



UNLEASHING GLOBAL OPPORTUNITIES THROUGH INFORMATION TECHNOLOGY: THE POWER OF CROSS-BORDER E-COMMERCE

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Abstract

Digital technologies are altering how firms think and organise themselves on a global scale. They enable not only cost savings in cross-border firms, but also unique sorts of products and business strategies. However, hurdles to cross-border commerce continue to exist or even re-emerge, implying that studying international business is still necessary in the digital age, although it may need to shift focus. E-commerce promotes global integration and can be a significant economic development tool. It can contribute to a more inclusive international trading system by, for example, helping micro, small, and medium-sized businesses to access new markets and allowing consumers to break down geographic barriers to lower search and transaction costs. E-commerce and other concerns relating to the digital economy can also spark debate, such as the immense market dominance of large digital enterprises or data localization. Cross-border e-commerce, as one of the fastest expanding industries in the Internet era, is also confronting enormous development prospects and challenges in the period of change led by new technologies such as information and communication technology (ICT). As a result, researching the innovative growth of cross-border e-commerce in the framework of information and communication technology is critical for increasing service levels and encouraging technological advancement.

The Data required for the study has been collected from both the primary and secondary sources. The results of the study revealed that Information and communication technology have had greater impact on cross-border e-commerce.

Key Words: *Cross-Border E-Commerce, Information and Communication Technology, Digital Transformation, Digital Economy, Platform Strategies, Trend of Development.*

Introduction

*“A pessimist sees the difficulty in every opportunity;
an optimist sees the opportunity in every difficulty.”*

~ Winston S. Churchill

This boost of wisdom and inspirational quote from the legendary British leader is now proven. With the continuous development of Internet technologies in recent years, trade between countries has become more intimate, and economic development is increasingly moving towards globalization and integration. Cross-border e-commerce offers enormous expansion potential in nations or regions with similar geographical and cultural qualities. With the advent of the Internet, global internet shopping has grown significantly. It enables clients from other nations to directly purchase things in other languages and currencies. This primarily helps to avoid issues such as universal payment insecurity, payment methods, logistics, reverse logistics, and foreign language limits. India's e-commerce business has grown in recent years, and it now relies on Internet technology to facilitate contact between trading partners via social software. Cross-border e-commerce is more efficient and allows for faster transactions than traditional trading techniques. The majority of transactions are done over the Internet using an electronic payment that is distinguished by spanning space time and virality.



Cross-border e-commerce is more unusual than other forms of online business. It includes all aspects of worldwide trade, such as customs clearance, insurance, and transportation. However, it is critical to emphasize that with cross-border e-commerce, transactions can be completed via the Internet in any country, regardless of location or time. We contend that international businesses adopt digital business strategies that are inextricably linked to their internationalization objectives. They must account for disparities among country settings, such as informal institutions, formal institutions, and resource endowments, in doing so. We present a conceptual framework that connects external and internal precursors to digital business and internationalization initiatives. According to a survey of existing research, the majority of research is focused on a specific product field. There is a shortage of breakthrough trials and research on how firms establish e-commerce against the backdrop of information and communication technology due to a lack of effective combination. The goal of this research is to investigate how to fully adapt to the rapid development of information and communication technology, as well as to solve practical challenges encountered in the development of cross-border e-commerce and to strengthen innovation. The examination of the questionnaire results reveals that advances in information and communication technology play an important role in fostering the healthy development of cross-border e-commerce. Most businesses recognize this, however due to a scarcity of qualified workers, many businesses face difficulties in performing specific tasks.

Review of Literature

Cross-border e-commerce (CBEC) refers to cross-border logistics transactions between multiple parties from different customs regions through e-commerce platforms (Ai et al., 2016). Typical participants are the two main players (buyers and sellers), e-commerce platforms (cross-border online platforms), and other third-party service companies (cross-border logistics providers and payment providers). International buyers order products through online e-commerce platforms, and cross-border transactions are handled by third parties (such as logistics companies or payment companies; Mou et al., 2019a). With the development of electronic information technology and the deepening of economic globalization, great changes have taken place in the consumption patterns and demands of consumers. Supported by growing demand and favorable policies, crossborder e-commerce is developing vigorously in the global environment and has become an important channel for promoting international trade (Li and Chan, 2016; Kim et al., 2017). Crossborder e-commerce, the process of selling goods directly to foreign consumers through digital intermediaries, has received increasing attention over the past few decades (Sinkovics et al., 2007; Giuffrida et al., 2020). By 2022, business-to-consumer (B2C) cross-border online sales are expected to account for 22% of total global e-commerce (Forrester Research, 2019). Based on its economic surplus and rapid growth, there is a broad consensus that CBEC has become one of the most important pillars of international trade (UNCTAD, 2016). There is no doubt that the choice of partnership between enterprises is an important factor affecting cross-border e-commerce. On the basis of a literature review, Huang et al. (2021) concluded that the good reputation of enterprises, trust between enterprises, and information sharing are all conducive to the realization of cooperation, thus constructing a theoretical model of partner selection for cross-border e-commerce enterprises. An in-depth discussion on the choice of partners for cross-border e-commerce enterprises under the B2B model. According to relevant reviews, previous studies have not explored the relevant literature process of cross-border e-commerce. Therefore, this study summarizes the context of cross-border e-commerce research through bibliometric methods. For example, digital communication channels have reduced the costs of recruiting and interacting with employees based in other countries to the extent that it is now feasible to recruit individuals based in other countries in a phenomenon known as 'work



from anywhere' (Choudhury, Foroughi, & Zhu, 2021). It is even feasible (and cost efficient) to tap into human capital in distant locations for specific projects, such as logo designs (Kumar, Deodhar&Zaheer, 2023).Technologies such as video streaming or augmented reality enable formats of product and service delivery that have not been feasible before the digital age. New types of social activities leverage digital technologies, such as social networks, e-sports (Lin, Xu &Xie, 2023) and crowdfunding (Kumar et al., 2023) to create opportunities for entirely new types of business.

Research Objectives

The purpose of this research is to explore how to fully adapt to the rapid development of Information and communication technology, solve practical problems encountered in the development of cross-border e-commerce, and strengthen innovation. Most companies have a clear understanding of this, but due to the limitation of talent supply, many companies have many problems in specific work.

Research Methodology

This research is a combination of questionnaire survey method and qualitative analysis method. The questionnaires were distributed in an anonymous manner, combined with multiple transmission methods such as e-mail or WhatsApp transmission. In this study, a total of 50 e-commerce companies in Chennai and Coimbatore where the cross-border e-commerce industry is relatively developed in Tamil Nadu were surveyed, and questionnaires were issued to 100 managers of these companies. The vast majority of these survey respondents are corporate sales and operations managers. The qualitative analysis method is to reorganize all aspects of data using information equipment in a specific logical sequence through the recovery and sorting of the questionnaire and find out the deep meaning behind the data obtained from the questionnaire, so as to find out the actual problems.

Phenomenal Growth of International Online Shopping

Cross-border e-commerce is experiencing an unprecedented boom, propelled by rapid technical improvements and a growing hunger for various items among customers globally. According to e-Marketer, global cross-border e-commerce sales are on course to surpass an amazing \$5 trillion by the end of the year, demonstrating the huge prospects this industry presents for businesses worldwide. Leading economies such as India, China, the United States, and the United Kingdom are critical drivers of this astonishing increase in cross-border online commerce. The statistics speak for themselves, and it is clear that firms stand to benefit considerably from leveraging the potential of international internet purchasing. We can learn from Alibaba's renowned Singles' Day event, which exemplifies the true power of cross-border e-commerce. Alibaba made a staggering \$74 billion in revenue in 2021, with international customers accounting for a sizable portion.

Empire of Cross-Border E-Commerce

Emerging economies such as India, Brazil, and Indonesia have enormous development potential in cross-border e-commerce. Increased internet penetration and a growing middle class in these regions stimulate demand for international products, creating a profitable market for enterprises willing to venture into new territory. An example of this potential may be found in India's e-commerce behemoth, Flipkart, which saw a significant increase in cross-border purchases during its highly anticipated Big Billion Days event. International buyers were intrigued by categories such as mobile phones, electronics, and fashion, highlighting the appeal of cross-border e-commerce in reaching global consumers. Aside from increased revenue, cross-border e-commerce plays an important role in improving brand recognition and customer engagement. Businesses have an advantage in appealing to varied consumer demographics by creating a global presence. International market exposure allows



firms to engage with clients all over the world, strengthening brand loyalty and awareness on a global scale. As a result of the economic globalisation trend, the rapid expansion of cross-border e-commerce has drawn many scholars to investigate this topic, which involves several related fields such as consumer behaviour, advertising, information systems, and supply chain management.

Analysis and Discussion

The design of this questionnaire has received help from many experts and persons involved in the cross-border e-commerce industry for online coaching, guaranteeing that the questionnaire is unified in terms of theoretical depth and practicality. The questionnaire contains 20 questions. Aside from understanding the company's natural conditions, such as its size and product kind, there is also a knowledge and application of information and communication technology, the current challenge of cross-border e-commerce, and so on. Table No. 1 depicts the exact distribution.

Table No.1

Cross-border e-commerce questionnaire distribution of Information and communication technology (n = 20)

Sl.No.	Subject category	Number of questions	The proportion (%)
1	The natural situation of the enterprise and the survey object	5	25.00
2	My own understanding of Information and communication technology	4	20.00
3	Enterprise's application of Information and communication technology	5	25.00
4	The current dilemma of cross-border e-commerce	6	30.00
Total		20	100.00

Construct validity Construct validity is the measure of the propriety of the constructs in the instrument. According to Westen&Rosenthal, despite its strongly important measure of the quality of an instrument, there is no simple formula to represents the extent that an instrument can be considered as construct valid. The most common calculation used by researchers to obtain the construct validity metrics is by presenting correlations between a measure of a construct and a number of other measures that are theoretically associated with the construct known as the convergent validity or vary independently of the construct known as the discriminant validity. In this article, the construct validity of the instruments used in our survey is described by calculating the Pearson's correlation coefficient r of the scores of respondents' responses to an item with their total scores. Pearson's correlation coefficient is also known as Pearson's product-moment correlation coefficient (PPMCC) and calculated as below equation 1:

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}} \quad (1)$$

where r is the Pearson's correlation coefficient, n is the number of valid responses, x represents the score of an item, and y represents the total score of each respondent with valid responses; with an



assumption that both variables (x and y) are normally distributed. The criteria of interpreting a validity coefficient of an item are presented in Table No.2.

Table No.2, Interpretations of validity coefficients

Sl.No.	Validity coefficient values	Interpretation
1	Above 0.35	Very beneficial (Strongly Valid)
2	0.21-0.35	Likely to be useful
3	0.11-0.20	Depends on circumstances
4	Below 0.11	Unlikely to be useful

If validity of a measurement represents the accuracy of the measurement, the reliability of an instrument indicates the consistency of the scores acquired from the instrument.

This research uses a variance experiment paradigm to examine questionnaire reliability. After sorting the data, compute the square of each unit variable's deviation from its arithmetic mean, and then compute the average value of this variable to compare with the preceding value. If the degree of change fulfils the standard, it demonstrates that the data gathered from the questionnaire is reliable.

According to Tang, Cui and Babenko there are several measures of internal consistency reliability under CTT including Cronbach's alpha, Revelle's beta, McDonald's ω_h , and Sijtsma's ECV. Among those measures, the Cronbach's alpha is the most common measure used. In our analysis, the Cronbach's alpha coefficient will be used as the measure of the internal consistency reliability of the instrument. The mathematical expression of the coefficient alpha introduced by Cronbach's is presented below:

$$\alpha = \left[\frac{n}{n-1} \right] \left[1 - \frac{\sum_{i=1}^n \sigma_i^2}{\sigma_X^2} \right] \quad (2)$$

where α is a lower-bound estimate of the true reliability, n is the number of items in test X , σ_X^2 is the observed score variance of test X , and σ_i^2 is the variance of item i . The criteria of interpreting an internal consistency reliability coefficient of an instrument are presented in Table No.3.

Table No.3, Interpretations of internal consistency reliability coefficients

Sl.No.	Internal consistency reliability coefficient value	Interpretation
1	Greater than or equal to 0.90	Excellent
2	0.80-0.90	Good
3	0.70-0.79	Adequate
4	Below 0.7	Less Applicable

This questionnaire's reliability after calculation is 0.912, which is greater than the standard number. Demonstrate that the data obtained has a high research value.

In the survey on the constraints of cross-border e-commerce development in the context of unlimited information and communication technology, this research has set up 6 questions in this section and designed the questionnaire factors of each topic to facilitate the express follow-up chart (Table No.4).



Table No.4, The Description and Factors of questionnaire survey on the constraints of the development of cross-border e-commerce.

Sl.No.	Description	Factors of questionnaire
1	The impact of the cost of the architecture	Equipment cost
2	The impact of talent demand	Talent demand
3	The impact of national macro policies	Macro policy
4	The impact of technology maturity	Technique level
5	Full impact of the network	Cyber security
6	Impact of operation and maintenance costs	Operating costs

The scale of the company and the natural conditions of the survey objects has a great impact on the application of Information and communication technology in cross-border e-commerce. Under normal circumstances, the natural position of firms and managers exists simply as a general reference element, but in the data acquired from this survey, the importance of this component is greatly amplified, producing significant reference value for research.

Figure 1 shows that, with the exception of the age of the survey respondents, which is inversely proportional to the “application of information and communication technology in cross-border e-commerce”, the size of the company and the length of the company’s existence, are all in a positive proportion, indicating that the time of the company's existence. The longer and stronger the relationship, the clearer the knowledge of the function of information and communication technology (ICT) in developing the cross-border e-commerce industry. The importance of the above six elements in this field might be ranked based on the particular points provided by the participants to the six questions.



Figure 1: Ranking of obstacles to the development of cross-border e-commerce in the context of unlimited Information technology

Figure 1 shows that the cost of installation is the most important factor in the minds of business managers who participated in the survey, and it is also a key factor that influences whether they use information and communication technology to improve enterprise production efficiency. Other



elements are ranked in the following order: talent demand, macro policy, technical level, network security, and operating cost.

Global Opportunities

Businesses who venture into cross-border e-commerce have numerous strategic prospects. The appeal of reduced reliance on domestic markets, access to a large worldwide client base, and transformative revenue growth cannot be overstated. As emerging economies continue to grow, businesses may capitalise on this momentum by catering to the increasing middle class and internet-savvy consumers. Beyond monetary rewards, cross-border e-commerce enables firms to transcend borders, resulting in long-term brand awareness and client involvement in a globalised society. Taking advantage of these strategic opportunities allows organisations to thrive and succeed on the global stage.

The Creation of a Seamless Cross-Border Fulfillment Channel

International selling logistics entails far more than just global shipment. From tax and duty compliance and remittance to changing import rules, fraud prevention, and payment processing, the extensive list of things that organisations must manage is a significant obstacle to global digital expansion. Partnering with a specialist cross-border provider who handles all of these parts of international internet trade decreases the risk and complexity of cross-border selling, allowing brands to expand worldwide in a straightforward and cost-effective manner. The constantly expanding cross-border e-commerce market offers enormous opportunities for firms to accelerate their D2C business. A comprehensive solution that combines modern technology and efficient worldwide operations, as well as continuing expert direction and support, may assist brands in capitalising on their global potential, increasing their client base, and generating new revenue streams.

Policy Recommendations

1. **Strengthen Infrastructure.** Although our country's information and communication technology equipment has rapidly advanced in recent years, it has never been able to match the rapid development of e-commerce due to a weak foundation and other factors. It is most visible in the enormous burden on businesses and the wide geographical disparities. As a result, my country should prioritise the creation of e-commerce platforms for businesses of all sizes, so that businesses can rent with lower costs, promote investment in underserved areas, and narrow regional disparities in information infrastructure.
2. **Strengthen Publicity and Do Vocational Training.** Relevant management departments should increase advertising and train the enterprise's existing management people. As the extent of cross-border e-commerce in our country gradually expands, business managers will be required to study in depth and increase job efficiency.
3. **Promote Resource Sharing.** According to the current circumstances; the cost of developing an IoT system is relatively high, making it difficult for small and medium-sized cross-border e-commerce businesses to complete it on their own.

Conclusion

With the advancement of digital technology, information and communication technology has become widely employed in cross-border e-commerce enterprises, and it has provided significant benefits in terms of enhancing production efficiency and lowering labour costs. Cross-border e-commerce has emerged as a disruptive force, altering the retail sector and providing firms with new opportunities for



growth. Despite the logistical hurdles, the benefits of entering international markets far exceed the drawbacks. We can strategically negotiate cross-border logistics and tap into the limitless possibilities of global marketplaces armed with data-driven insights and strategic expertise. Data analysis summarized existing difficulties and proposed fairly novel development countermeasures that not only increase infrastructure but also public awareness and vocational training, as well as resource sharing. We hope that our study contributes in some little way to stimulating research on these very vital topics.

References

- 1 Dr.Cheung H.F., Jackie, (2023). Unleashing Global Potential: Exploring Internationalization Strategies and Competitive Advantages of E-commerce Enterprises in the Greater Bay Area, Linked in, Published 12, October 2023.
- 2 Nicole Srail (2023), Unleashing Global Opportunities: The Power of Cross-Border E-commerce, Linked in, Published 19, July 2023.
- 3 Nagariya, R., Kumar, D., and Kumar, I. (2021). Service supply chain: from bibliometric analysis to content analysis, current research trends and future research directions. *Benchmarking* 28, 333–369.
- 4 Yu, Y. B., Huo, B., and Zhang, Z. (. J.). (2021). Impact of information technology on supply chain integration and company performance: evidence from cross-border e-commerce companies in China. *J. Enterp. Inf. Manag.* 34, 460–489.
- 5 E. Stefano and G. Maria, (2021). “Resources and digital export: an RBV perspective on the role of digital technologies and capabilities in cross-border e-commerce,” *Journal of Business Research*, vol. 132, pp. 158–169..
- 6 Giuffrida, M., Mangiaracina, R., Perego, A., and Tumino, A. (2020). Cross-border B2C e-commerce to China: an evaluation of different logistics solutions under uncertainty. *Int. J. Phys. Distrib. Logist. Manag.* 50, 355–378.
- 7 V. A. Thomas and D. Wouter, (2020). “Cross-border e-commerce logistics – strategic success factors for airports,” *Research in Transportation Economics*, vol. 79.
- 8 Aguilera, R. V., &Grøgaard, B. (2019). The dubious role of institutions in international business: A road forward. *Journal of International Business Studies*, 50(1): 20–35.
- 9 De Villa, M. A., Rajwani, T., Lawton, T. C., &Mellahi, K. (2019). To engage or not to engage with host governments: Corporate political activity and host-country political risk. *Global Strategy Journal*, 9(2): 208–242.
- 10 Ramamurti, R., &Hillemann, J. (2018). What is “Chinese” about Chinese multinationals? *Journal of International Business Studies*, 49(1): 34–48.
- 11 Rathert, N. (2016). Strategies of legitimation: MNEs and the adoption of CSR in response to host-country institutions. *Journal of International Business Studies*, 47(7): 858–879.
- 12 <https://www.linkedin.com>.
- 13 <http://creativecommons.org>.
- 14 <https://www.forbes.com>.