

Advances and Constraints in Cross-Border E-Commerce in The Southeast Asia

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Abstract- *Cross-border e-commerce (CBEC) has become increasingly popular as the online marketplace swiftly changing, bringing fresh possibilities and challenges for regional enterprises. Southeast Asia region is positioned to be the next hub of trans-border e-commerce with the recent upsurge in internet usage, having 60% of the population being below 35 years of age could create an e-commerce boom. However, this CBEC growth is not devoid of challenges and inherent potential for regional economic transformation. This article aims to give readers a general overview of current developments in CBEC among Southeast Asian (SEA) Nations. This paper covers essential growth, key issues and shaping factors in the e-market expansion market and the new frontiers of growth such as data flow and digitalisation that have influenced the expansion of CBEC in Southeast Asia. Findings show that Indonesia is SEA's largest market and about half of Southeast Asia's CBEC is attributed to Singapore and Malaysia showing that cross-border e-commerce enterprises in SEA nations are promising, with trajectories for the future. Also, the key shaping factors include; digital nativity and social media culture of the region's teeming youths, language, platform digitalisation and inclusiveness and internet services covering the nooks and crannies of the SEA nations. The paper provides succinct information for policymakers and stakeholders in the quest to take trans-border e-trade in SEA nations to a buoyancy level.*

Indexed Terms- *E-commerce, ASEAN, Cross-border e-commerce, South East Asia, logistics*

I. INTRODUCTION

Amazon and eBay's growth since almost three decades ago indicates huge possibilities in e-commerce. The global business environment is undergoing significant change, and nations or regions lacking e-commerce and digital data exchange capabilities stand to be left behind (1). The emergence and thriving of E-commerce worldwide has attracted substantial research efforts to shift the frontier of knowledge of its concept, structure and dynamics. Many researchers have described E-commerce in one way or another; however, all have underlying ideas of conducting business online and through electronic media (2,3). It connotes trading goods or services directly to the client from a vendor's website on the Internet (4), based on electronic communications and digital information processing technology in business transactions, using the Internet and data technologies such as Electronic Data Interchange (EDI)(2,5). The site accepts payments via credit card, debit card, or EFT (Electronic Fund Transfer), using a digital shopping cart or basket system to trade goods or services directly with customers through an online retailer's website. (2,6). Global e-commerce sales could reach \$5.8 trillion in 2023, with a forecasted growth rate of 8.9%. Expert predictions indicate that the expansion of international e-commerce sales will continue at a pretty constant rate. Global growth in e-commerce is predicted to reach 9.4% in 2024. The projected growth rate for 2026 is 8.6%, resulting in \$7.5 trillion in total e-commerce sales, expanding by 7.6% in 2027, when total sales would finally top \$8 trillion.

E-commerce within a country has fewer functionality requirements compared with Cross-border e-commerce (CBEC). Also, e-commerce that crosses borders is evidently thriving and now has a far wider global reach, affecting a nation's economic strategy (6). Internet-based cross-border trade describes a global business activity carried out by various trading entities using an online trade platform to complete deals, payments, settlements, and cross-border logistics for shipment and deal completion (6). More crucially, e-commerce can promote prosperity in developing countries by improving their markets' and government institutions' openness and effectiveness (7). The worldwide e-retail revenue has climbed from US\$1,115.7 billion in 2016 to \$3.5 trillion in 2019. This growth reflects the expanding importance of e-commerce (3). It strengthens global value chains, enhances market access and efficiency, and lowers operating costs (8). Lately, businesses have actively sought out and welcomed customers from abroad by creating cross-border experiences that are streamlined, customised, and cheap. The worldwide retail industry is being driven by e-commerce, particularly CBEC, which is still expanding (9).

The Association of Southeast Asian Nations (ASEAN) includes Cambodia, Singapore, Malaysia, Philippines, Myanmar, Vietnam, Laos, Brunei, Indonesia and Thailand, as shown in Figure 1. There are still some developing nations among ASEAN that can benefit from e-commerce by utilising competitive advantages unavailable in the "old economy," where conventional marketing and export channels are ineffective and dominated by numerous offline middlemen (8). ASEAN aspires to use e-commerce to the advantage of all parties involved, including the government, businesses, and people living in its member nations. With an 85% year-over-year increase in digital retail in 2021 alone, Southeast Asia has witnessed a spectacular surge in online shopping activity. It is projected that by the end of 2021, more than 80% of the customers in this area will buy online (10). As a result, companies endeavour to enhance the customer experience to win over their target consumers.

SEA has emerged as China's top trading partner, with cross-border e-commerce exports accounting for 29.3% of all foreign trade in 2019 from 10.6% in

2013 (10). The ongoing growth and acceptance of international e-commerce affect the region's economic structure. Digital connectedness is critical in facilitating transformation, as the region's digital transformation may lead to the next Asian economic revolution. (11). Also, CBEC in SEA is divided into three categories: Trade (business-to-business (B₂B) and business-to-consumer (B₂C)), with goods (fashion and apparel, consumer electronics, furniture, appliances, personal care and beauty products, and other goods including toys and food products), and among Singapore, Thailand, Vietnam, Indonesia, Malaysia, Philippines, and Other) (12).

The expanding economic market has been exposed to various e-business models. E-commerce growth in the SEA regions has been catalysed by the Internet service available to everyone daily, like 3G and 4G technology in locations where Internet connectivity was previously impossible. However, the level of e-commerce adoption in the region is unequal, as digital divides are still conspicuous among SEA nations because each country has a vastly different group of economic growth and cultural characteristics (13). E-commerce development is slow in some SEA nations, making it uncompetitive with other regions of the globe. This calls for an in-depth investigation into the individual and national factors influencing the adoption of the digital economy to ensure that all ASEAN fully benefit from the advantages of e-commerce. One of ASEAN's goals is to slim the digitalisation divides for the benefits of e-commerce among the consumers in each member's country (13).

There have been some studies, literature reviews, agitations and visualization of border e-trades by my organisations and entities within the region (14–16), even after the recent pandemic, (17,18). Although, most of the papers focus on the growth and challenges of e-commerce within each country in the region, with minimal emphasis on the state of regional tran-border e-trades. Also, reports (12,19,20) obtained on the trend, opportunities and challenges of cross-border e-trades in SEA are obtained as webpage materials, not as peer-reviewed articles and many of these reports did not emphasise the shaping elements of cross-border e-trades within Southeast Asia Nations. Besides, it is known that the e-

commerce market is dynamic, requiring a piece of up-to-date information on the advances, issues and prospects. Currently, there is a paucity of review articles that cover CBEC in SEA, thus the need for this review article.



Fig. 1 Map of SEA Nations

A. Aim and Significance of the Study

This article critically discusses Southeast Asia's e-commerce development status, future potential trajectories, key shaping players, and factors in the industry, including the challenges, prospects for future growth and critical recommendations for CBEC thriving in the SEA nations. The authors present systematically synthesised findings of previous published studies and reports on cross-border e-commerce within SEA regions. This study has become necessary due to the recent e-commerce quota on the SEA economy. With e-commerce bringing it prospects, SEA nations have the potential to take advantage of these. ASEAN-6's overall e-commerce activity increased at a compound annual growth rate (CAGR) of 43.4% from US\$5.5 billion to US\$33.6 billion between 2014 and 2019. The region's economy has room to grow because it is home to 650 million people and has a youthful population, with about 60% of the population being under 35 (14). Being digital natives who grew up with smartphones and social media, they are accustomed to finding and buying things online. Growing numbers of young people entering labour markets and the middle class are also fueling demand for contemporary technology and better lifestyles through consumption (14). This study covers the vital technological growth as the driver of CBEC and the influence of the ASEAN

Digital Integration framework on cross-border trade critical recommendations for CBEC thriving in the ASEAN region are in the discussion.

B. Research Questions

This study is predicated on the following research questions;

- (i) What exactly are the current trends in Southeast Asian cross-border e-commerce, and how have they changed recently?
- (ii) Which obstacles do Southeast Asian cross-border e-commerce companies confront, and how have they overcome them?
- (iii) What new frontiers and opportunities is the e-commerce market in Southeast Asia approaching, and how are they getting ready for this shift?

II. METHODOLOGY

This paper used the systematic literature review approach based on the procedures outlined by [21,22], which has been used recently by [23,24]. A systematic literature review is an exhaustive and precise search that is primarily guided by the research question-based search criteria and particular search phrases, and to provide a statement of conclusion that addresses particular problems, the best available evidence is thoroughly evaluated and carefully synthesized [25]. Narrative synthesis was used in this study, as recommended [26], and adopted by other researchers [27,28]. This approach is used particularly in those areas where textual and qualitative data are more prevalent, the researcher compiled and evaluated findings from a variety of studies, then focused on concisely presenting and clarifying the results through written explanations.

This systematic literature review was designed to evaluate the advances in CBEC in Southeast Asia, after planning, conducting and recording the assessment. An extensive search was conducted across some digital databases, like Google Scholar, Scopus, SAGE Journals Online, Taylor and Francis Online, and South Asian Research Journal of Business and Management and articles, conference papers and ASEAN- reports on e-commerce were obtained. The use of digital databases made it easier to determine whether a systematic literature review regarding cross-border e-business in SEA had

already been conducted. Then we kept articles that had a connection to the terms “cross-border” and “e-commerce in Southeast Asia nations” including any articles that contained relevant reports from ASEAN digital economic transformation. Also, included are the World Investment Report 2021, A Vision for Border E-Commerce in SEA nation [14] and ASEAN Post-COVID Digital Policy Priorities [29]. On the inclusion and exclusion criteria, any papers that are unrelated to the keywords or the phrase “Cross-boarder E-commerce in ASEAN” or that do not answer the research questions were all eliminated. In total, 40 papers and reports were reviewed.

III. LITERATURE REVIEW

There have been studies on e-commerce trends in Southeast Asian nations since the last decade. Many of these studies have focused on individual nations, also as a region. A study (21) analysed the advantages and impact variables for small and medium-sized businesses in Indonesia, although the nation’s SMEs lagged in adopting e-commerce due to some variables that influence SMEs. However, this study identified eleven such benefits that SMEs, both large and small firms might potentially get by embracing e-commerce. However, the entire cost of gainful internet commerce, which includes one-time and continuous expenses, continues to be very difficult for micro businesses (3). This study (3), empirically analyses the techniques used by e-retail micro-enterprises to possibly advance their adoption of e-business. The results showed how much adoption costs, the technology-organisation-environment techniques being used to lower the cost barrier, and how lowering the cost barrier also lowers some other adoption obstacles unrelated to costs.

Also, some studies have focused on SEA nations. A researcher (6) conducted a panel analysis on cross-border e-commerce in SEA nations from 1998 to 2016 to estimate the correlation between CBEC and relevant variables and found that the actual exchange rates have an impact on international e-commerce trade and the growth of global e-commerce is consistently influenced by the GDP and the real exchange rate. It was concluded that to address the necessity of developing cross-border e-commerce

trade, all SEA nations should make every effort to enhance their economic development and concentrate on exchange rate regulations. Another researcher (13), investigated the SEA e-commerce customers using individual and national-level factors to give empirical data. The results indicate that female users who are younger, better educated, working and have greater incomes are more likely to engage in e-commerce, which made up 5870 people in six nations in 2017. Also, it has been found that e-commerce is more likely to be adopted by civilizations that value individualism, masculinity and country-level variables and national culture should be considered in addition to individual traits and formal institutions in explaining the adoption of e-commerce. Similarly, a study (9) analysed the growth of CBEC between SEA nations and Korea with a focus on logistics and trade issues and recommended cross-border e-commerce connecting Korea and SEA to be revitalised by employing interconnected e-platforms and collaborative efforts with Korean logistics businesses.:

A. Cross-Border E-Commerce in SEA Current Trends and Growths

E-commerce has rapidly expanded throughout SEA nations, contributing to the emerging digital economy, with CBEC offering enormous prospects. SEA countries are endowed with the potential to explore the privileges brought about by e-business and one of the growths observed is the digital nativity of young consumers. The entire e-commerce activity in ASEAN-6 increased at a compound annual growth rate of 43.4% from 2014 to 2019, rising from US\$5.5 billion to US\$33.6 billion (14). With 650 million residents and a young population—nearly 60% of whom are under 35—the region offers a long tail for economic expansion. This population has grown up with smartphones and social media and is very accustomed to finding and buying products online. The middle class and the young labour force are also expanding, which boosts spending and the demand for contemporary technologies and a better way of life, socio-economic pressures are transforming consumer behaviour and the corporate landscape (14).

Moreover, due to the escalating consumer desire for online buying, Internet usage in SEA is rising, with

substantial rates of increase in the past few years for Internet access in most ASEAN nations (16). Figure The fast expansion of e-commerce is fueled by the quickly growing availability of internet connection as well as the increasing popularity and portability of handheld gadgets, which allow customers to place increasingly frequent orders for goods and services at convenient times and locations (16). Between 2013 and 2018, internet usage rose by roughly 30 percentage points in nations like Thailand and Vietnam, with substantial benefits for participants throughout the value chain of e-commerce. The proliferation of online marketplaces like Lazada, Shopee, and Sendo, as well as the increasing number of smartphones and other digital devices in the region, is driving this increase in internet accessibility (22). Although, the amount of e-commerce in Southeast Asia accounts for just 1.75 % of total e-commerce worldwide. As is evident, Southeast Asia's e-commerce is still in its infancy and is underdeveloped when compared to the markets in the US, China, and the EU, but it has a lot of potential and opportunity to grow because it is one of the fastest-developing areas in the globe. According to Google Analysts, the SEA will see the next significant e-commerce development in Asia-Pacific (16). By the next decade, ASEAN's economy will grow to become one of the top four in the world, based on analysts from the World Economic Forum (16) and the biggest market in the world with the greatest degree of Internet shopping penetration is the SEA region (23).

Also, it is vital to consider current trends in relation to the Top Players and platforms. As shown in Figure 3, Indonesia is Southeast Asia's largest market (23). By 2025, it is expected that their share of the Southeast Asian e-commerce sector, which currently stands at \$21 billion, will rise to \$83 billion. Malaysia, the Philippines, Thailand, and Vietnam are further significant markets (24). Despite China, being the global leader in cross-border trade, the SEA Big 6 nations—particularly Vietnam, Thailand, and Indonesia—have made a conscious effort to consider cross-border orders. Singapore has the highest purchasing power, yet it still generates greater sales from retailers (19). As shown in Figure 3, the top 3 online marketplaces serving Southeast Asian e-commerce traffic are Shopee, Lazada, and

Tokopedia; these are followed by Qoo10, Tiki, Sendo, Bukalapak, and so on. Shopee purchases significant Southeast Asian markets with a variety of features for B₂C and C₂C commerce (19) With a B₂C business strategy and stringent approval requirements, Lazada is currently a subsidiary of the massive Chinese e-commerce company Alibaba. Tokopedia is a significant player in Indonesia, offering a wide range of goods and services on a single platform, and its product selection is constantly growing (23,24).

In addition, Based on the report (19), about half of Southeast Asia's CBEC is attributed to Singapore and Malaysia. Also, the e-commerce industry is expanding rapidly in Thailand and with the Thailand 4.0 strategy, every community in the nation intends to have internet access. By introducing more cutting-edge and specialized items to the market, Vietnam and the Philippines have shown their enormous cross-border potential. Due to the enormous 814% increase in imported e-commerce parcels from Indonesia, which increased from 6.1 million packages to 49.7 million in 2019, the government waived the \$75 shipping fee for every shipment (19).

Based on the report (25), the recent COVID-19 epidemic in the wake of this decade catapulted Southeast Asia's e-commerce business into a new phase, even though growth has quickened since the middle of the 2010s. The entire amount of online sales increased five times, or 40%, between 2016 and 2021. And from 5% of all retail sales, e-commerce now accounts for 20%. More people in the region are using more varied avenues to purchase a greater range of goods online (22). In terms of logistics, the region's supply networks are changing to meet these broadened fulfilment requirements and additional logistics capabilities will probably be needed. The Southeast Asian market is expected to quadruple in size by 2026, expanding at an average yearly rate of 22%, and reaching a total gross transaction volume of over \$230 billion (22). Southeast Asia is a patchwork of diverse economies in varying phases of development as shown in Figure 2, thus, the pace of e-commerce adoption may differ from nation to nation. The Philippines, Thailand, and Vietnam are following with only about 15% of the region's consumers engaging in e-commerce, while Indonesia

and Singapore are leading with a penetration rate of over 30%. Current developments are noticeable in mobile and social media commerce, user-friendly online stores and improved client support and adoption of Cash on Delivery(COD).

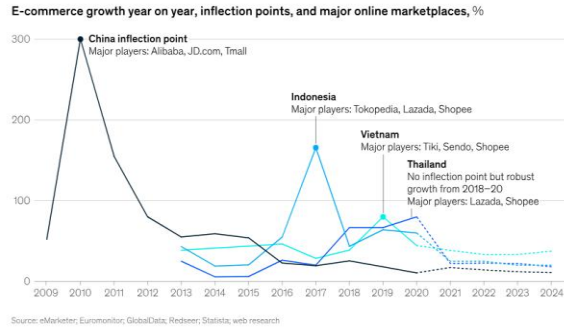


Fig. 2 Annual rise in e-commerce, turning points, and essential e-commerce platforms (25).

Mobile and Social Media Commerce is a significant CBEC technique, using a smartphone with an internet connection to buy online and make payments. Southeast Asia is regarded as the first densely populated region, with the second-largest e-commerce sector and one billion users of mobile internet (25), promoting cross-border trade without interference from social or cultural barriers (19). The cross-border mobile commerce market in Southeast Asia has local firms' dominance, with a fragmented market environment. Shopeee, Lazada, Tokopedia, Qoo10, Bukalapak, and many other well-known companies are among the key players. Also, rising online platforms, particularly social media, have made it easier than ever for merchants to connect with and influence their target markets. The channel has also drawn viewers from abroad. In 2021, social commerce accounted for around 21% of all internet sales in Southeast Asia (24). The social media developments in Southeast Asia have been substantial, with Malaysia exhibiting a 91.7% penetration rate on social media. In Thailand, 52% of consumers take influencer suggestions into account. The average daily usage of social media among Filipinos is approximately four hours and eight minutes, with e-commerce activities (19).

User-friendly Online Stores and Improved Client Support: Another significant growth observed is that many online retailers have made their online stores

more user-friendly for cross-border platform usage, allowing vendors to sell in multiple countries with ease, which is advantageous to both the sellers and the buyers since they can now access a wider range of products, even ones that are not available in their home country (19). More than ever, the e-commerce business is meeting the needs of its customers. With extreme security and attention, several payment options are provided. Online cross-border transactions are made more transparent and safe with the use of blockchain technology, and consumers can receive expedited shipping and delivery at little to no additional cost (19).

Adoption of Cash on Delivery: According to (26), the COD technique may boost monthly sales by more than 30% at online retailers like Shopeee, Lazada, and others that accept this payment method. However, this research also reveals that some online shoppers are still unaware of the steps involved in the COD method, which can lead to disputes among couriers and customers when it is used in the real world. One of the most often used methods of purchase in Southeast Asian nations is cash on delivery COD. It constituted 47% of payment methods in the Philippines, 42.8% in Vietnam, and 20.6% in Indonesia for digital transactions in 2017(9)..

B. Issues Facing Cross-Border E-Commerce Firms in Southeast Asia

Southeast Asia offers a sizable prospective market. However, there are constraints to this growth, which are influenced by the possible client base, higher profit margins, product diversification, and opportunities for collaborations and engagement.

1. Cultural and Language Obstacles: E-commerce companies face challenges with communication due to the region's different language populations, which impacts consumer relations and advertising tactics [36]. According to [37], Southeast Asian languages and cultures are diverse, which makes it difficult for companies to market their goods and interact with clients. no matter the items offered, localization is essential to building confidence with global consumers. Even with localization, it is crucial to confirm cultural quirks with local staff to avoid miscommunication and stop customers from making mistakes when making purchases. Neglecting to tackle these

linguistic and cultural obstacles may lead to decreased revenue and harm to a company's image. This is confirmed in a study conducted on the vitalisation of cross-border e-commerce between SEA and Korea and the language barrier has been identified as a constraint using the mall websites of SEA nations [9].

2. **Complex laws:** various nations have varied legislation, which makes compliance and operations more difficult for cross-border e-commerce in Southeast Asia [36]. Based on the report [37], companies may find it difficult to manage the complicated and demanding environment of cross-border e-commerce due to the disparate rules and customs legislation that exist throughout Southeast Asia. Complying with import/export laws, tax legislation, and product safety regulations might differ significantly between nations, which makes them essential for success in this market. Tokopedia, for example, is restricted to trading activities within Indonesia, while being the third most visited marketplace in Southeast Asia. For Lazada, it is not allowed to sell groceries and supplements internationally [36]. Also, another researcher [38], examines how much the government, e-commerce companies and e-commerce customers have been able to utilize, reuse, or share domestic data thanks to regulatory frameworks in ASEAN. The results show that various facilitators and nations in ASEAN have not equally built regulatory structures to facilitate data flows. The disparities in how rules and regulations are enforced could make these differences worse. Except for Malaysia and the Philippines, the ASEAN region performs poorly when it comes to allowing the reuse of data with private intentions.
3. **Logistics Problems:** The on-time distribution of cross-border goods is impacted by obstacles in the logistics business, such as ineffective infrastructure and transport systems, resulting in the complexity, unpredictability, and expense of international shipping. Legal documentation is needed when exporting goods abroad (19). One of the key concerns in the area now is logistics. inadequately designed conveyance and a higher chance of damage to goods when travelling. These difficulties may have a detrimental effect on the customer experience, which may lead to a

decline in client loyalty and a loss of sales (23). Thus, logistics is unquestionably a crucial area of focus for a modern business and it is increasingly recognized as a vital tool that provides businesses with an edge over others (16). One of the shortcomings of Southeast Asian logistics is the high price of transactions brought on by the inadequate and underdeveloped infrastructure, which has a substantial negative influence on the competitive edge of the nations and regions and, in turn, on the growth of CBEC (27). There is a huge gap in each country's logistical capacities and infrastructure (16). Logistics companies are seeing opportunities as consumer and merchant habits change, provided they can fulfil increasingly stringent standards and adapt to new needs (22).

4. **Currency and Payments Concerns:** E-commerce platforms and consumers alike face difficulties with handling numerous currencies and guaranteeing safe payments across borders. It can be difficult for brands and companies involved in cross-border eCommerce to navigate various payment options between nations. Many consumers in the region choose payment methods like Cash on Delivery (COD), digital wallets, or bank transfers for online purchases because credit card usage is relatively low in nations like; the Philippines, Indonesia, Thailand, and Vietnam (28). In Vietnam, MoMo is the go-to digital wallet, although Dana and Doku are the most widely used options in Indonesia (28). It is undoubtedly costly and time-consuming for firms to modify their payment choices to accommodate regional preferences. Another issue is currency. Southeast Asia has as many currencies as the nations that make up its region and firms need to choose a payment service provider that supports a range of currencies when selecting a partner so that fluctuations in exchange rates will not have a notable impact on margins (28). A sophisticated e-commerce infrastructure, including payment and shipping, exists in Singapore. It is urgently needed to improve the lengthy customs clearance process in Thailand (16). COD payments during e-commerce payments cause friction between vendors and purchasers in nations like Vietnam and the Philippines which mostly employ non-bank payment techniques, as viewed by the

expert. Also, with COD, a surge in failed deliveries is anticipated. Compared to prepaid purchases, this occurs more frequently with COD (25). Individuals who pay for their goods only after they are delivered are more prone to be erratic in their online shopping and to quit at the last minute when their items have been sent on their way. Nearly 15% of deliveries fail in nations like the Philippines and Vietnam where COD is the norm (25). According to (29), mobile payment method offers substantial influence on e-commerce processing effectiveness.

5. **Return Policy:** The opportunity to buy and check goods before delivery is not available for online shopping. Logistics companies could anticipate higher returns as Southeast Asia's e-commerce market grows. E-commerce sales have return rates of 15–20%, which is more than twice the median return rate across all sales categories. The most often returned product categories among the products sold online are clothing and consumer electronics, which account for the majority of e-commerce sales. 10% of consumer gadgets and 5% of apparel are returned (25). Developing a return policy strategy becomes a difficult and extra expense for international e-commerce (19).
6. **Conflict Resolution:** Despite the recent upsurge in e-commerce transactions across ASEAN countries, there are also escalating quarrels emanating from many trades, which are challenging to resolve. However, regional and international policymakers and regulators have been working to offer adequate resolution strategies coming from e-commerce transactions (30). A researcher (30) reported the views of online dispute resolution schemes for e-commerce, researching the e-commerce-related online consumer protection in the SEA region and introducing online dispute-resolving mechanisms to facilitate CBEC growth within the region.

IV. NEW FRONTIERS AND POSSIBILITIES FOR DEVELOPMENT

Despite its difficulties, Southeast Asia's e-commerce industry presents excellent prospects for businesses preparing for expansion (31). There are quite some reports indicating new possibilities for growth in cross-border e-trades. In Southeast Asia, the

expansion of cross-border trade is inevitable and it can be fired while taking into account some nuggets that are elucidated in this article. According to a study (19), by creating devoted followers, a brand can increase its sales over time just by the recommendations and quality if more people are aware of and love it. Moreover, providing multiple channels of payment alternatives draws in more clients from various ages and geographic demographics (19). It is anticipated that digital payment and logistics infrastructure will proliferate in the coming years (25). Creating a user-focused online buying environment would improve e-commerce, that is when a buyer can relate better to a product or category they wish to shop in, they are more likely to make the purchase (19). Another area needed to develop is creating local partnerships E-commerce companies can make use of cross-border expansion chances and local partnerships to tap into the expanding market opportunity (32). Logistics companies can increase end-to-end, cross-border services by working with both upstream and downstream companies to become stronger competitors (25).

Moreover, adopting new technology can boost cross-border activities' efficiency and reduce hazards. One example of this is the use of better customs-clearing procedures. The Internet, Payment Gateways, social media, 3D Printing, machine learning, sensors, and a global positioning system and analytics- the scientific method for turning data into knowledge to help make better judgments to promote e-commerce (2). Geographical distances are a less significant influence in establishing business partnerships, as smartphones and the Internet have become necessary in everyone's life (2), and shopping's future lies in CBEC. The adoption of 3G, 4G and 5G wireless communication technology will support the strong growth of the Internet economy (2,33).

In addition, market collaboration and platform integration cannot undermined, because huge opportunities lie in creating integrated regional strategies and collaborative efforts among businesses, governments, and logistics providers to streamline cross-border processes and foster growth (19,25). Also, regional and free trade treaties among Southeast Asian nations must be encouraged and

improved (19). This includes the free flow of data across the region. The one area where all SEA nations are doing rather well is with legislation and regulations about e-commerce and e-transactions. For data interchange and flow to be facilitated, SEA nations have to be more interoperable (23) and reusing data with public intent is somewhat established (34). Finally, while partnerships, integrating markets, and technological embrace offer significant prospects for the growth of cross-border e-commerce in SEA, overcoming regulatory obstacles, strengthening communication strategies, improving logistics, and embracing technology is critical for tackling difficulties.

V. DIGITAL TRANSFORMATION IS KEY TO SEA CROSS-BORDER E-COMMERCE GROWTH

The digital shift is a global transformation and the SEA region is one of the rapid-rising e-markets, having internet subscribers of more than 350 million, with a market capacity of US\$73 billion 5 years ago [11]. The regional e-commerce market is expected to increase at an average annual rate of 25% to 35% during the next five to ten years. The e-commerce market is expected to reach over US\$100 billion by 2025, having only reached US\$20 billion in 2017[11, 33]. Thus, enhancing digital connectivity is crucial to the growth of e-commerce. An empirical note and policy formulation for ASEAN on strengthening digital connectivity for E-Commerce was studied [11]. To encourage the growth of e-commerce, this study suggests a set of guidelines for boosting digital connectivity, to enable SEA to close development gaps in information and communications technology infrastructure, both cross-border and within nations. It is certain that by implementing policy measures to enhance data connectivity, logistics, and online payment, including cloud computing of 6G IoT in cross-border e-commerce which is potent enough to transform the terrain in coming years according to (35).

Enhancing institutional linkage, service growth and internet access is essential for the ecosystem supporting digital transformation, impacting e-commerce and a nation's total economic growth[32]. [43] also emphasised the need to strengthen the

digital economy and trade sector, The study noticed a transformation in the ASEAN commerce approach due to digital transformation, which gives the small and medium-scale business community chances to engage in regional and international trade [30]. Evidence in Vietnam indicates that variations in the way local governments carry out policies established by the national government may also be the cause of the disparate rates of digitalization observed amongst cities and provinces, requiring central government to make the policy market-focused rather than state-focused [32]. Given the vision for promoting inclusive digitization, ASEAN nations have not come to a consensus on controlling cross-border data flows, and some are far more sophisticated in their domestic rule-making. It is challenging, but not impossible, to agree on data governance to support ASEAN digital connectivity [42]. The 2018 ASEAN Agreement on E-commerce has to allow room for member states to create their frameworks to govern the usage of computing resources and maintain the security of communications due to the disparities in positions and implementation rates among the 10 ASEAN Member States [42]. The digital evolution of the region, with new ideas, new technology, new tools, and new enterprises redefining how people live, work, and study, may give rise to the next Asian economic hub of the world.

CONCLUSION

The advances in cross-border e-commerce in Southeast Asia nations has been presented after conducting a systematic, narratively synthesized review, answering the research questions on the recent advancement in e-trades, the constraints to expansion in terms of logistics, digitalisation and regulations, etc. and the new frontiers for future growths. The key summary is hereby presented.

- Research indicates that international e-commerce is expanding significantly in Southeast Asia, driven by many variables including economic ties, rising internet proliferations; user-friendly online malls enhanced client support services, regulatory implications, technological improvements, and the transformational power of digital platforms and logistics.
- To satisfy the need for the expansion of cross-border e-commerce trade, all SEA nations should

endeavour to foster economic growth, improve on language issues, harsh regulations, logistic problems, payment and currency issues, return policy and conflict resolution and concentrate on the system of exchange rates, conflict resolution, data flow and digitalization inclusiveness, including safeguarding consumers, economic expansion, the creation of jobs, and the significance of digital literacy programs for practitioners and policymakers.

- In Singapore, cross-border business accounts for about 55% of all online sales and it is rising. CBEC is expected to be stimulated by the expanding high-income population, the growth of mobile internet which facilitates mobile commerce, the penetration of social media which supports social commerce, and the development of advanced technologies such as blockchain which allows for various payment choices. The present metrics can be increased by addressing customization and logistics.

Market collaboration and platform integration, as regional and free trade treaties among Southeast Asian nations must be encouraged and improved. Adopting new technology can boost cross-border activities' efficiency and reduce hazards. One example of this is the use of better customs-clearing procedures. The Internet, Payment Gateways, social media, 3D Printing, machine learning, and sensors.

RECOMMENDATIONS

Based on the aforementioned findings, these recommendations are presented for practice and policymaking.

- The creation of uniform laws governing international e-commerce and the integration of existing regulations is essential to promote cooperation amongst Southeast Asian nations. This will simplify things and make transactions run more smoothly. Investment in Transport Facilities: Provide funds to improve transportation infrastructure, with an emphasis on effective customs clearing procedures and transit. On-time delivery and pleased consumers are benefits of improved logistics.

- Boosting cross-border cooperation will remarkably enhance cross-border e-trade. It is important to develop connections that allow local firms to increase their visibility in the marketplace. Boost cross-border cooperation among local businesses and multinational e-commerce platforms to take advantage of cross-border possibilities.
- It is essential to promote multilingual support in e-commerce platforms to help overcome language obstacles and facilitate linguistic solutions. Having marketing materials and customer support available in multiple languages helps improve interaction and communication.
- A high level of digital literacy and connectedness supports important goals in expanding e-commerce in SEA including expanding access to public services.
- To maximize the potential for economic growth, a range of reform and policy initiatives specific to each ASEAN member will be required. It is becoming increasingly evident that information and communications technology has a significant role in cross-border e-commerce.

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Not Applicable.

The preferred spelling of the word —acknowledgment in American English is without an —e after the —g. Use the singular heading even if you have many acknowledgments.

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