



Cross-Border E-Commerce: Opportunities and Challenges in the Global Market

Prakash Veenam

Independent Research, Arlington, Virginia, USA

* Corresponding Author: **Prakash Veenam**

Article Info

ISSN (online): 2582-7138

Volume: 05

Issue: 05

September-October 2024

Received: 16-07-2024

Accepted: 19-08-2024

Page No: 272-281

Abstract

Cross-border e-commerce (CBEC) is the online sale of goods and services to consumers in other countries through an online platform or store. It's a growing industry, and global sales are expected to reach trillions by 2027. Global e-commerce has been growing by leaps and bounds and this growth is being fueled by the massive expansion of information and communication technologies (ICT) and increasing convenience of online shopping. Today e-commerce forms an essential part of worldwide retail. Just as the case with several other industries, purchase and sale of goods has undergone a sea change with the arrival and subsequent development of the internet, and through the ongoing digitalization of contemporary life, consumers across the globe now can and do profit from the benefits conferred by online transactions. The world being a global village, CBEC has made it possible for online shoppers to purchase goods and services from other countries without having to be physically present at the marketplace. For retailers too, CBEC presents an opportunity to test overseas markets before launching their products and services. Undoubtedly there is mammoth growth potential for CBEC. This article presents an insight into the opportunities existing in the global ecommerce arena for the existing and potential new players along with the possible challenges that they are likely to face.

DOI: <https://doi.org/10.54660/IJMRGE.2024.5.5.272-281>

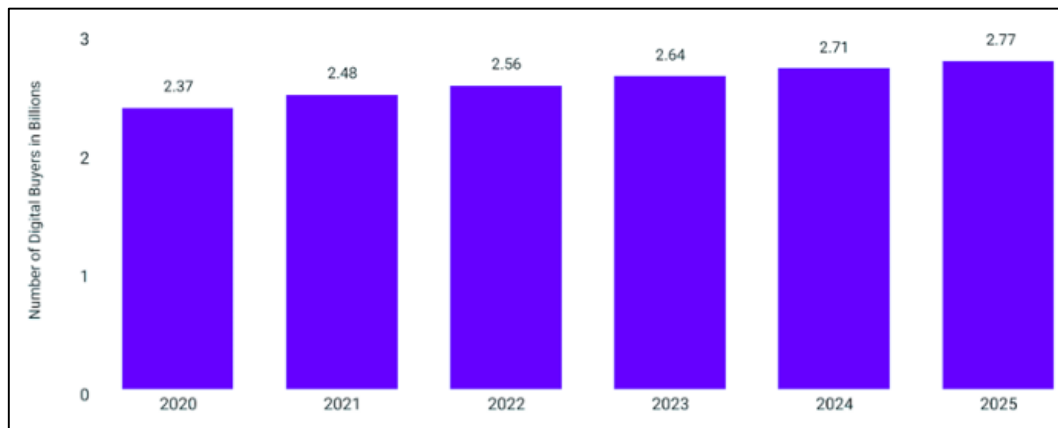
Keywords: consumers, cross-border, CBEC, e-commerce, global, trade

Introduction

Background and Context

Global ecommerce refers to the process of marketing or retailing products or services to customers in foreign countries across geopolitical borders, over the internet (BigCommerce 2021) ^[6]. In simple terms it is global online retail. Ecommerce is neither a luxury nor one of the many strategies followed by any business. It is the need of the hour. It is no more essential for businesses to have a brick-and-mortar format in another country for gaining foothold in those markets. Sometimes all that is needed is a robust advertising campaign on the internet or a solid social media strategy. Using such tools as Google Ads and Facebook Ads, it is possible for any modern-day business to examine and investigate foreign markets before going all out to launch their products or services (BigCommerce 2021) ^[6].

In 2023 the worldwide e-commerce market was worth US\$ 21.1 Trillion. As per report by the IMARC Group, by 2032 the market is expected to grow to US\$ 183.8 Trillion, demonstrating a compounded annual growth rate (CAGR) of 27.16% during 2024-2032 (IMARC Group 2024) ^[22]. Over the past few years, the number of online shoppers has proliferated due to the tremendous growth in the development and application of mobile technology as internet connectivity gains higher global penetration and online shopping turns increasingly convenient. Presently there are over 5 billion internet users of internet across the world (Gelder 2024) ^[15]. In 2024, the number of digital buyers is expected to stand at 2.71 billion which is 70 million higher than the previous year, reflecting an year-over-year increase of 2.7% and touch 2.77 billion in 2025 (OBERLO 2024, Shopify 2023) ^[36, 42].



Source: e-Marketer

Fig 1: No. Of People Shopping Online

In 2024, global retail e-commerce sales is expected to touch \$6.3 trillion (Gelder 2024) ^[15]. China being one of the largest economies in the world and having enormous spending power, presents significant revenue opportunities to the e-retailers contemplating global expansion (BigCommerce 2021) ^[6]. In China, the number of digital buyers stood at over 884 million in 2023 which was 4.6% higher over the previous

year, while in US this number is expected to reach 268 million approximately reflecting a 5% rise and cross 316 million by 2028 (OBERLO 2024) ^[36]. India is another country that presents huge opportunity by virtue of its massive population that is the youngest in the world and the recent economic growth that it is experiencing and it's potential for further growth (World Bank 2023) ^[48].

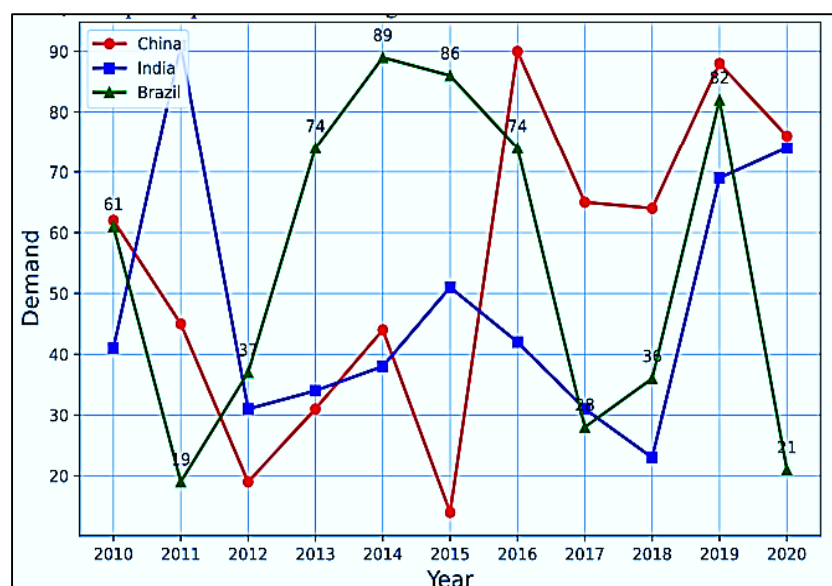


Fig 2: Demand for Cross Border Shopping (Wei 2024) ^[47]

Scope and Purpose of Article

The application and the impact of the emerging e-commerce prospects at the international level have attracted significant amount of interest as subject matter of academic researches. Given the mammoth growth potential of global or CBEC, this article provides an insight into the opportunities that exist for the global players in this industry and the possible challenges that they are likely to face. The key focus is on the US, EU, India and China with a special look at Amazon, the renowned global e-commerce entity.

Materials and Methods

This research scans and scrutinizes literature and data on the subject matter to present an in-depth analysis of the subject matter. Theoretical concepts, data and examples have been sourced from various materials that are available online on public domain. The literature includes journal articles, news

articles, articles in business periodicals and other reputed publications. The data is sourced from research publications and to the best of our knowledge is authentic. The data has been presented with the help of charts and diagrams to bring out the significance. Certain theoretical concepts such as complex process of international supply chain management for ecommerce businesses have also been represented using charts and diagrams to better explain the concept.

Results

Opportunities in Cross-Border E-Commerce

Electronic commerce or the more popular term E-commerce has become one of the most powerful models for global economics. The exponential growth of the internet has enabled the online trading of goods and services easier for a wider segment of society. One tactic to make products accessible to a global market is through e-commerce sans

national borders (3PL Links Inc. 2024) ^[1]. CBEC has generated immense economic perks for both sellers and buyers across the world (Nguyen, Nguyen and Tran 2024) ^[35].

Market Expansion and Global Reach

The most significant advantage of CBEC is the scope of reaching out to a wider consumer base. By marketing their products globally, businesses can infiltrate into new markets and reach customers who would have otherwise never used their products. This automatically translates to higher sales and revenue. To cite an example, a small enterprise in USA can now easily make their products accessible to consumers in Europe or Asia or even further to remote areas. This global marketing platform enables businesses to grow and upscale much faster than they would have by catering to their own domestic local markets (OGOship 2024) ^[37]. Amazon, E-bay, Alibaba are the instances are some of the most successful e-commerce businesses

It has urged businesses to improve their competitiveness and also created the opportunity for their integration into a much wider global market through the adoption of CBEC. CBEC has the potential to reduce uncertainties, moderate opportunistic behaviors and enhance trust, all in tandem. This novel way of entering newer markets at the global level also draws the maximum benefit out of the engagement of businesses intermediaries and the reliance of unorganized sector, especially in the developing economies, on these intermediaries (Nguyen, Nguyen and Tran 2024) ^[35].

Technological Advancements

Technology has long been the key game changer when it comes to facilitating cross-border trade and commerce. International transactions have become easier because of the application of technology which work through improving efficiency, transparency, and security. Advancement in digital technologies is most likely to increase the efficiency of processes involved in customs and in turn facilitate the cross-border movement of goods and services (WTO 2022) ^[49]. Over the last decade or so, there has been notable rise in the requirement for AI-powered features, along with

significant expansion of cross-border trade opportunities and improvements in secure digital payment systems which have been the key drivers of market growth (IMARC Group 2024) ^[22].

Technology integration is not only expanding accessibility is but also improving efficiency of the global e-commerce industry. Handheld smart mobile devices such as smartphones and tablets, along with such communication technologies as 4G, 5G, Wi-Fi, and high-speed broadband, are all contributing towards the development and expansion of the net customer base. Within this developing landscape, banks, financial institutions and different bodies present in the e-commerce ecosystem are providing stable online platforms that facilitate smooth payments using payment gateways (Renub Research 2024) ^[39]. These digital payment systems have made international transactions much simple, removing the requirement for using such conventional payment methods as checks and bank transfers. For both consumers and businesses, making secure payments across borders has become easier and more convenient due to such online payment platforms as PayPal, Stripe, and Alipay. They have helped to overcome many such problems as currency conversions and lengthy processing times. Platforms for facilitating digital trade have emerged for streamlining trade processes and cutting down time needed for paperwork. Initiatives like the World Customs Organization's Single Window systems and the UN/CEFACT's Digital Transport Corridors make the electronic exchange of trade-related information easier, including invoices, certificates of origin, and customs documentation.

To cite an instance, the European Union (EU) is in the pursuit of developing a digital single market strategy (Valarezo, *et al.* 2018) ^[46] which will be able to integrate mobile commerce and CBEC. This strategy is likely to make an innovative cross-border mobile commerce platform available for completing transactions using a communication terminal (Ai, Yang and Wang, Revelation of cross-border logistics performance for the manufacturing industry development 2016) ^[2] thus successfully carrying out cross-border electronic commerce (Cano, Carello and Ardagna 2018) ^[7].

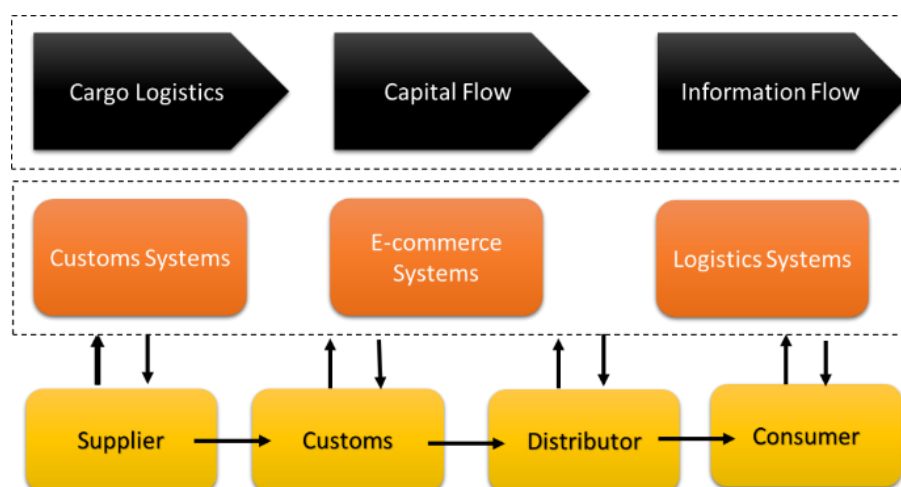


Fig 3: Cross Border E-commerce Supply Chain (Deng and Ouyang 2022) ^[11]

Cross-border companies must strive continuously to strengthen their competitiveness gradually through the enhancement and improved efficiency of their supply chain

in order to adopt advanced digitization technology and realize its full potential (Lu and Swaminathan 2015) ^[32] through application in areas such as products, services, platforms,

blockchains (supply chain management), and management of projects in information technology (IT).

Economic Growth and New Revenue Streams

Cross-border e-commerce encourages merchants and consumers across the world to participate in inter business trade or what we call business to business transactions (global B2B) and transactions amongst businesses and customers (global B2C) thus successfully breaking conventional obstructions in trade between countries which in turn has been instrumental in steady promotion and expansion of world trade (Chen, *et al.* 2022) ^[18]. Cross-border trade or trade that is not restricted by borders, has significant bearing on the growth and development of the economies involved and bring in important changes in global trade patterns. Just like any other form of international trade, cross border electronic commerce provides various advantages to businesses. It helps to de-risk the revenue stream by branching out into divergent regions for drawing revenues. By doing business in different markets, their dependence on a single market revenue stream can be reduced by a large extent. This also minimizes the risk of the business coming to a grinding halt due to economic upheavals or financial fluctuations in one single region (OGOship 2024) ^[37].

CBEC is dependent on particular technological platforms for carrying out online transactions between countries which connects international consumers through the exchange of products and services. The growth of the digital economy in the contemporary period has brought into presence certain services that make it possible for the trading parties to effectively cater to the increasingly diverse needs of the modern online customers (Han, Kim and Lee, Exploring consumer attitudes and purchasing intentions of cross-border online shopping in Korea 2018) ^[16]. Consecutively, this event is able to enlarge and widen the scale of consumer selection and enhance the convenience of buying, besides providing companies with significant opportunities to enhance their profits and intensify their core competitiveness. This also becomes instrumental in enhancing corporate image of their cross border electronic commerce management systems. Such developments have also played an important role in driving the over-all economic development, paving the way for several countries to take part in the global economic activities not just as competitors but also as collaborators (Zhu, *et al.* 2023) ^[53].

CBEC helps people realize their consumption needs through international transportation of goods while the purchase order is placed using the Internet which is the backbone of the entire process (Hua, Be and Shi 2021) ^[19]. Complementary and similarity in consumption structures among nations especially in regions covered by international trade agreements has made CBEC extremely viable since inception (Deng and Ouyang 2022) ^[11]. For enterprises the direct cost to sale for orders accepted online is lower compared to the conventional methods of accepting orders. Additionally, there is virtually zero errors in processing the order online apart from the speed and convenience of product selection and purchase. It reduces costs for the enterprises as well thus increasing the profitability of the business (Kaushik 2015) ^[25].

Challenges in Cross-Border E-Commerce

International e-commerce is very different from domestic e-commerce, which lets associated parties handle coordination

with the local management process. CBEC is faced with the exclusive challenges of diversities in languages, cultures, tariffs, and policies (Zhu, *et al.* 2023) ^[53]. The hindrances can be cultural in nature and it can also be currency as well (Han, Kim and Lee, Exploring consumer attitudes and purchasing intentions of cross-border online shopping in Korea 2018) ^[16]. International trade is always influenced by the exchange rate which differs across countries and keeps altering with time. Businesses may need to market their products in a market that they had never been exposed to earlier and hence have no idea about. Making sales online and delivering those goods to the consumers located in other countries present several obstacles (Kawa, Abubakari and Ofori 2024) ^[26]. There could be times when the logistics department may complain of or face unannounced interferences or obstructions. For cross-border trades paperwork can and does result in chaos, and there are significant possibilities of frauds happening when the goods are crossing borders (Shet 2024) ^[41].

Regulatory and Compliance Issues

In general, the presence of trade regulations and customs have a detrimental effect on trade and hence trade facilitation be it online or offline (Drinkwater and Robinson 2023) ^[13]. Different countries and regions will have different tax policies and regulations. The tax issues pertaining to platforms used for CBEC and cross-border transactions are extremely complex. For example, many a time sale of digital goods and services attract the application of tax rules like cross-border VAT and consumption tax. The tax rates, collection targets and declaration procedures can vary significantly between countries causing the tax compliance burden of enterprises to increase substantially (Wei 2024) ^[47].

CBEC involves laws and regulations pertaining to consumers' rights of many countries and regions. With the regulatory system being relatively scattered and the ambiguities existing in the regulatory responsibilities, several gaps and gray areas appear in the monitoring and control of CBEC activities (Igue, Alinsato and Agadjihouédé 2021) ^[21]. Besides, the mechanism for exchanging information between tax agencies can be imperfect and varies across countries and regions. The obstacles in acquiring and sharing tax information result in shortcomings in tax supervision causing loopholes (Wei 2024) ^[47].

CBEC platforms have made distribution of infringing and pirated goods easier. There have been several cases of selling replicas and counterfeit goods on CBEC platforms in several countries and regions, often resulting in intellectual property rights infringement, which caused serious economic losses and reputation damage to brand enterprises. These cases involve several national and regional laws and regulations and hence the cost involved in protection and preservation of rights is high, and the procedures cumbersome, which magnifies the hassles of upholding rights. Across the world, defending own brands and intellectual property (IP) rights is extremely important for enterprises. But the process involved not only huge expenses but also a lot of time and energy when it comes to dealing with cross-border rights protection cases, that to when it is difficult to guarantee the effects or outcomes of rights protection.

Payment & Settlement Issues

In the manufacturing industry, a key bottleneck in developing CBEC is cross-border payment and settlement (Ai, Yang and Wang, Revelation of cross-border logistics performance for the manufacturing industry development 2016) ^[2] while the coordination between the legal systems of the countries involved affects the application and execution of electronic procedures for customs clearance (Ai, Yang and Wang, Revelation of cross-border logistics performance for the manufacturing industry development 2016) ^[2]. Since cross-border payment involves cross-border capital flow it has become increasingly important for consumers and enterprises to focus on security payment and trusted payment gateways. Constant concerns regarding the safety of payment information, data theft or disputes in the payment process adversely impact consumers' confidence in CBEC thus inhibiting its growth and development. In certain countries the payment system may not support bank cards or payment applications belonging to other countries resulting in payment difficulties to both customers and businesses (Wei

2024) ^[47].

The cross-border payment clearing cycle is often lengthy, especially when the payment occurs between countries and regions that need clearing by more than one banks and other intermediaries, causing delays in the arrival of payments thus adversely impacting the efficiency and experience of transactions. It is essential for cross-border payment service providers to be acquainted with and abide by the laws and regulations of the various jurisdictions in which they operate. This increases both operating costs and risks while additional challenges are created due to uncertainty of cross-border payment compliance requirements (Wei 2024) ^[47].

Logistical and Supply Chain Obstacles

One of the most significant challenges for CBEC is managing the complex and often varied customs clearance procedures in different countries (Plusius 2024) ^[38]. Movement of goods across the borders between countries is the key element in cross-border logistics. It requires that the goods move through customs inspection and clearance.

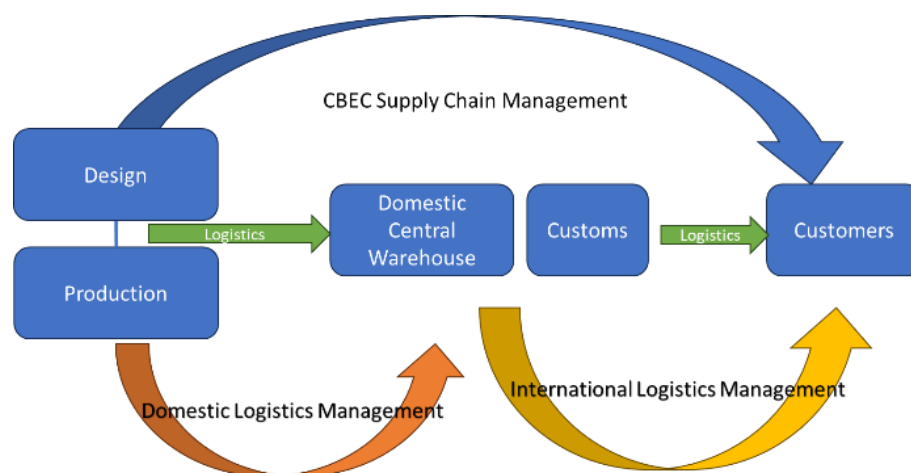


Fig 4: CBCE Supply Chain

Regulations pertaining to customs duties, standards, procedures and inspection usually vary across countries and is different for different regions. Also, complex customs declarations are needed for goods crossing national boundaries. The procedures involved in declaration and approval are quite complicates and increase both time and cost of logistics. In several countries and regions cross-border logistics must go through transportation links, which includes

air transportation, land transportation, sea transportation, and any other mode of transportation. International transportation is always very expensive, and the conceivable tariffs, import taxes, GST and other taxes, often push the total cost of cross-border logistics up by a few notches, which ultimately adversely impacts the operational efficiency as also the competitiveness of any business (Wei 2024) ^[47].

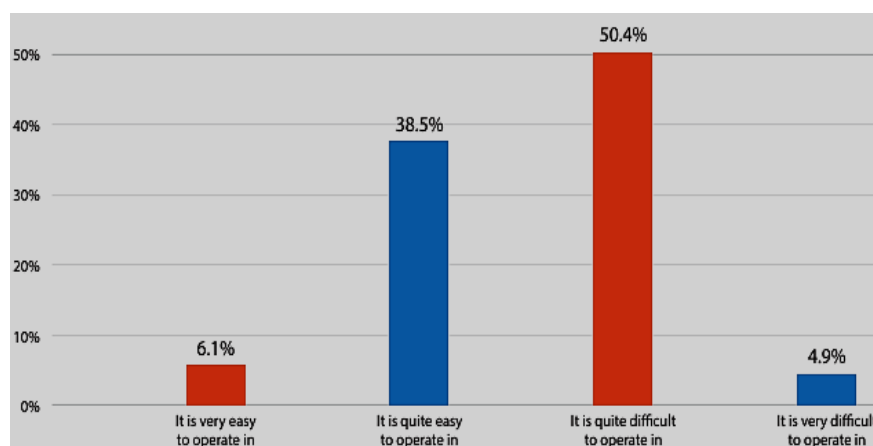


Fig 5: Survey Result on "How do you find the business environment for cross-border e-commerce transactions today?" - No. Of Respondents – 244 (Avalara 2024)

In general, there are problems of information transparency and monitoring in cross-border logistics since it includes numerous participants and links and a long transmission chain for logistics information. The enterprises find it difficult to track the transportation status, location and progress of goods in transit on a real-time basis, and effective inventory management and monitoring of the logistics process are also challenging tasks rendering it difficult to restrict logistics risks. Local policies, traffic and weather are some of the factors that substantially affect stability of cross-border logistics services (Wei 2024) ^[47]. For instance, alterations in customs policies, freight strike, flight cancellation and other emergencies lead to the disruption and delay of logistics services, which interferes with the timeliness of goods delivery and customer satisfaction. Several links and participants are involved in cross-border supply chain such as suppliers, manufacturers, logistics companies, and customs departments (Robinson 2023) ^[40].

Cultural and Market Differences

Differences in habits, language, culture, and expectations are reasons why CBEC customers are not similar as conventional e-commerce customers (Kim, Dekker and Heij 2017) ^[27]. Culture is an important determinant of consumer behavior and attitude, which, in turn, influences the purchase intention and purchase habits (Hazarika and Mousavi 2022) ^[17]. A study by Lacka & Yip (Revealing the effect of acculturation process on e-commerce acceptance: The case of intra-European acculturation 2018) ^[28] reveals that despite significant growth of e-commerce over the years, the growth has not been shared equally by all countries, and culture is a key cause of this difference. An individual's attitude towards a product and his / her desire for it are invariably influenced by the culture in which the individual operates. For instance, the same food will be treated differently under different cultures, which will affect people's attitudes towards those foods within those cultures. Culture also determines whether the consumer will be able to trust the CBEC (Deng, Xiao and Yan 2021) ^[12]. Thus, positive impact on attitudes toward

online purchase from international sites are strongly determined by beliefs about electronic service quality, consumers' demand for uniqueness and apparent behavioral control, which successively has a positive impact on purchase intention and decision (Zhao 2018) ^[52]. Behavioral intentions are also impacted by beliefs pertaining to self-efficacy and normative structure of cross-border online purchasing (Han, Kim and Lee, Exploring consumer attitudes and purchasing intentions of cross-border online shopping in Korea 2018) ^[16]. Customer care or support services particularly after sales services, that determine consumers' trust and loyalty, is difficult to provide due to cross border cultural differences (Huang 2022) ^[20]. There is a lot of cost involved in having specialized crew to cater to customers following their cultures and in their language. Product information on websites also need to abide by local standards and where necessary be available in local languages (Ho, *et al.* 2019) ^[18]. A key reason for Amazon China's failure was the severe competition from local e-commerce giants and massive differences in cultural and consumer behaviour between Chinese and other foreign consumers (Zhang 2023) ^[51].

Data Security and Privacy Protection

Data protection laws and privacy protection regulations vary across countries and regions having various different standards (Comfote Data Security 2022) ^[9]. Data privacy and security can be a major challenge for CBEC platforms. Sellers must protect customer data and comply with local data privacy regulations (DSRV & CO LLP 2023) ^[14]. CBEC platforms and cross-border enterprises cross the network environment of several countries and regions during data transmission, with risks of leakage, tampering and hijacking while transmission (Liu 2022) ^[31]. The probability of exposure of business secrets of enterprises and of personal data of users during cross-border data transmission is particularly higher in cloud computing and big data analysis (Singh 2024) ^[43]. A huge concern is the unauthorized use and sharing of consumers' personal information which is highly sensitive in nature (UNCTAD 2021) ^[45].

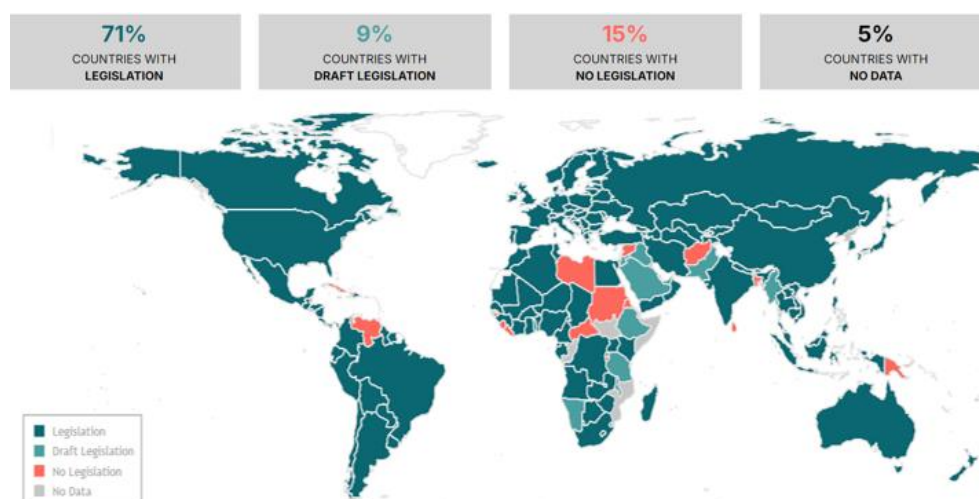


Fig 6: Worldwide Data Protection & Privacy Legislation (UNCTAD 2021) ^[45]

Other challenge faced by CBEC platforms include selection of location for data storage, the need to comply with relevant laws and regulations and the actual situation of data security. Certain countries evaluate and control cross-border data

exchange making it necessary for enterprises to declare, get approval or put on account in advance, the particulars of the data being transmitted. These review and supervision measures raise the cross-border data exchange risk and

management cost for enterprises, that can adversely affect the cross-border business operation as also profitability of enterprises (Wei 2024) ^[47].

Discussion

Strategies for Overcoming Challenges

Despite the challenges of goods and service exchange through online trade and the plethora of risks associated with handling massive volumes of data, online e-commerce has been flourishing with the volume of trade being on the rise. Increased global integration of economies along with rapid development of internet technology are responsible for rapid development of CBEC and has become an effective strategy for promoting economic growth across economies. This makes it essential to adopt strategies to overcome the challenges faced.

Navigating Regulatory Landscapes

Disparity in regulations and standards between countries cause uncertainties thereby increasing operational risks. Research helps to understand the regulatory and legislative environments of different countries in which the businesses operate. For ensuring compliance with relevant laws, enterprises need to employ legal experts or consult legal resources and put robust security measures in place for protecting customer data, which includes secure servers, data encryption, and data backup. It is essential to stay abreast of regulatory and legislative changes and modify practices accordingly (Delpech 2024) ^[10]. An appropriate setup helps firms ensure that their final consumers are not burdened with customs hassles, as long as they take care of 2 crucial elements - taxation and documentation required by customs authorities. Enterprises factored in the associated costs upfront (Maersk 2023) ^[33]. Following international best practices and country specific product and service standards are most effective ways to tackle the regulatory hurdles. Partnering with local firms is another effective method. CBEC involves collection and management of taxes in several countries which necessitates exchange and sharing of tax and other sensitive information between them. During data storage and cross-border exchange, enterprises must simultaneously abide by data protection laws of individual countries in which they operate and face compliance risks. It is essential to involve local agencies who are best positioned to be well acquainted with the local IT security standards and definitely well versed with the cultural norms. Building collaborations are therefore always helpful.

Optimizing Logistics and Supply Chains

To handle the hurdles of CBEC it is essential to streamline supply chain operations by integrating innovative digital technologies like Internet of Things (IoT), artificial intelligence (AI), and blockchain to which will enhance real-time decision-making. While fulfilling the growing imperative for sustainability, pushing organizations to implement eco-friendly practices and reduce carbon footprints in a bid to address mounting environmental concerns. Furthermore, the paper addresses the vital issue of supply chain resilience, examining strategies that can enable businesses to withstand disruptive events and rebound from challenges with agility and minimal impact (Lai 2024) ^[29]. Enterprises must set up payment systems that best suit the country they are doing business in. Multiple payment gateways can be integrated. To streamline global payments

experiences Amazon partnered with Stripe, especially for faster launching in new countries. For instance, while expanding in Poland, Amazon's team worked with Stripe to optimize the checkout experience with BLIK, a popular local payment method in the region (Amazon simplifies cross-border payments with Stripe 2024) ^[3].

Cross border supply chain management requires coordination between resources drawn from all parties, supply chain processes optimization and supply chain risk reduction which is difficult due to involvement of large number of participants and complex links. Amazon's robust logistical support make cross-border selling better manageable using services like Fulfillment by Amazon (FBA) which simplifies shipping, storage, and customer service, helping sellers to better focus on core business activities thereby facilitating smooth and efficient cross-border selling experience (The Amazon Whisperer 2024) ^[44].

Enhancing Cultural Competence and Market Adaptation

Research helps to acquire knowledge about a region's cultural characteristics. It determines the degree of acceptability of an e-commerce or its rejection. It also generates insights about what must be done to alter the cultural attitude toward it. For effectively engaging with foreign clients, businesses must make country specific adjustments to their marketing campaigns and websites for each territory they contemplate expanding into (3PL Links Inc. 2024) ^[1].

Another big challenge is customer service. Through prioritization of customer service and adoption of effective strategies, it is possible for businesses to overcome the cross-border challenges. Sellers must provide prompt and effective customer services and it should be available in native language. Both sellers and logistics service providers must provide unambiguous and dependable information on customs requirements, shipment costs, and estimated shipping times.

Brands must also adapt to various cultures and regulations. They may also need to market their products in unfamiliar markets (Bashir 2022) ^[5]. Offering localized experiences, using local languages on websites and customer care services, having a user-friendly website, advertising and marketing in local language and following local culture will help to build customer confidence and eventually earn customers' trust. Amazon's Product Localization strategy adapted products to fulfil specific needs and cultural expectations of target markets. The strategy is aimed at creating a uniform and engaging customer experience with a native feel to entice local audience.

Future Trends and Prospects

CBEC presents a plethora of opportunities for businesses to expand globally in a world that is being increasingly connected using internet. Additionally, the rapid development of mobile technology, the growing desire for instant gratification and increased globalization is creating global souks for markets that are not restricted by geographical boundaries. But there are also a host of challenges to be handled before cross-border ecommerce can thrive and flourish. The key among these are regulatory, technological, cultural and logistic hurdles. Information costs, transaction-related search costs, bargaining costs, and transaction execution monitoring cost are high due to information asymmetry and a lack of trust. Businesses can succeed by understanding these challenges and following best practices besides building consumer trust

through user-friendly websites that offer product descriptions and other useful information in local languages and offer easy checkout and have robust data protection systems in place. CBEC continues to have a bright future, with significant potential for sustained growth buoyed by innovation especially in the emerging markets of Asia and other developing nations where penetration level still remains significantly low. The landscape of cross-border eCommerce is complex. Staying abreast of regional developments and adapting to changing environment, position businesses for success and help navigate and overcome the challenges. eCommerce consultancy experts can help both budding and established businesses to succeed and reach their full potential in the global market by providing their support and guidance.

Transaction costs can be reduced using blockchain technology. Deployment of blockchain in cross-border supply chains resolves problems of information asymmetry amongst enterprises and consumers, lowers transaction costs and improves supply chain efficiencies, while increasing consumers' trust and market demand for cross-border products. Chatbots and Generative AI tools can be employed to provide swifter conversational and contextual responses to prompts, helping customers and customer service agents to get the desired answers. While reducing burden on customer service representatives this will increase process compliance and enhance efficiency, provide unambiguous and reliable data on customs requirements, shipment costs, and anticipated shipping times.

Conclusion

CBEC, the online trade of goods and services from an enterprise in one country to its customers in another country, provides huge potential for business enterprises to expand and become global brands by connecting with a wider and larger customer base thereby boosting company's goodwill and increase revenue. With the advent of high bandwidth internet, the world is being termed as a global village and CBEC has gained traction in a very short span of time. Business houses are no longer limited to their local markets and have the ability to serve customers to the furthest corners of the world. To understand the actual advantages of CBEC we need to dive in and explore the various facets of this business model. Customer base expansion, revenue stream diversification, competitive advantage over other enterprises, tapping into new suppliers and improving from customer satisfaction to customer delight are some of the myriad opportunities.

While CBEC provides a plethora of advantages for businesses there are emerging challenges every moment. Unlike domestic e-commerce platforms, CBEC platforms have higher uncertainty and risks, varied services and products, and intricate procedures which warrant studies on existing and emerging platforms, their integration capabilities, and value co-creation. With the changing nature and demand of customers it has become essential to take the help of technologies to help serve better. This study sets the platform for the use of sophisticated technologies in various aspects of CBEC.

References

1. 3PL Links Inc. Cross-Border E-commerce: Challenges, Advantages, Disadvantages, and Opportunities; c2024. Available from: [https://3pllinks.com/cross-border-e-](https://3pllinks.com/cross-border-e-commerce/)

- commerce/ (accessed Aug 23, 2024).
2. Ai W, Jianzheng Y, Lin W. Revelation of cross-border logistics performance for the manufacturing industry development. *International Journal of Mobile Communications*. 2016;14(6):593-609.
3. Amazon simplifies cross-border payments with Stripe; c2024. Available from: <https://stripe.com/in/customers/amazon#:~:text=Solution,payment%20method%20in%20the%20region> (accessed Aug 30, 2024).
4. Avalara. The State of Global Cross-Border E-commerce Report 2023-24. Reuters & Avalara; c2024.
5. Bashir S. Overcoming Challenges of Cross-Border E-Commerce. Mars Translation; c2022. Available from: <https://www.marstranslation.com/blog/overcoming-challenges-of-cross-border-e-commerce> (accessed Aug 27, 2024).
6. Big Commerce. Global Ecommerce: How to Expand into Foreign Markets; c2021. Available from: <https://www.bigcommerce.com/articles/e-commerce/global-commerce/> (accessed Aug 20, 2024).
7. Cano L, Giuliana C, Danilo A. A framework for joint resource allocation of MapReduce and web service applications in a shared cloud cluster. *Journal of Parallel and Distributed Computing*. 2018;120:127-147.
8. Chen Y, *et al.* A study of cross-border E-commerce research trends: Based on knowledge mapping and literature analysis. *Frontiers in Psychology*. 2022;13:1-12.
9. Comfote Data Security. 17 Countries with GDPR-like Data Privacy Laws; c2022. Available from: <https://insights.comfote.com/countries-with-gdpr-like-data-privacy-laws> (accessed Aug 31, 2024).
10. Delpech K. Cross-Border eCommerce: Navigating International Regulations; c2024. Available from: <https://www.cake.agency/blog/cross-border-e-commerce-navigating-international-regulations#:~:text=Understanding%20the%20Legal%20Landscape%20of%20Cross%2Dborder%20eCommerce&text=They%20include%20data%20protection%20laws,implications%20of%20cross%2Dborder%20> (accessed Aug 28, 2024).
11. Deng X, Yuxuan O. Cross-Border Supply Chain System Constructed by Complex Computer Blockchain for International Cooperation. *Computational Intelligence and Neuroscience*. 2023;2022(3):1-10.
12. Deng Z, Xiao M, Yan X. An early risk warning of cross-border e-commerce using BP neural network. *Mobile Information Systems*. 2021:1-8.
13. Drinkwater S, Robinson C. The impact of customs and trade regulations on the operations of African firms. *Journal of Business Research*. 2023;165:114046.
14. DSRV & CO LLP. Challenges of Cross-Border E-commerce and Solutions; c2023. Available from: <https://www.dsrvindia.com/challenges-of-cross-border-e-commerce#:~:text=11,.can%20help%20overcome%20this%20challenge> (accessed Aug 24, 2024).
15. Gelder K. E-commerce worldwide - statistics & facts. Statista; c2024. Available from: <https://www.statista.com> (accessed Aug 22, 2024).
16. Han B, Kim M, Lee J. Exploring consumer attitudes and purchasing intentions of cross-border online shopping in Korea. *Journal of Korea Trade*. 2018;22(2):86-104.
17. Hazarika BB, Reza M. Review of cross-border E-

- commerce and directions for future research. *Journal of Global Information Management*. 2022;30(2):1-18.
18. Ho H-C, Chiu CL, Jiang D, Shen J. Influence of language of packaging labels on consumers' buying preferences. *Journal of Food Products Marketing*. 2019;25(6):1-27.
 19. Hua Z, Be K, Shi Q. Research on the information tracing model for cross-border E-commerce products based on blockchain. *E3S Web of Conferences*; 2021:235(4).
 20. Huang Y. Influence of cultural differences on the establishment of consumer trust in a socialized cross-border E-commerce. *Mobile Information Systems*. 2022;2022(1):1-7.
 21. Igue C, Alinsato A, Agadjihouédé T. E-commerce in Africa: issues and challenges. In: *Adapting to the Digital Trade Era: Challenges and Opportunities*; WTO; 2021:118-139.
 22. IMARC Group. *E-Commerce Market Report by Type (Home Appliances, Apparel, Footwear and Accessories, Books, Cosmetics, Groceries, and Others), Transaction (Business-to-Consumer, Business-to-Business, Consumer-to-Consumer, and Others), and Region 2024-2032*. IMARC Group; c2024.
 23. International Trade Council. *The Role of Technology in Facilitating International Trade*; c2023. Available from: <https://tradecouncil.org/the-role-of-technology-in-facilitating-international-trade/> (accessed Aug 22, 2024).
 24. Judge TK, Neustaedter C. Conducting Interviews with Remote Participants. In: Hillman S, Forghani A, Pang C, Neustaedter C, Tejinder KJ, editors. *Studying and Designing Technology for Domestic Life*. Morgan Kaufmann & Elsevier Inc.; 2014:11-32.
 25. Kaushik M. E-commerce; c2015. Available from: <https://www.slideshare.net/slideshow/ecommer-47039767/47039767#21> (accessed Aug 27, 2024).
 26. Kawa A, Abubakari A, Ofori KS. Cross-Border E-commerce and Supply Chain Management. In: *The Palgrave Handbook of Supply Chain Management*; 2024:1179-1196.
 27. Kim TY, Dekker R, Heij C. Cross-Border Electronic Commerce: Distance Effects and Express Delivery in European Union Markets. *International Journal of Electronic Commerce*. 2017;21(2):184-218.
 28. Lacka E, Yip NKT. Revealing the effect of acculturation process on e-commerce acceptance: The case of intra-European acculturation. *Industrial Management & Data Systems*. 2018;118(6):1251-1265.
 29. Lai Y. *SHS Web of Conferences*; 2024:183(02020).
 30. Li HJ, Bu Z, Wang Z, Cao J. Dynamical clustering in electronic commerce systems via optimization and leadership expansion. *IEEE Transactions on Industrial Informatics*. 2020;16(8):5327-5334.
 31. Liu Q. The Development Relationship between Cross-Border e-Commerce and Internet of Things Technology Coupling in Digital Economy Based on Neural Network Model. *Computational and Mathematical Methods in Medicine*; 2022:2022(8981618).
 32. Lu LX, Swaminathan JM. *Supply Chain Management*. In: *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)*; 2015:709-713.
 33. Maersk. Tackling the challenges of cross-border E-Commerce in Europe; c2023. Available from: <https://www.maersk.com/news/articles/2023/05/08/cross-border-e-commerce> (accessed Aug 30, 2024).
 34. Arishekar N. How will Amazon Product Localization Impact Global Sales: Seller App; c2024. Available from: <https://www.sellerapp.com/blog/amazon-product-localization/#:~:text=Amazon%20Product%20Localization%20is%20the,to%20the%20intended%20local%20audience> (accessed Aug 30, 2024).
 35. Nguyen CQ, Nguyen AM, Tran P. Assessing the critical determinants of cross-border E-commerce adoption intention in Vietnamese small and medium-sized enterprises: PLS-SEM algorithm approach. *Journal of Open Innovation: Technology, Market, and Complexity*. 2024;10(1):1-11.
 36. OBERLO. How Many People Shop Online?; c2024. Available from: <https://www.oberlo.com/statistics/how-many-people-shop-online> (accessed Aug 22, 2024).
 37. OGOSHIP. What are the Benefits of Cross Border E-Commerce?; c2024. Available from: <https://www.ogoship.com/blog/ogoship/what-are-the-benefits-of-cross-border-e-commerce/#:~:text=One%20of%20the%20most%20significant,to%20increased%20sales%20and%20revenue> (accessed Aug 22, 2024).
 38. Plusius. Cross-Border e-Commerce: Top 5 Payment Related Challenges. *LinkedIn*; c2024. Available from: <https://www.linkedin.com/pulse/cross-border-e-commerce-top-5-payment-related-challenges-plusius-oljxf/> (accessed Aug 26, 2024).
 39. Renub Research. Global E-commerce Market is expected to be worth approximately US\$ 47.73 trillion by 2030, driven by increasing digital adoption, widespread internet access, and evolving consumer preferences; c2024. Available from: <https://www.renub.com/global-e-commerce-market-nd.php> (accessed Aug 25, 2024).
 40. Robinson B. The challenges of cross-border ecommerce in a world open for business; c2023. Available from: <https://www.avalara.com/blog/en/north-america/2023/08/challenges-of-cross-border-ecommerce.html> (accessed Aug 30, 2024).
 41. Shet A. Navigating Cross-Border E-commerce Challenges: A Comprehensive Guide; c2024. Available from: <https://www.captainbiz.com/blogs/navigating-cross-border-e-commerce-challenges-a-comprehensive-guide/#:~:text=Q6.,chances%20of%20fraud%20crossing%20borders> (accessed Aug 27, 2024).
 42. Shopify. *Global Ecommerce Statistics: Trends to Guide Your Store in 2024*; c2023. Available from: <https://www.shopify.com/in/enterprise/blog/global-ecommerce-statistics> (accessed Aug 22, 2024).
 43. Singh A. Cross-Border Data Transfers: Legal Challenges and Solutions In The Globalized Digital Economy. *Indian Journal of Integrated Research in Law*. 2024;4(1):356-368.
 44. The Amazon Whisperer. Cross-Border Selling on Amazon. *LinkedIn*; c2024. Available from: <https://www.linkedin.com/pulse/cross-border-selling-amazon-the-amazon-whisperer-w2u8e#:~:text=Amazon%20provides%20robust%20logistical%20support,on%20their%20core%20business%20activities> (accessed Aug 31, 2024).
 45. UNCTAD. *Data Protection and Privacy Legislation Worldwide*; c2021. Available from: <https://unctad.org/page/data-protection-and-privacy-legislation-worldwide> (accessed Aug 29, 2024).
 46. Valarezo Á, Teodosio P, Teresa G, García IH, López R.

- Drivers and barriers to cross-border e-commerce: Evidence from Spanish individual behavior. *Telecommunications Policy*. 2018;42(6):646-473.
47. Wei S. Cross-border Electronic Commerce's Development Trend and Challenges in International Trade. In: 48th International Conference on Education Technology, Management and Humanities Science (ETMHS 2024). Francis Academic Press, UK. 2024;403-410.
48. World Bank. The World Bank In India: India Overview: Development news, research, data; c2023. Available from: <https://www.worldbank.org/en/country/india> (accessed Aug 22, 2024).
49. WTO. The role of advanced technologies in cross-border trade: A customs perspective. Co-published by the World Trade Organization (WTO) and the World Customs Organization (WCO); c2022. Available from: https://www.wto.org/english/res_e/publications_e/wcot ech22_e.htm (accessed Aug 24, 2024).
50. Yan MR, Nhan TD, Hong LY. Knowledge-based decision support system for improving e-business innovations and dynamic capability of IT project management. *Knowledge Management Research & Practice*. 2019;17(2):125-136.
51. Zhang Y. Analysis of Strategies for the Development of Cross Border E-commerce, Taking Amazon as an Example. *Advances in Economics, Management and Political Sciences*. 2023;49(1):39-44.
52. Zhao X. A study on the applications of big data in cross-border e-commerce. *Proceedings - 2018 IEEE 15th International Conference on e-Business Engineering, ICEBE 2018*. 2018;280-284.
53. Zhu Q, Yinglin R, Shan L, Yang SB, Wang L, Che J. Cross-border electronic commerce's new path: from literature review to AI. *Data Science and Management*. 2023;(6):21-33.