ASEAN Enterprises*, Says GlobalData [available at: <https://martechseries.com>, access May 30, 2021].
- Mueller, S. (2020). *E-Commerce in the 'New Normal': New Rules, New Players, New Game* [available at: <https://sabinext.com>, access May 30, 2021].
- OBG (2020). *E-commerce provides economic boost for Indonesia as shoppers migrate online during the Covid-19 pandemic*, Oxford Business Group [available at: <https://oxfordbusinessgroup.com>, access May 30, 2021].
- Odonkor, A.A. (2020). *Challenges and prospects in Southeast Asia's e-commerce market*, CGTN [available at: <https://news.cgtn.com/news/2020-09-24/Challenges-and-prospects-in-Southeast-Asia-s-e-commerce-market-U2X7dP2ekM/index.html>, access May 30, 2021].
- Prakash, E. (eds.). (2016). *Asia–Europe Connectivity Vision 2025 Challenges and Opportunities*, An ERIA–Government of Mongolia Document, Economic Research Institute for ASEAN and East Asia (ERIA). Jakarta.
- Yendamuri, P. & Ingilizian, Z. (2020). 8 ways ASEAN consumer habits will change by 2030 - shaped by COVID-19, tech and more, *World Economic Forum* [available at: <https://www.weforum.org/agenda/2020/06/8-ways-asean-consumer-habits-will-change-by-2030-shaped-by-covid19-tech-and-more/>, access May 30, 2021].
- Rabiee, F. (2004). *Focus-group interview and data analysis*. Proceedings of the Nutrition Society, 63(04). 655–660.
- Statista (2021a). *Gross domestic product (GDP) of the ASEAN countries from 2010 to 2020* [available at: <https://www.statista.com/statistics/796245/gdp-of-the-asean-countries/>, access May 30, 2021].
- Statista (2021b). *Value of the e-commerce market in Southeast Asia from 2015 to 2020 and a forecast for 2025* [available at: <https://www.statista.com/statistics/958414/southeast-asia-e-commerce-market-value/>, access May 30, 2021].
- Statista (2021c). *Retail e-commerce sales worldwide from 2014 to 2024* [available at: <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>].
- Tongzon, J. & Cheong, I. (2014). The challenges of developing a competitive logistics industry in ASEAN countries. *International Journal of Logistics Research and Applications*, 17(4). 323-338.
- Urata, S. (2020). *Reimagining Global Value Chains after COVID-19*, *East Asia Forum*, 2.07.2020.
- Thomas, D. R. (2016). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2). 237–246.
- WEF (2020). *Future of Consumption in Fast-Growth Consumer Markets: ASEAN*, World Economic Forum.

World Bank (2021). *Aggregated LPI* [available at: <https://lpi.worldbank.org/>, access May 30, 2021].

Yean, T.S. & Basu-Das, S., (2016). *Logistics Integration in ASEAN Faces Serious Challenges*, ISEAS – Yusof Ishak Institute, no. 55.