# The Effect of Cross-Border Trading Technologies on Customer Purchase Intention

**Adrija Chakraborty**
**6617192007**

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION**
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**Adrija Chakraborty**

This Independent Study Has Been Approved as a Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

Advisor..........................................
(Dr. Warangrat Nitiwanakul)
Date: ....11..../....July..../......2026......

.....................................................................
**(Associate Professor Dr. Jomphong Mongkhonvanit)**
**Dean, Graduate School of Business**

Date....11..../....July..../....2021....

**Title:** The Effect of Cross-border Trading Technologies on Customer Purchase Intention

**Researcher:** Adrija Chakraborty

**Degree:** Master of Business Administration

**Major:** International Business Management

**Advisor :** ..........................................................................

(Dr. Warangrat Nitiwanakul)

11 / July / 2026


## ABSTRACT

The rapid expansion of cross-border e-commerce has increased the reliance on digital trading technologies to facilitate international transactions between sellers and consumers. Despite growing adoption, consumers often show concern about engaging in cross-border online purchases related to information reliability, logistics performance, payment security, and overall transaction complexity. This study examined the effect of cross-border trading technologies on customer purchase intention in cross-border e-commerce environments.

The study focused on key technology-enabled and perceptual factors, including commodity information quality, logistics service quality, payment security, perceived usefulness, perceived ease of use, and customer perceived value. Using a documentary research, the study investigated how these factors influence consumers' willingness to purchase from foreign sellers. Customer perceived value was also examined for its role in shaping purchase intention within cross-border transactions with the aid of existing literature, reports, Government policies, conference proceedings, etc.

The findings of the study are expected to contribute to a deeper understanding of how cross-border trading technologies influence consumer decision-making by reducing perceived risk and enhancing transactional efficiency. The study offers hypothetical contributions by integrating technology acceptance and service quality perspectives within a cross-border context. From a practical standpoint, the results provide insights for cross-border e-commerce platforms and international online sellers in designing technology-driven solutions that enhance consumer confidence and purchase intention.



**Keywords:** cross-border trade, customer purchase intention, information quality, logistic service quality, perceived value, payment security, global commerce.

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Adrija Chakraborty
6617192007

# DECLARATION

I, Adrija Chakraborty, hereby declare that this Independent Study entitled "The Effect of Cross-border Trading Technologies on Customer Purchase Intention" is an original work and has never been submitted to any academic institution for a degree. It is a part of the Master of Business Administration degree program at Siam University. The research and findings are rigorously studied, and the references are then carefully cited following all the ethical and academic rules.

Adrija Chakraborty
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# Chapter 1 Introduction

## 1.1 Background of the Study

### 1.1.1 Overview of the Study

Advancement in technologies and the advent of globalization have led to great transformation in international business, leading to the rise of cross-border electronic commerce (CBEC). Cross-border trading technologies refer to the use of digital technologies and technological infrastructures used in conducting international business through online platforms. This involves the integration of various functional components like product information systems, logistics information systems, payment gateway, and user interface among others, that together define the customer experience and affect purchase decisions. With the rising internet penetration rates and widespread adoption of mobile technology, cross-border e-commerce has become one of the most significant sources of economic development, especially for the developing countries and SMEs looking for ways to reach out to their customers in international market places.

Customer purchase intention refers to the probability of consumers buying products and services and is considered a major determinant of buying behavior of consumers in an online environment. However, in cross-border trading, there are many other uncertainties including those regarding product authenticity, reliability of logistics services, security concerns, cultural barriers, regulatory obstacles among others, that make the concept of purchase intentions complex. Thus, studying the impact of cross-border trading technologies on customer purchase intention has become an important research issue for academics, policymakers, and practitioners alike.

### 1.1.2 Growth of Cross-Border E-Commerce and Technological Dependence

The global growth of cross-border e-commerce is driven by developments in technology infrastructure, electronic payment mechanisms, and international transport channels. UNCTAD notes that cross-border e-commerce helps companies break geographical barriers and provides consumers with increased product diversity and cost-effective prices (UNCTAD, 2021). Examples of cross-border platforms like Amazon Global, Alibaba, and Shopee International International demonstrate the application of modern trading technologies in creating a globalized supply chain for a local customer base.

However, cross-border e-commerce presents different levels of risk perception and information asymmetry compared to domestic e-commerce. In many cases, consumers depend more on technological efficiency to mitigate uncertainties. Previous research indicates that system quality and service quality play pivotal roles in determining the level of customer satisfaction and intentions (DeLone et al., 2003). In cases of cross-border interactions, such reliance on technology becomes even more significant in affecting purchase intention.

### 1.1.3 Cross-Border Trade System Quality and Information Quality

System quality and information quality are basic dimensions of cross-border trading technologies. The quality of commodity information means accuracy, completeness, relevance, and timeliness of commodity-related information displayed on cross-border trading platforms. Product information of high quality decreases risk perception and facilitates customers' decision-making process because often, the inspection of goods purchased online is impossible.

According to various studies dedicated to online trading, there was a positive relationship between information quality and such important aspects as consumer trust, satisfaction, and intention to buy (Pavlou, 2003; Kim et al., 2008). As far as the cross-border trading technologies are concerned, good description, accurate prices in local currency, clear customs information, and high-quality product reviews can mitigate uncertainty among customers. In case of poor information quality, there is an increased possibility of confusion, disappointment, and failure in completing purchases.

System quality encompasses several aspects that include site reliability, speed, and user-friendly design, and affects consumer perceptions. According to the Information System Success Model suggested by DeLone and McLean (2003), system quality acts directly upon users' satisfaction with the platform and their intention to use it, resulting in the achievement of net benefits like intention to purchase.

### 1.1.4 Logistics Service Quality in Cross-Border Transactions

Logistics service quality is an essential part of cross-border e-commerce because of the transportation of products across international boundaries. Logistics service quality ensures delivery time, delivery precision, tracking, customs, and returns. Cross-border logistics services differ from domestic logistics services in that they entail longer delivery times, more complex customs regulations, and increased costs, which might lead to a negative impression among customers.

Research studies show that logistics service quality has a significant impact on the satisfaction and intentions of repeat purchasing by customers in e-commerce activities (Huang et al., 2009). In cross-border e-commerce, efficient logistics services minimize risk perception and foster consumer confidence. Tracking systems, trustworthy delivery companies, and information on the delivery status positively influence buying intentions. On the other hand, late delivery, missing packages, and inadequate tracking negatively impact purchases.

### 1.1.5 Payment Security and Trust in Cross-Border E-Commerce

Payment security is yet another important determinant affecting customers' purchase intentions within cross-border trading. Consumers using international payments within their purchases are faced with many challenges including those related to the issue of data security, payment frauds, and currency exchange. Payment security tools, secure encryptions, and third party payment gateways become very essential parts of the cross-border trading technologies.

Research has revealed that payment security positively affects consumer's trust and purchase intentions in electronic commerce (Gefen et al., 2003; Kim et al., 2008). Payment security becomes an even more important determinant when dealing with cross-border transactions because consumers tend to feel insecure while dealing with foreigners.

### 1.1.6 Perceived Usefulness and Perceived Ease of Use

One of the theories supporting the acceptance of technology by consumers is the Technology Acceptance Model (TAM). According to this model, perceived usefulness and perceived ease of use become important variables of users' attitude towards the use of technology (Davis, 1989). Perceived usefulness involves the degree to which users view cross-border trading technology useful to them in terms of their efficient purchasing, accessing more products, and convenience.

On the other hand, perceived ease of use involves how easy it is for users to use cross-border technology in terms of navigation, language preferences, payment procedures, and access to customer care services. Several studies have indicated that perceived ease of use and perceived usefulness have a positive effect on online purchase intention (Venkatesh & Davis, 2000; Pavlou, 2003).

### 1.1.7 Customer Perceived Value and Purchase Intention

Consumer perceived value is the overall assessment made by the consumer regarding the benefits and costs of purchasing a product or service. In cross-border e-commerce, consumer perceived value consists of functional value, emotional value, and risk-related aspects. Functional value comprises the price benefits and product quality while emotional value consists of enjoyment and satisfaction from the purchase process.

The importance of technology in the development of cross-border trading technologies lies in its ability to lower costs, promote transparency, and improve service efficiency. Research suggests that higher perceived value leads to stronger purchase intention and loyalty in online shopping environments (Zeithaml, 1988; Chen & Dubinsky, 2003). Therefore, competitive pricing, selection of products and services, security of transactions, and reliability of logistics systems are vital for boosting customer perceived value.

### 1.1.8 Research Gap and Study Relevance

Although previous research has addressed individual aspects such as quality of information, logistics services, and payment security for e-commerce, there is limited data that considered all these variables together under a single framework focusing specifically on cross-border trading technologies. Another drawback of previous literature was that while most studies focus on customer satisfaction and trust, very few have explored the impact of above mentioned key determinants like payment security, timely delivery, valuable information on customer purchase intention.

This study aimed to address these limitations by designing a comprehensive framework to analyze the influence of commodity information quality, logistics services quality, payment security, perceived usefulness, perceived ease of use, and customer perceived value on customer purchase intention in cross-border e-commerce context.

## 1.2 Questions of the Study

- How do commodity information quality, logistics service quality, and payment security reduce the perceived risks that uniquely discourage consumers from completing cross-border purchases?

- How do perceived usefulness and perceived ease of use together shape a consumer's willingness to engage with cross-border trading platforms, and does one matter more than the other?

- Why is customer perceived value best understood as the integrative outcome of all the other variables rather than simply one more independent factor influencing purchase intention?

## 1.3 Objectives of the Study

The primary objective of this study was to examine the effect of cross-border trading technologies on customer purchase intention in cross-border e-commerce environments. The study sought to identify and analyze how specific technology-related and perception-based factors influence consumers’ willingness to engage in international online purchasing.

The specific objectives of the study are as follows:

- To examine the impact of logistics service quality and payment security on customer intention in cross-border online purchases.
- To assess the role of perceived usefulness and perceived ease of use in shaping customer purchase intention in cross-border e-commerce platforms.
- To investigate how commodity information quality and customer perceived value contributes to the formation of purchase intention in cross-border online transactions.

## 1.4 Scope of the Study

The main concern of this research was aimed at exploring the impact of cross-border trading technologies on the intention of customers to purchase through cross-border e-commerce. Cross-border trading technology entails an integration of systems that facilitate cross-border trade operations through the Internet, including the accuracy of information, logistic services, and payment systems. The research analyzed technological and perception factors responsible for the motivation of customers to purchase across borders as opposed to other aspects of the e-commerce ecosystem.

This research mainly aimed at analyzing the impacts of six primary independent variables, which are considered very important and influential factors in the field of information technology and e-commerce due to their ability to impact consumer behavior. The six constructs under consideration included quality of commodity information, quality of logistic services, payment security, perceived usefulness, perceived ease of use, and perceived customer value. They were selected based on the review of existing scientific literature where these constructs have proven their importance. For instance, the quality of platform information and service systems greatly contribute to increase consumer perceived value and intention to purchase via cross-border platforms due to trust.

In this case, commodity information quality is concerned with customers' evaluations of the accuracy, completeness, and clarity of the information about goods presented on cross-border e-commerce sites. It does not involve any information regarding designs, manufacturing processes, or communication strategies. Logistics service quality is considered based on consumers' perception of delivery services, including delivery time, order confirmation process, tracking availability, and other aspects that contribute to customer satisfaction and service value in cross-border e-commerce. No analysis on logistics efficiency or modeling of cross-border logistics is involved in this study. Payment security is assessed based on users' evaluation of the safety of financial transactions on cross-border e-commerce sites, excluding backend analysis or third-party security providers' assessment of system integrity.

The study includes perceived usefulness and perceive ease of use, both of which have been repeatedly proven to be important determinants of technology acceptance and behavioral intention in foundational literature on the subject. Perceived usefulness is an evaluation of customers' belief that the use of cross-border e-commerce technologies will improve the effectiveness of their experience on the websites in question, while perceived ease of use implies customers' beliefs about the ease of interacting with technologies employed on cross-border e-commerce sites.

Customer perceived value is understood to be the customer's evaluation of the value gained from their transaction weighed against any monetary and non-monetary costs involved in the cross-border purchase, such as time, risk perceptions, and mental exertion. Previous research reveals that customer perceived value, which can be divided into utilitarian and hedonic perceptions of value, has been found to be an important factor influencing purchase intention for customers in cross-border e-shops. This study did not distinguish between more detailed subcontracts of the customer's perception of value in order to examine how directly this relates to purchase intention.

Customer purchase intention is the dependent variable used in this study. The concept refers to the likelihood of engaging in cross-border shopping as indicated by the customer at the moment of collecting data. Existing studies have highlighted that the intention to make cross-border purchases is related to the perceptions of risk, trustworthiness of the platform, level of satisfaction with the e-commerce process, and the quality of information provided; while perceived risk has a negative influence on purchase intention, trust serves as an intermediary construct. This study only focuses on purchase intention itself, rather than post purchase satisfaction, actual purchasing behavior, or loyalty.

In terms of geography, the study was based on an international framework for e-commerce transactions that cuts across borders, focusing on shoppers who hail from different regions and have engaged in shopping beyond borders through online means. It did not focus on findings that can only be applicable to one nation, culture, or online platform such as Alibaba or Amazon or any other online marketplace. While discussions can include implications that extend to other settings, the investigation itself does not go into issues such as international regulations, laws, customs, and taxes that impact cross-border business activities.

Methodologically, the study was bounded within a documentary, cross-sectional research design in which secondary data were collected. Interviews and similar qualitative research methods were not employed in this particular study. Previously collected statistics were used to get a detailed information on consumer behavior.

To conclude, the research scope was rather narrow but well-defined since it dealt with the determinants of consumer buying intentions in cross-border e-commerce and relied heavily upon the theoretical base available in scholarly sources as well as on the documentary approach to analyzing consumer perceptions.

## 1.5 Significance of the Study

The significance of this study is that it focused on examining the effect of cross-border trading technologies on customer purchase intention in the international online environment. In the context of modern digital technologies that increasingly promote cross-border trade, consumers experience an increasing level of uncertainty regarding issues related to the reliability of information, delivery, security, and ease of use of the system. Thus, the study of technological determinants of consumer behavior in this area contributes significantly to the understanding of ways to promote cross-border e-commerce.

At the same time, this study contributes to the existing knowledge by conducting a holistic evaluation of determinants of purchase intention in international online environment based on technologies, services, and customer perceptions. Indeed, although many studies have already analyzed different determinants like trust, risks, logistical performance, and platform usability individually, little is known about the effect of an interrelation of all of them in one context of cross-border trading. In particular, by considering such variables as commodity information quality, logistical service quality, payment security, perceived usefulness, perceived ease of use, and customer perceived value, this study helps advance theory of consumer behavior (Davis, 1989; DeLone & McLean, 2003) which will make it easier to determine how cross-border trading technologies affect the purchasing intention.

Further, this study is theoretically significant due to the reaffirmation of the importance of perception-based behavior models in cross-border online shopping. Indeed, previous studies have consistently demonstrated that consumer perception of information quality, system usefulness, and transaction security greatly determine trust and purchase intentions in e-commerce (Pavlou, 2003; Kim, et al., 2008). Thus, this study allows for an expansion of the applicability of well-known information system theory and technological acceptance theory by applying them to the cross-border context with its inherent geographical distance and unique regulation.

Furthermore, from a practical point of view, the results of this study are highly relevant for cross-border e-commerce platforms and international sellers who engage in their operations through the Internet. It is important to know what technological and service features affect customer purchase intent the most. Previous research suggests that better logistic support, accurate information on the product, and security in payments increase consumers' trust and purchase intentions (Gefen et al., 2003; Huang et al., 2009). In this respect, the results of the present study can serve as an important guideline for practitioners in terms of allocating resources to appropriate technological features.

The study is important for those who develop technologies and design systems for international e-commerce. By focusing on the importance of the usefulness and the ease of use of systems, the research highlights the necessity of designing systems that consider users' needs. The ability of an application to provide intuitive navigation, fast transactions, and other features can reduce the amount of mental work and increase purchase intentions. The results obtained in previous studies confirm the hypothesis that systems which are perceived as useful and easy to use are more likely to be accepted by consumers (Venkatesh & Davis, 2000).

In regard to the importance of the research for consumers, it is necessary to highlight its contribution to reducing risks in cross-border online purchases. As noted above, purchase intentions are affected by various technological factors. Therefore, by identifying the critical factors in this process, one can facilitate the reduction of risks and provide better conditions for online shoppers.

The results of the study holds relevance for those who work in policymaking and organizations supporting the development of cross-border e-commerce and digital trading. While the analysis does not include any policies explicitly, the conclusions drawn from the data offer empirical support for the role of technological trust mechanisms, information transparency, and service reliability in motivating consumers to participate in cross-border trade. It is stressed that international organizations highlight the necessity of enhancing digital infrastructure and consumer protection systems for sustainable development in cross-border e-commerce (UNCTAD, 2021).

In summary, the relevance of the study is seen in its contribution to theoretical knowledge, practical management, system development, consumer, and policy-making. With an emphasis on the effect of cross-border trade technology on the buying behavior of consumers, the study contributes valuable empirical data that can be used to make decisions and conduct additional research in the developing area of cross-border e-commerce.

## 1.6 Definition of Key Terms

**Commodity Information Quality-** the accuracy, completeness, relevance, and clarity of product-related information provided on cross-border e-commerce platforms, which enables consumers to make informed purchasing decisions.

**Logistics Service Quality-** the efficiency and reliability of delivery services in cross-border transactions, including timeliness, order accuracy, tracking transparency, and overall fulfillment performance.

**Payment Security-** the degree to which consumers perceive that online payment systems are safe, secure, and protected against fraud, unauthorized access, and data breaches during transactions.

**Perceived Usefulness-** the extent to which a consumer believes that using a cross-border trading platform enhances their shopping performance, such as saving time, improving efficiency, or providing better purchasing outcomes.

**Perceived Ease of Use-** the degree to which a consumer believes that using a cross-border e-commerce platform requires minimal effort, including ease of navigation, search, and transaction processes.

**Customer Perceived Value-** represents the overall evaluation by consumers of the benefits received from a cross-border purchase relative to the costs and risks involved.

**Customer Purchase Intention-** the likelihood or willingness of a consumer to engage in purchasing products through cross-border e-commerce platforms in the future.

# Chapter 2 Literature Review

The aim of this chapter is to review and analyze the existing literature in relation to cross-border e-commerce and the role of technology on customers' purchase intention. Literature review is used in order to lay the groundwork for the current research, and it is conducted through analysis of the relevant previous academic literature in the fields of cross-border trading technologies, consumer behavior in online international markets, and technology acceptance in e-commerce settings.

It should be noted that cross-border e-commerce involves certain aspects and issues different from domestic online retailing because of its high level of complexity resulting from geographical remoteness, regulation disparity, logistic uncertainty, and payment risk. As a result, customers' purchase intentions in the case of cross-border online environment are affected by e-commerce features and technology-driven ones that serve to decrease uncertainty and improve value perception. This chapter analyzes the existing academic literature on those mechanisms, as well as on commodity information quality, logistics service quality, payment security, usefulness, ease of use, customer perceived value, and purchase intention.

## 2.1 Online Information Quality and Consumer Purchase Behavior

Park et al. (2007) studied the influence of quality information about products in online commerce on consumer confidence and their willingness to purchase goods. In particular, a survey methodology was applied in order to show that good product information quality contributes to lowering uncertainty levels and increasing consumer confidence, which promotes purchasing intentions. The study concludes that the information quality is essential for overcoming the absence of tangible product examination at the online shopping stage.

Chen and Dubinsky (2003) focused on information quality, consumer perceived value, and the formation of purchase intentions within online retailing. They proved that the positive impact of product information quality on consumers' purchase intentions can be achieved through increased perceived values associated with better assessment of costs versus benefits.

The study by Zhang and Benyoucef (2016) was based on the issue of consumer decisions related to cross-border e-commerce. According to them, poor product descriptions, translation inconsistencies, and vague information regarding shipping can be attributed to increased perception of risks and decreased motivation for purchasing goods online across borders.

## 2.2 Logistics Performance and Online Purchasing Decisions

Mentzer et al. (2001) focused on how logistics service quality may affect customers' attitude and intention to act accordingly. In particular, the researchers pointed out the impact of delivery speed, order accuracy, and responsiveness on positive consumer behavior. As can be seen, the logistics performance serves as an important service signal that affects customer attitudes.

The impact of logistics failures on consumers' decisions to shop online was studied by (Rao et al. 2011). According to the research, late or faulty deliveries lead to higher perception of risks among customers and negatively influence the intention to buy products in the future. The authors underlined the importance of the fact that logistics issues had a more significant negative impact on consumers' behavior than any other problems encountered during online shopping.

The factors affecting consumers' intention to use cross-border shopping services were investigated by (Hsiao et al. 2017). In particular, the researchers found that delivery reliability and product tracking contributed to a higher intention to purchase foreign products online.

## 2.3 Payment Security and Online Transaction Intentions

In his study, Pavlou (2003) assessed the significance of perceived risk and trust in online dealings. From the findings of the study, it is clear that secure payments contribute greatly to reduced levels of perceived risk and also encourage customers to conduct business online. The study highlighted the importance of payment security for successful online dealings.

Kim et al. (2008) focused on the impacts of trust and perceived security on online purchase intention. According to their empirical findings, it is evident that there is a direct relationship between payment security and consumer trust, which leads to online purchase intention. It was established that no one will make online transactions when payment systems are not safe.

According to Chen (2017), cross-border e-commerce is characterized by the existence of many risks. This includes payment fraud, privacy concerns, and absence of legal remedies. From the study, it is clear that the issues of payment security become more critical in international online transactions compared to local ones.

## 2.4 Perceived Usefulness and Technology Acceptance in E-Commerce

In 1989, Davis studied information technology systems' user acceptance and discovered that perceived usefulness positively impacts behavioral intention to utilize technology.This study revealed that users were more likely to accept technology systems that improve task efficiency.

In 2000, Venkatesh and Davis explored perceived usefulness and its impact on technology acceptance through various determinants. They revealed that perceived usefulness continues to be an essential predictor of behavioral intentions in diverse usage settings, including voluntary technology acceptance.

Wu and Ke (2015) studied factors that influence consumers' intention to make purchases from foreign online businesses. They concluded that perceived usefulness positively impacted purchase behavior when technologies improved the international logistics and payments process.

## 2.5 Perceived Ease of Use in Online and E-Commerce Contexts

Perceived ease of use has been examined by many authors within e-commerce literature regarding its role as a predictor of intention to shop online. In a study by Gefen et al. (2003), where they added the variable of trust to the technology acceptance model (TAM), they posited that an online shopper's attitude towards a website and the relative ease of a transaction negatively impacts the intention to purchase. This study illustrates the importance of user-friendly website design to instill trust in the online transactional process.

The study by Walczuch et al. (2007) that examined electronic service quality and the ease of online service led to interaction and user satisfaction; the ease of use of an online system leads to increased customer satisfaction and creates a positive impact on the intention to use the online service. This proves that the quality and ease of the user interface and the perceived quality of the service are interconnected.

Perceived ease of use as a construct has been extensively studied in relation to mobile commerce. In the study by Alalwan et al. (2016), perceived ease of use is a factor that contributes towards an individual’s intention to use mobile banking. The ease of use as a variable is applicable to cross-border e-commerce as well as digital payments. Users are likely to participate in online commerce when the process of completing transaction is simple, the payment gateways are easy to navigate, and support options are easily accessible.

## 2.6 Customer Perceived Value and Online Purchase Intention

In their paper titled "Consumer Perceived Value: The Development of a Multiple Item Scale," Sweeney and Soutar (2001) explored the various dimensions of value perception and their effects on behavioral intentions of consumers. The researchers noted that there is a strong correlation between high perceived value and intention to buy and the level of customer loyalty.

The research carried out by Chen and Dubinsky (2003) established that perceived value acts as a mediator for service-related variables affecting online purchase intention among consumers. In this case, the study showed how consumers use perceived value as the link between different technological and service signals.

Lastly, Liu et al. (2020) examined factors influencing the adoption of cross-border e-commerce. From their study, it is clear that perceived value greatly influences consumers' decision to conduct business across borders.

## 2.7 Comparison of Existing Studies with the Study

A review of existing literature reveals substantial scholarly attention to factors influencing online and cross-border purchase behavior.

### 2.7.1 Comparison in Terms of Research Focus

Existing literature has been mainly concerned with studying individual variables in relation to cross-border shopping behavior. The work of Park et al. (2007), which was mainly focused on information quality and value perception within the context of general e-commerce activities is an evidence. Likewise, Mentzer et al. (2001) and Rao et al. (2011) were mainly interested in logistics service quality and its effect on satisfaction.

This study differs from the foregoing works in that it seeks to investigate cross-border trading technologies as a unified system and their ability to influence purchase intentions through multiple technology-related variables.

### 2.7.2 Comparison in Terms of Contextual Scope

Many previous studies are carried out in domestic e-commerce systems or general Internet-based shopping scenarios. For instance, Davis (1989), Venkatesh and Davis (2000), and Pavlou (2003) carried out their analysis in the context of technology acceptance and/or online transaction systems but did not make mention of any issues in relation to cross-border business.

In some cases, cross-border e-commerce issues are highlighted, but only in relation to particular barriers/facilitators, such as trust and perceived usefulness or value (e.g., Zhang & Benyoucef, 2016; Liu et al., 2020). In contrast to the above research, the present study situates all considered variables within a cross-border transaction scenario, recognizing the potential problems of international logistics coordination, risks of payment processing, among others.

### 2.7.3 Comparison in Terms of Variables Examined

Existing studies typically investigate limited sets of variables. For example:

i. Payment security is often examined as part of broader trust or perceived risk models (Pavlou, 2003; Kim et al., 2008).

ii. Perceived usefulness and perceived ease of use are frequently studied independently within technology acceptance research (Davis, 1989; Wu & Ke, 2015).

iii. Logistics service quality is commonly linked to satisfaction or loyalty rather than purchase intention (Mentzer et al., 2001).

This study differs by simultaneously incorporating commodity information quality, logistics service quality, payment security, perceived usefulness, perceived ease of use, and customer perceived value within a single conceptual framework. This integrated variable structure allows for a more comprehensive understanding of how cross-border trading technologies influence customer purchase intentions.

### 2.7.4 Comparison in Terms of Outcome Variable

Most of the earlier studies concentrate on outcomes that include customer satisfaction, trust, customer loyalty, and continuance intentions. For example, in logistic studies, it is common to see delivery satisfaction as the outcome of interest, whereas in studies on perceived value, the focus is usually on repurchase intention or customer loyalty.

One of the ways that this study stands out from previous research is that it focuses on customer purchase intention during the decision-making stage, especially in cross-border settings where there is much uncertainty before purchase decisions are made..

### 2.7.5 Comparison in Terms of Theoretical Contribution

The current studies offer interesting insights using the Technology Acceptance Model and the Trust–Risk Model, but they apply them in piecemeal, or too broad of manner, the current study builds on these theories by combining technology acceptance, service quality, and value constructs, and cross-border trading technology frameworks.

Thus, this study enhances the literature by providing an integrated and contextualized explanation of the customers' purchase intentions in cross-border e-commerce, instead of adopting a single-theory or single-variables approach.

## 2.8 Theoretical Framework

Among the most established models for explaining user adoption of new technology is the Technology Acceptance Model (TAM), which was formulated by (Davis, 1989). With the TAM, Davis suggests the adoption decision is primarily determined by two competing considerations: the technology's perceived usefulness (PU) and perceived ease of use (PEOU). Davis' model has been used in virtually every industry, including logistics, digital finance, and e-commerce, to understand how consumers adopt new technology. An extended version of TAM is the Unified Theory of Acceptance and Use of Technology (UTAUT), which is developed by (Venkatesh et al., 2003). This model includes other variables associated with adopting technology in e-commerce and digital transactions.

In the conceptual framework of this study, Commodity Information Quality (CIQ) is positioned with the UTAUT component, PU and PEOU end up with Logistics Service Quality (LSQ), Payment Security as Trust Factor, and Customer Perceived Value is positioned with Behavioral Intention to Value. With that, we have a basis for using these theories. We now consider the variables with regard to TAM and UTAUT and the existing literature to support its relevance to the industry.

### 2.8.1 Perceived Usefulness

Usefulness has proved to be a key concept when investigating consumers' adoption of technology-mediated services and has been widely investigated in both e-commerce and information systems literature. This relates to how useful people perceive a certain technological tool to be in terms of improved efficiency of performing tasks or desired results. In international commerce, the concept of usefulness involves consumers' perceptions of whether the use of international commerce technologies leads to greater efficiency, a broader range of goods to choose from, lower transaction costs, and informed decision-making.

**Conceptualization of Perceived Usefulness**

The concept of perceived usefulness can be traced back to the Technology Acceptance Model (TAM), which suggests that together with perceived ease of use, perceived usefulness contributes to consumers' attitudes toward technology and subsequently influences their behavioral intentions (Davis, 1989).

With respect to the context of e-commerce, perceived usefulness refers to the extent to which e-commerce technology helps users achieve their shopping-related purposes better than conventional ways. Such purposes are related to comparing prices, evaluating products, convenience of transactions, and access to information.

With regard to cross-border e-commerce, the usefulness factor is understood not only as the level of functional utility of the technology used but also as its capacity for resolving issues associated with trade between different countries. According to experts, cross-border technology is considered to be useful when it facilitates difficult procedures related to exchanging money, processing necessary paperwork, shipping the goods internationally, and handling disputes (Zhang et al., 2019).

**Role of Perceived Usefulness in Technology-Mediated Purchasing**

Consumer perceptions of how useful e-commerce is will likely affect their willingness to adopt and continue using these platforms. Empirical studies show that consumers who think e-commerce improves how effective and convenient it is to shop will be more likely to make purchases online than consumers who do not. This is especially true for cross-border e-commerce because shopping abroad typically requires a higher level of cognitive effort and has a higher level of uncertainty than domestic shopping (Venkatesh & Davis, 2000).

Examples of features that improve perceived usefulness by reducing search costs and the complexity of making decisions include automated methods of comparing prices, personalized recommendations of products, multilingual interfaces, and integrated customer support (Gefen et al., 2003). When consumers perceive that they can save time, reduce their effort, and/or gain access to products that would otherwise be inaccessible to them using cross-border trading technologies, then they are much more likely to purchase products from sellers who are located in other countries.

**Perceived Usefulness as a Source of Competitive Advantage**

The other important aspect of perceived usefulness is that it works as an effective source of competitive advantage for cross-border e-commerce sites. Successful integration of technological innovations by cross-border e-commerce sites increases perceived usefulness among customers, making them distinctive in the highly competitive global environment. It is noted that users generally appreciate those platforms that can help to improve their experience of shopping, which means, for example, that they will ensure smooth delivery or resolve cross-border disputes effectively (Gefen et al., 2003).

Another interesting point from the strategic management approach is that consistent perceived usefulness will facilitate consumer loyalty. Those cross-border sites that are consistently introducing innovations in order to provide their consumers with efficient systems and transactions are most likely to be viewed as critical tools for international shopping activities.

**Empirical Evidence from Previous Studies**

Empirical evidence suggests that perceived usefulness is one of the key factors for predicting behavioral intentions in technology-enabled scenarios. Under the Technology Acceptance Model, perceived usefulness is an important determinant of users' intention to use the systems, showing even more influence than the ease of use (Venkatesh & Davis, 2000). E-commerce research has shown that consumer purchase intention increases where platforms are seen as helping them to shop more efficiently, effectively, and accurately (Pavlou, 2003).

The impact of perceived usefulness in cross-border e-commerce is even stronger because of additional challenges arising from such transactions. According to Wu and Ke (2015), consumers' purchase intentions in international e-commerce were affected by the extent to which platforms assisted them in coordinating international logistics and payments. This factor has been replicated by Lu et al. (2021), where perceived usefulness was shaped by cross-border transactions enabled by a platform leading to greater purchase intentions.

Additional research indicates that perceived usefulness serves as a mediator of the effect of technological capability on customer purchase intention. Once customers understand that cross-border trading technology will assist them in overcoming the problem of information asymmetry, decreasing transaction time, and handling international payment risks, they are much more willing to purchase products from foreign vendors.

### 2.8.2 Perceived Ease of Use in CBEC

Perceived ease of use is defined by the belief that a system is easy to use and does not require significant efforts for its operation (Davis, 1989). In terms of e-commerce, this construct reflects consumers' perception of the easiness, clarity, and simplicity of Internet-based technologies. Ease of use becomes critical in the context of cross-border electronic commerce due to the increased cognitive complexity and number of procedures needed for making international deals online, including dealing with languages other than one's native, understanding specific regulations, and handling payments and deliveries across national borders.

The main aspects of perceived ease of use in cross-border e-commerce technologies are usually related to interface simplicity, ease of navigation through an online site, the clarity of instructions, transaction process transparency, and consumer error prevention. User-friendly and intuitively understandable systems help consumers conduct transactions on international marketplaces in a more convenient way. Previous research on information systems shows that the easiness of usage contributes to exploration and positive attitude toward adoption (Venkatesh & Davis, 2000).

**Role of Perceived Ease of Use in Cross-Border Contexts**

In the context of cross-border e-commerce settings, ease of use is crucial in minimizing consumers' cognitive load. In many instances, cross-border online shopping entails the processing of large amounts of information regarding product details, shipment details, duty requirements, and payment methods. E-commerce platforms that reduce consumers' efforts in making decisions in these aspects by way of designing simple interfaces and automation features improve ease of use.

Empirical evidence reveals that difficult cross-border platforms tend to deter consumer participation and cause high abandonment rates due to difficulties in using these platforms. Factors such as language difficulties, complicated interfaces, and complex procedures contribute negatively to consumers' sense of self-efficacy in completing transactions (Singh & Pereira, 2005). Ease of use therefore acts as a facilitator for consumers to harness cross-border technologies optimally.

**Perceived Ease of Use as a Source of Competitive Advantage**

The perceived ease of use further helps create an advantage for cross-border e-commerce platforms. Ease of use is associated with greater ability on the part of users to navigate a particular platform, hence increasing chances of attracting and retaining international users, especially those who have little experience using such platforms before. In essence, this increases the level of consumer loyalty to the platform.

Strategically speaking, ease of use allows users to be able to use the platform effectively, and hence the competitiveness of the platform on a global scale. Ease of use improves the credibility of the platform since it creates trust and support from customers, and hence increasing intentions of purchase and loyalty to the platform (Gefen et al., 2003).

**Empirical Evidence from Previous Studies**

Research evidence indicates a consistent link between increased perception of ease of use and increased actor intent to behave in technology adoption contexts. Davis (1989) noted that more easily perceived systems will be more highly accepted than systems that are less easily perceived to use; and systems will also indirectly impact users’ acceptance via their benefits. There are many studies in e-commerce contexts that find that ease of use will positively impact consumers’ intention to purchase;

consumers benefit when using an e-commerce website by achieving a greater level of satisfaction and/or by eliminating perceived transaction difficulty (Gefen et al., 2003).

In the context of cross-border e-commerce research; the ease of use of international e-commerce websites has shown to have a strong positive influence on consumers' willingness to shop internationally online. Wang et al. (2009) found that having a simplified website with clear processes resulted in higher levels of consumer intention to purchase from international retailers. More recently, the findings from Li and Zhang (2020) suggest that having an easy-to-use technology interface will be particularly impactful for consumers' purchase intentions when they are making international purchases for the first time; as first-time cross-border shoppers tend to be more sensitive to both interface complexity and procedural uncertainty than do repeat cross-border shoppers.

## 2.8.3 Commodity Information Quality (CIQ) in Cross-Border E-Commerce

It is commonly accepted that commodity information quality plays a key role in shaping consumer behavior in online and cross-border transactions. Since customers are not able to inspect products directly and communicate with sellers face-to-face, information about commodities is their primary criterion when assessing alternatives and determining whether products are suitable for purchase. In case of cross-border online business, such factors as spatial distance, different cultures, language barrier, and regulations make information quality even more important. Thus, commodity information becomes a crucial factor influencing consumer decisions.

**Concept and Dimensions of Commodity Information Quality**

The commodity information quality can be defined as the degree of conformity between the product information offered on the e-commerce platform and user requirements in the process of making decisions. Based on the literature in information systems, information quality is usually measured in terms of accuracy, completeness, relevance, timeliness, and understandability (DeLone & McLean, 2003). In the case of cross-border e-commerce, the concept covers aspects such as information about product characteristics, its price in different currencies, delivery costs, taxes, and shipping times, among others.

The first dimension measures how much information is accurate and matches the real characteristics of products, whereas the second one considers if the amount of data presented in the website enables consumers to compare products. The relevance dimension addresses the applicability of the information in the consumers' decision-making processes, and the clarity aspect implies that information is clear to all consumers irrespective of their linguistic and cultural backgrounds. The literature stresses that low-quality information in any of these aspects increases risk perception and lowers the purchasing intention (Wang & Strong, 1996).

**Role of Commodity Information Quality in Cross-Border Contexts**

Information quality is considered an alternative to personal experience with products in cross-border e-commerce. As consumers have no possibility of inspecting the product and having a personal encounter with a seller, they need to get clear and accurate information to alleviate their uncertainties. According to recent studies, better product information increases consumer satisfaction, eliminating their worries about the authenticity of products, inconsistency in quality, and distortion of information (Zhang & Benyoucef, 2016).

However, there are several other factors that hinder consumers from comprehending information provided about products in cross-border commerce. In particular, difficulties with translation, measurement units used, and inaccurate descriptions reduce understanding of product features among consumers. It has been found that platforms providing standardized and structured information help buyers make favorable decisions (Singh et al., 2006). Therefore, commodity information quality is important both as an input and as a signaling factor indicating the reputation of the seller.

**Information Quality as a Source of Competitive Advantage**

Information quality on e-commerce platforms can be considered from a strategic point of view as one of the factors of gaining competitive advantage. Information quality includes the standardization of information, the verification of information and product descriptions, and the inclusion of customer-generated content. According to research, information verification systems, as well as review systems, not only increase the quality of information perception, but also contribute to the creation of platform image and loyalty (Mudambi & Schuff, 2010).

For the cross-border market, where consumers do not have any previous experience with foreign vendors, information quality becomes a significant criterion in assessing the trustworthiness of a seller. Research has shown that platforms with high-quality information systems are associated with low levels of cart abandonment and high conversion rates (Gefen et al., 2003).

**Empirical Findings on Information Quality and Purchase Intention**

Several empirical studies provide evidence of the positive impact of information quality on customers' purchase intentions when making online purchases. According to Park et al. (2007), high-quality information regarding the products makes consumers develop a stronger level of trust which then affects their purchase intention. Likewise, Jiang and Benbasat (2007) argue that richer information and interactive information presentation lead to enhanced diagnosticity and less decision uncertainty.

In case of cross-border e-commerce, information quality is considered one of the essential determinants of trust and value perception. According to Chen and Dubinsky (2003), comprehensive information helps consumers derive value since it enables them to assess the costs versus benefits. Recent studies conducted within the context of international e-markets suggest that the transparency regarding shipping details, time delivery and return policy has a great effect on consumers' purchase intention (Liu et al., 2020).

Further, empirical studies that have included information quality as part of wider models related to technology acceptance and trust have shown how information quality affects purchase intention indirectly through influencing perceived risk and trust. In his research, Pavlou (2003) found that better information quality lowers perceived risks and enhances consumer trust and intentions to make transactions in cyberspace. Given that cross-border transactions involve higher risks compared to domestic transactions, the role of information quality in reducing risks becomes even more important.

### 2.8.4 Logistics Service Quality (LSQ) & UTAUT's Facilitating Conditions

The quality of logistics services is defined by consumers' perceptions of logistics processes in terms of their efficiency, reliability, and effectiveness. The dimensions that define the quality of logistics services in electronic commerce include order fulfillment process, transportation, delivery performance, the condition of delivered goods, availability of shipping tracking services, and after-sales logistics services. However, in cross-border electronic commerce, logistics service quality is affected by long distances, many intermediaries that are engaged in logistics activities, customs clearances, and different regulations in other countries.

Existing literature defines the quality of logistics services in terms of such variables as delivery time performance, order accuracy, reliability of shipments, problem response to deliveries, and logistics information transparency (Mentzer et al., 2001). Additional dimensions of the quality of logistics services include custom handling, international deliveries coordination, and returns handling from another country.

**Role of Logistics Service Quality in Cross-Border E-Commerce**

Logistics service quality is key in defining the consumers' perception about whether an activity will be carried out and its success. Contrary to domestic e-commerce activities, the logistics for international trading takes much longer and poses many risks ranging from delayed deliveries, customs detention, and even damage of goods. As a result, consumers tend to assess the performance of logistics to determine whether it was reliable and credible.

Effective logistics helps in decreasing the uncertainty by ensuring timely delivery of goods and clear shipment information. Studies have shown that consumers perceive many risks associated with logistics performance since the delay may cause losses and other inconveniences (Huo et al., 2016). This means that effective logistics acts as a form of mitigating risk and thus increasing consumer trust.

**Logistics Service Quality as a Source of Competitive Advantage**

Moreover, the quality of logistic services is another source of competitive advantage in international e-commerce. Companies and platforms that deliver their products timely, provide transparent tracking and effective handling of international returns will be able to gain competitive advantage against others. Quality logistics services boost brand image and increase consumers' trust that plays an important role in building up competitive advantage.

As a result, strategic investments into logistics infrastructure, partnerships with international carriers, and introduction of logistics technologies improve the consistency and visibility of logistical services. Studies show that platforms that ensure full transparency of logistics services and provide prompt assistance to customers perform better in terms of customer loyalty and purchase intentions, especially when we talk about cross-border logistics.

**Empirical Evidence from Previous Studies**

Empirical studies indicate that there is a statistically significant relationship between the level of logistics services and customers' intentions to make a purchase in an e-commerce setting. According to Mentzer et al. (2001) reliable logistics services lead to improved customer satisfaction and greater trust, thus fostering favorable behavioral intentions. The timeliness and accuracy of delivery were found to be among the factors influencing customers' decisions to repurchase products at an online retailer.

Studies that focus on the phenomenon of cross-border e-commerce show that logistics services play a vital role in determining whether consumers will buy products from sellers in other countries. Thus, Hsiao et al. (2017) noted that the delivery reliability of goods sold in international markets and their timely tracking significantly increased consumers' intentions to shop overseas online. At the same time, Liu et al. (2020) discovered that efficient logistics services positively affect consumer intentions because they reduce delivery risks.

Moreover, empirical data indicates that logistics services can positively impact customers' purchasing intentions both directly and indirectly, through the creation of perceived value and trust in cross-border transactions. If consumers perceive international deliveries as efficient and organized, they view cross-border purchases as rewarding despite possible delays or high costs.

### 2.8.5 Payment Security & UTAUT's Trust Factor

The security of the payment system relates to the level at which consumers view online payment channels to be secure and dependable for protecting sensitive financial as well as personal information while making payments. In e-commerce activities, payment security involves various aspects such as encryption, authentication, authorization, data privacy and protection, fraud detection, and resolution of disputes. In international e-commerce activities, payment security becomes more crucial because of various factors such as money transfer between countries, exchange of currencies, use of third party payment facilitators, and diverse legal issues.

Earlier studies have defined payment security in terms of different dimensions such as confidentiality of financial information, transaction integrity, trust in authentication processes, prevention of fraud and risks, and availability of recourse against any possible disputes related to the payment process (Kim et al., 2008). In international e-commerce activities, additional security threats such as unfamiliarity with payment portals, foreign exchange rates, and cross-border dispute resolutions make the payment process more risky. Thus, the concept of payment security is concerned with reducing financial risks in the payment environment.

**Role of Payment Security in Cross-Border E-Commerce**

Payment security is an integral part of cross-border e-commerce because it helps mitigate financial risks and facilitate transactions. Since foreign shoppers are usually faced with the risks associated with the lack of credibility of the sellers, absence of legal protection for consumers, and difficulty in receiving compensation for any issues with payment, payment risks tend to constitute a major factor impeding cross-border shopping online.

The presence of secure payment systems can be seen as a tool to build consumer trust since it shows that certain safety measures and precautions have been taken. A number of studies suggest that consumers are more willing to purchase products from overseas sellers when there are available secure payment systems that ensure safe payments (Pavlou, 2003).

### Payment Security as a Source of Competitive Advantage

The ability to provide payment security may be seen as a competitive advantage for e-commerce platforms. Such payment methods which are convenient, transparent, and reliable distinguish themselves on the international market, where consumers have low levels of trust towards online businesses. Implementation of secure payment gateways, buyer protection plans, and secure identification tools helps to increase the credibility of the platform and eliminate consumer hesitation.

Speaking of competition, efficient payment security systems not only help to attract more customers but also motivate them to repurchase because of their safety and reliability. According to Gefen et al. (2003), an emphasis on reliable and safe payment infrastructure results in increased customer retention and higher intentions for repurchase in cross-border situations.

### Empirical Evidence from Previous Studies

It has been demonstrated through various research studies that there is a high degree of correlation between perceived payment security, as well as consumer purchase intention in an online environment. Kim et al. (2008) showed that perceived payment security had a large impact on establishing trust and the decision to conduct business in the form of e-commerce. Likewise, Pavlou (2003) showed that utilizing secure payment processes lowers the perceived risk of consumers and thus, positively impacts their willingness to conduct an online transaction.

In studies of cross-border e-commerce, payment security was established as being crucial in obtaining a consumer’s intent to complete their purchase. Evidence from these studies shows consumers are more likely to purchase from sellers located outside the U.S. as long as the platform provides secure payment mechanisms, with a clear articulation of how data protection and fraudulent transactions will be prevented (Li & Zhang, 2020). Furthermore, additional research on emerging-market countries suggest that low perceived payment security will lead to low-intent cross-border purchases, even when the products have attractive price points and/or attractive product variety (Chen, 2017).

Research findings also suggest that secure payment systems will have both a direct impact on providing a consumer with the intent to perform a purchase, as well as an indirect impact through the building of trust. Consumers who view secure payment systems as secure will also perceive the seller, platform and seller as credible and therefore will exhibit high levels of intent to complete their purchase transaction.

## 2.8.6 Customer Perceived Value & UTAUT's Behavioral Intention

The concept of customer perceived value entails the customers' overall assessment of the benefits they get from products or services against the amount of costs involved in acquiring the products/services. It entails customers' balance of gains and losses in terms of functional, psychological, and social gains against financial expenses as well as time and effort spent in the acquisition process. Perceived risk can also be considered a component of customer perceived value. Cross-border e-commerce involves customer perceived value from both product and technology-enabled service aspects.

There are more than one dimension in customer perceived value in cross-border e-commerce beyond the traditional price-quality dimension. The functional value in e-commerce concerns the product performance and service effectiveness, whereas economic value in cross-border transactions pertains to price advantage and availability to global marketplaces. The psychological aspect in the customer value proposition includes consumer confidence and satisfaction regarding successful cross-border transactions, while risk value entails reduction of perceived uncertainty.

**Role of Customer Perceived Value in Cross-Border E-Commerce**

Perceived value of customers plays a major role in the purchase decision process for cross-border e-commerce. An international purchase has added costs, delivery time and disparity of information than a domestic purchase; therefore consumers are most likely to make a cross-border purchase based on their perception of the total benefits being greater than the additional tradeoffs they make.

Technology used for cross-border trading can enhance perceived value through improved efficiency, reduced uncertainty and improved transaction outcomes. By providing accurate information, secure payment systems and effective logistics support, platforms can increase the perceived value of a purchase. According to previous research, perceived value serves as the primary evaluative mechanism that consumers utilize to assess various technological and service-related cues to come to one global assessment of whether they want to purchase a product or service (Sweeney & Soutar, 2001).

**Customer Perceived Value as a Source of Competitive Advantage**

The concept of perceived value plays an important role in the development of competitiveness in cross-border online commerce markets. Firms that offer more perceived value to the consumers by means of effective service provision, clear pricing, and transactions are more likely to be successful in attracting and retaining clients from abroad. The higher level of perceived value increases customer satisfaction and results in word-of-mouth communication, which plays a crucial role in the international environment.

As far as competition is concerned, firms that use advanced technologies of cross-border commerce in order to increase their value are likely to distinguish themselves in very competitive international environments.

**Empirical Evidence from Previous Studies**

Indeed, empirical evidence reveals a positive correlation between perceived value and purchase intention in the field of electronic commerce. For example, Chen and Dubinsky (2003) discovered that perceived value has a direct impact on online customers' purchase intention by influencing information quality and service quality. Sweeney and Soutar (2001) found that higher perceived value is associated with behavioral intentions such as purchase and repurchase.

When researching the cross-border aspect of electronic commerce, researchers have established that perceived value plays an important role in shaping customers' willingness to conduct international online purchases. For instance, it was revealed that customers are likely to buy foreign goods because of perceived value, which can be obtained through differentiating features, lower prices, or improved service (Liu et al., 2020). It is also worth noting that, in most cases, perceived value serves as a mediator in the technology–purchase intention relationship.

## 2.9 Conceptual Framework

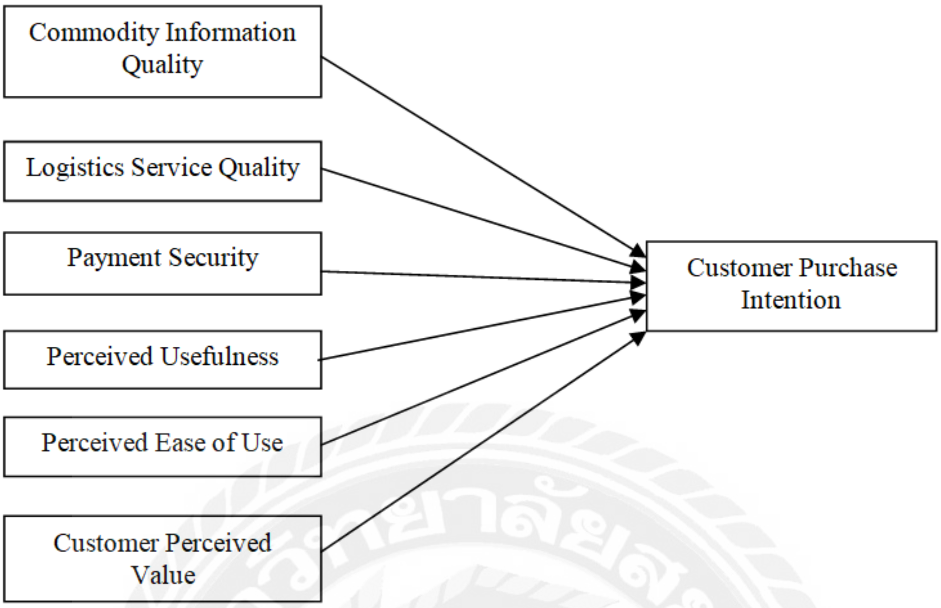


**Figure 2.9 Conceptual Framework**

### 2.9.1 Commodity Information Quality - Customer Purchase Intention

The quality of commodity information can be determined by how accurately and credibly products are described, represented visually, and also by how well the specifications of these products have been documented on cross-border e-commerce sites. Good quality product information reduces consumer's uncertainty, thereby increasing their trust in purchasing decisions (Liu et al., 2020). If consumers believe that the product information provided is accurate, they are more likely to buy.

### 2.9.2. Logistics Service Quality - Customer Purchase Intention

Logistics service quality includes how fast an item is delivered, whether a consumer can track the shipment, whether the products were handled appropriately, and how helpful a company's customer support was. If logistics are reliable, it reinforces a positive shopping experience and trust in making an international purchase (Tseng et al., 2020). Unreliable logistics like delays or damaged product deliveries diminish purchase intentions.

### 2.9.3. Payment Security - Customer Purchase Intention

Payment security is one of the most significant issues regarding cross-border transactions. Many consumers worry that they will be defrauded or that their personal identity will be stolen or that unauthorized transactions will occur when they shop online on international websites (Belu, 2019). Payment security will increase consumer trust and also the chances of a customer completing a purchase.

### 2.9.4. Perceived Usefulness - Customer Purchase Intention

Perceived usefulness describes how much more comfortable consumers are using a cross-border trading system to purchase items compared to traditional shopping. If a consumer finds that a cross-border trading platform is easy to use, saves them time, and benefits their shopping experience, they are less likely to hesitate when purchasing via cross-border vendors (Davis, 1989). Features such as AI-driven product recommendations, seamless navigation, and personalized shopping experiences improve perceived usefulness of cross-border traders to consumers.

### .2.9.5. Perceived Ease of Use - Customer Purchase Intention

The extent to which customers believe they can easily use an international online shopping site is referred to as their perception of the ease of use of a cross-border online shopping experience. If the shopping experience has a pleasant user interface or usability, an easy-to-follow checkout procedure, clear navigation support, and numerous forms of payment, the friction involved in making that purchase will be reduced and may result in the customer completing a purchase (Venkatesh & Bala, 2008). On the other hand, if the online shopping site has a very complicated purchasing procedure, that friction can act as a disincentive for a customer to complete the purchase transaction.

### 2.9.6. Customer Perceived Value - Customer Purchase Intention

Price, quality of product, brand reputation, and overall experience are all components of customer perceived value. A customer will be more inclined to purchase an item they perceive to be getting a good value for their money (Zeithaml, 1988) than if they don't. Customer perceived value can also be improved via program discounts, customer loyalty programs, and warranty/guarantee/reliable service contracts.

# Chapter 3 Research Methodology

## 3.1 Introduction

This chapter elaborates on the research methodology used to evaluate the impact of cross-border trading technology on consumer purchase intention. The goal of this chapter is to provide an overview of the structure of the research, provide rationales for the methodological decisions made, and discuss steps undertaken to ensure proper analysis. Good methodological design provides additional validity to the results obtained in the research while making possible connections between goals of the research and its outcome (Creswell, 2014).

A documentary research method was chosen for the completion of this study since it presupposes the collection and analysis of information based on previous work. Documentary research is a good option for researchers who strive at developing a theoretical background of the study in order to fill in gaps in literature (Bowen, 2009). Such an approach allows conducting thorough investigation of cross-border trading technology and its effect on consumer purchase intention through peer-reviewed journal publications, academic books, conference proceedings, and reputable reports.

Transparency in methodology is vital in secondary document research. According to Bryman (2016), secondary studies need to articulate their data selection criteria, credibility tests on sources, and analysis procedures. Following Bryman's guideline, this chapter provides an overview of the process undertaken to identify, review, classify, and synthesize pertinent literature to develop the analytic framework of the study. The analytical framework demonstrates that the findings have been based on credible literature rather than any personal interpretations.

In view of the multidisciplinary field of cross-border e-commerce, literature reviews in information systems, international trade, marketing, logistics management, and consumer behavior were considered. As stated by Saunders et al. (2019), there needs to be coherence between research aims and data used in research. For this reason, the document review method were made possible to analyze various theories, such as the technology acceptance model, service quality theory, perceived value theory, and risk-trust theory.

As stated by Sekaran and Bougie (2016), appropriately conducted secondary data research enables researchers to "map" existing studies; therefore, advancing theoretical knowledge by revealing relationships and linking different studies together. This form of research methodology is appropriate for the research objective of exploring the interrelationship of multiple factors impacting purchase intention through the use of technology.

The chapter is structured in six principal parts. This is followed by an outline of the research design, which sets out the general methodology for conducting the research. Data sources indicate the kinds of documents to be used as well as their credibility. The research process provides a detailed account of the processes involved in the selection and organization of the data. The analysis framework defines the theoretical structure used in synthesizing the information. Lastly, the limitations of the study provide insights on the possible limitations of conducting document-based research. The purpose of this chapter is to provide a foundation for conducting the analysis of the research.

## 3.2 Research Design

This study adopted documentary research design combining descriptive and analytical orientations to achieve a comprehensive examination of the subject matter. Descriptive inquiry systematically characterizes phenomena through existing documented evidence, while analytical inquiry extends this process by interrogating that evidence to establish patterns and delineate scholarly gaps (Kothari, 2004). The methodological foundation rests on secondary data analysis, whereby previously published material is subjected to fresh scholarly scrutiny across the interdisciplinary landscape of cross-border e-commerce — spanning information systems, logistics, digital payments, and consumer behaviour (Johnston, 2017).

The study further adhered to a systematic literature review approach, through which sources were identified and appraised according to explicit, pre-determined criteria. As Tranfield et al. (2003) argued, such systematic procedures enhance the objectivity and reproducibility of scholarly reviews. Conceptual synthesis was then applied to organize the gathered material into thematic categories — encompassing variables including commodity information quality, logistics service quality, payment security, perceived usefulness, perceived ease of use, and customer-perceived value — allowing the study to surface as a collective body of interrelationships among these variables and their combined influence on purchase intention.

Furthermore, the design is integrative by theoretical disposition, drawing on service quality frameworks including commodity informations and logistics, payment security aspect, and perceived value theory including perceived ease of use and usefulness, rather than a single conceptual lens. Such multi-theoretical designs are especially valuable where scholarly inquiry remains nascent and no single framework adequately captures the phenomenon under examination (Webster & Watson, 2002).

There are several rationales that explain the choice of this research design for achieving the aims of the study. Firstly, it enables analysis of complicated behavioral constructs free from limitations of first-hand information gathering. Secondly, this research design makes possible integration of different geographical and industrial landscapes represented in existing studies. Thirdly, it helps reveal gaps in theory and evidence that require additional exploration.

All in all, documentary research design represents a well-grounded academic approach to systematic compilation of secondary data regarding cross-border trading technologies and their impact on consumer purchase behavior.

## 3.3 Data Sources

For this research, secondary data sources were utilized as per the documentary research methodology. Secondary data sources are defined as information that has already been recorded and compiled, analyzed, and made available in an academic or professional publication (Johnston, 2017). Document based research methodology relies heavily on the quality and relevance of the data that is analyzed when determining the validity of the results generated.

### Academic Journal Articles

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The main source of primary data for this research was peer-reviewed journal articles published in internationally recognized academic journals. Peer-reviewed data guarantees that the data captured has been gathered using the highest quality and theoretical framework (Bryman, 2016). The journal articles were sourced from specialized journals dealing with subject areas such as e-commerce, information systems, international business, logistics management, marketing, and consumer behaviour. Therefore, the journal articles provided an abundance of data relating to the technology used for cross-border trade, as well as consumers' intentions when purchasing products.

### Academic Books and Methodological Texts

Not only the articles but authoritative books from academia were also used to provide theoretical rationale and justification for the methodology used. Books from scholars in research methodology, technology adoption, service quality, and consumer behavior served as fundamental works, which gave theoretical background in the formation of the analytical framework. Academic books play an important role in providing clarity in terms of theory as well (Saunders et al., 2019).

### Conference Proceedings

Conference proceedings that directly pertain to new developments in cross-border e-commerce and digital technology were analyzed. Academic conferences generally provide information regarding ongoing research and theoretical evolution, prior to that research being published in a professional journal. The selected international conference proceedings related to the fields of information systems, e-commerce and digital business were included as potential sources of information.

### Industry Reports

The findings described in the academic publications were given context by referencing the appropriate reports published by international organizations and research institutions. These sources of data regarding the growth of cross-border e-commerce globally, the level of penetration of digital payments, and the state of international logistics provided insights into the phenomena being researched.

### Government and Policy Documents

Reports related to national and regional trade regulations governing the application of digital technologies to cross-border e-commerce were examined in order to offer insight into the context in which technology advancements are finding application.

### Existing Empirical Studies and Case Studies

A number of empirical studies centered on issues such as information quality, logistics service quality, usefulness, and payment safety were studied to obtain information about sample size, methodology used, findings, and context. Case studies of prominent cross-border platforms such as Amazon, Alibaba, and eBay were also considered to evaluate practical technological applications.

## 3.4 Research Process

Research methodology describes the set of procedures used in the identification and synthesis of literature for achieving the research aims. The importance of methodological clarity cannot be overemphasized in documentary research, as methodological clarity guarantees validity and objectivity of findings (Tranfield et al., 2003). This research made use of a structured methodology, in which each step was done systematically to avoid bias.

### 3.4.1 Identification of Research Scope and Keywords

In the first step, the thematic scope of the research was established in relation to the research questions. Important themes for this study include cross-border e-commerce, technologies used for trading purposes, consumer behavior in online environments, logistics effectiveness, payment systems, and technology usage.

Based on the themes, a set of keywords was identified to help in gathering the literature. The keywords included "cross-border e-commerce," "international online purchasing," "digital payment security," "logistics service quality," "information quality," "technology acceptance," "perceived usefulness," "perceived ease of use," and "customer perceived value." The application of systematic keywords helps in ensuring that the literature review is objective and comprehensive (Webster & Watson, 2002).

### 3.4.2 Database Search and Retrieval

Academic databases were methodically searched using combinations of pre-defined keywords. Searches were conducted through titles, abstracts, and keywords to avoid ambiguity with respect to studies conducted on the topic of interest. Boolean operators (AND & OR) were used to limit results and ensure inclusion of interdisciplinary studies.

The process for screening returned publications focused on published peer-reviewed academic literature, ensuring that a credible scholarly basis existed to support synthesized findings. Retrieved literature ranged from earlier theoretical sources to more recent empirical studies, thereby providing a theoretical foundation established from historical sources as well as recent literature relevant to today's digital commerce environment.

### 3.4.3 Screening and Eligibility Assessment

After retrieving publications, they were assessed for relevance to the overall research objective through screening. Screening consisted of evaluating the abstract, research area, clearly defined methodology, as well as whether the study was related to cross-border e-commerce or other associated technological constructs.

Retained publications included those that discussed constructs such as logistics performance, security of digital payment, acceptance of technology, quality of information, perceived value of online purchases, and intention to purchase in an online/cross-border context. A clear methodology was established for studies that were not related to digital commerce or that were not performed using established academic research methodology; hence, these studies were removed from the overall data set. This screening process serves to improve the validity of synthesized results of studies (Snyder, 2019).

### 3.4.4 Categorization and Thematic Organization

The data were grouped into different themes according to the relevance of the content, which were based on dimensions of technology and human behaviour that had an impact on trade across borders. Grouping the data by theme allowed for systematic synthesis of the information and avoided a fragmented analysis of the results.

Thematically grouping the data allowed for study comparison and the ability to discern trends, consistencies, and inconsistencies between studies, which led to deeper analysis and better integration of theory into the findings (Webster & Watson, 2002).

### 3.4.5 Analytical Synthesis

After classifying the data based on themes, the results were then systematically compared and synthesized. The comparison and synthesis process did not consist of displaying only a summary of each individual study, but rather consisted of examining variables, methodologies, and result consistency.

To critically integrate the data obtained from the sources, it is necessary to synthesize the documents rather than just formulate an inventory of all of the information in the documents (Snyder, 2019). Therefore, during the actual synthesis of the data focus should be placed on identifying the determining factors that shape purchase intentions, identifying the consistency of each research’s explanation, and areas that require additional research.

### 3.4.6 Development of the Analytical Framework

The last step was the formulation of the insights gleaned from the literature review into an appropriate analytical framework that fits the objectives of the research. Only the constructs that proved to be empirically robust and consistent through multiple pieces of literature were included in the framework.

As can be seen, this approach to conducting research is highly methodical and rigorous, and makes sure that there is clarity and logic in proceeding from the literature selection step to the formulation of the analytical framework.

## 3.5 Analytical Framework

**3.1 Dimensions of Conceptual Variables**

| Conceptual Variable | Dimension / Key Factor | Key Supporting Source |
|---|---|---|
| Commodity Information Quality | Accuracy of product information | Park et al. (2007) |
| | Completeness of specifications | Chen & Dubinsky (2003) |
| | Transparency in pricing and shipping details | Zhang & Benyoucef (2016) |
| | Consistency of product descriptions | Kim et al. (2008) |
| Logistics Service Quality | Delivery reliability | Mentzer et al. (2001) |
| | Timeliness of delivery | Rao et al. (2011) |
| | Tracking transparency | Hsiao et al. (2017) |
| | Return handling efficiency | Liu et al. (2020) |
| Payment Security | Transaction confidentiality | Pavlou (2003) |
| | Fraud protection mechanisms | Kim et al. (2008) |
| | Secure authentication systems | Gefen et al.(2003) |
| | Buyer protection assurance | Chen (2017) |
| Perceived Usefulness | Performance enhancement | Davis (1989) |
| | Efficiency improvement | Venkatesh & Davis (2000) |
| | Transaction effectiveness | Wu & Ke (2015) |
| | Reduction of transactional complexity | Li & Zhang (2020) |
| | Simplicity of system navigation | Davis (1989) |

| Conceptual Variable | Dimension / Key Factor | Key Supporting Source |
|---|---|---|
| Perceived Ease of Use | Clarity of interface design | Venkatesh & Davis (2000) |
| | Ease of transaction process | Wang et al. (2009) |
| | User-friendliness | Gefen et al. (2003) |
| Customer Perceived Value | Functional value | Sweeney & Soutar (2001) |
| | Economic value | Chen & Dubinsky (2003) |
| | Risk reduction value | Pavlou (2003) |
| | Overall benefit evaluation | Liu et al. (2020) |
| Customer Purchase Intention | Willingness to buy | Pavlou (2003) |
| | Intention to transact cross-border | Wu & Ke (2015) |
| | Likelihood of purchase decision | Kim et al. (2008) |

The above table illustrates the structured framework used to analyze the impact of cross-border trade technologies on consumer purchase intent. The variables considered in this research are broken down into dimensions that have been well documented in academic literature.

Commodity Information Quality is defined by the following dimensions: accuracy, completeness, transparency, and consistency of commodity information. Research in the past has always highlighted the significance of reliable information regarding products for making a purchase.

Logistics Service Quality is categorized into studied based on the following dimensions: delivery dependability, timely delivery, tracking efficiency, and efficiency of return services. These dimensions reflect the importance of logistics service quality in shaping consumer perception about cross-border trade technology.

Payment Security is evaluated on the basis of the following dimensions: transaction privacy, fraud prevention mechanisms, authentication process, and buyer security assurance..

Perceived Usefulness and Perceived Ease of Use are two constructs based on the existing body of knowledge of technology acceptance studies. Performance improvement, efficiency gains, ease of use of the system, and clear user interface contribute to an understanding of these two constructs.

Customer Perceived Value is regarded as a multi-dimensional construct that consists of functional value, economic value, and risk-based value. This combination influences the customers' overall assessment of cross-border business.

Lastly, Customer Purchase Intention is viewed as a construct based on willingness and behavioral likelihood of making cross-border purchases via the Internet.

This systematic approach links all variables and ensure that all technological aspects and perceptions will be included. This study aims at bringing together documented knowledge and providing explanations of how cross-border purchasing technologies affect customer purchase intentions.

The dependent variable in this study is Customer Purchase Intention, defined as the likelihood of consumers to undertake cross-border transactions due to technology.

The analysis proceeded in three phases:

**Literature Synthesis**

During this stage, results derived empirically from various sources were critically reviewed. Each individual variable was studied to see how it related to purchase intention of customers in varied locations and technology levels. For instance, various studies revealed that quality of information improved trust while reducing uncertainty in cross border dealings hence increased purchase intentions. Also, the quality of logistic services and security of payment were other important variables.

**Comparative Analysis**

The second stage comprised of analyzing results across various studies and geographic areas to determine the existence of common trends and differences. For example, it was determined that logistic service quality has greater significance in areas with underdeveloped infrastructure systems, whereas perceived usefulness assumes great importance in technologically advanced settings. The adoption of a comparative strategy allowed for providing an enriched global perspective.

**Thematic Integration**

Lastly, results were embedded into wider theoretical categories. Constructs of TAM and UTAUT models were employed to account for consumer behavior intentions formed through their technological perceptions. Through bridging the gap between empirical variables and theoretical models, the proposed conceptual framework gains both descriptive and explanatory capabilities.

## 3.6 Limitations of the Study

Despite its strengths, the documentary research design possesses several limitations, which should be recognized in order to enhance academic validity (Creswell, 2014).

### Dependence on Secondary Data

This study exclusively utilized secondary data extracted from various academic publications and organizational reports. Even though peer-reviewed journals contribute to the credibility of the source material, the researcher does not have any influence on data gathering, sampling, and other research process stages (Johnston, 2017). Therefore, the conclusions formulated by the researcher can only reflect those made by cited authors within the scope of their studies.

### Contextual Variability Across Studies

The examined literature covers the research performed in various locations, sectors, and demographic groups. Cross-border e-commerce environments differ considerably in their technological capabilities, legal structures, cultural impact, and economic environment. Therefore, the conclusions formulated based on the results obtained in one location or institution cannot be generalized. Differences in the research environment could affect the reliability of conclusions based on the analysis of literature.

### Potential Publication Bias

Publication bias is likely to affect document-based research, given that scholarly journals are more inclined toward the dissemination of papers whose results indicate significance or positivity (Bryman, 2016). Hence, the inclusion of publications demonstrating insignificant or contradictory results might be underestimated. Despite attempts to consider different perspectives, biases could still exist in the available pool of literature.

### Limited Access to Proprietary Data

Cross-border trading technology applications usually employ proprietary information, performance measures, and operation data that are confidential and inaccessible. In this regard, this study is based on published literature and does not have access to the platform level data. Therefore, the real-time system operation and performance cannot be evaluated.

## Dynamic Nature of Digital Commerce

The background of this research project was established during a somewhat transient period in the area of cross-border e-commerce, particularly related to rapidly changing technologies such as digital trading technologies, payment systems, logistics integration, and AI-based customized marketing strategies. Further, given that this research was based solely on conceptual and theoretical approaches, the dynamic nature of this subject area presents practical limitations to the time constraint of the findings of this research due to the absence of any original data to support the empirical evaluation of the theoretical or conceptual relationships established.

## Absence of Primary Empirical Validation

While the study was based exclusively on theoretical and conceptual approaches, it provided an opportunity to conduct a comprehensive and systematic analysis of the theoretical and conceptual knowledge related to the variables that were examined. Therefore, the researcher was not able to provide statistical evidence of the relationships between the variables that were analyzed as part of this research project.

# Chapter 4 Findings and Discussion

## 4.1 Findings

The results of the study were obtained via an extensive review and synthesis of previous academic literature, international market reports, and industry information pertinent to cross-border trading and electronic commerce. This approach to analysis makes it possible to understand thoroughly the impact of certain technological and service factors on the decision of the consumer to make a purchase within cross-border trading contexts. Among the independent variables considered in the study are Information Quality, Logistic Service Quality, Payment Security, Perceived Usefulness, Perceived Ease of Use, and Customer Perceived Value.

### 4.1.1 Information Transparency and Accuracy: The Role of Commodity Information Quality

One of the main determinants of consumer behavior in cross-border trading context was the level of information quality provided. Consumers tend to become more confident about their choices if the information they find out to be high-quality in terms of accuracy, comprehensiveness, timeliness, and relevancy (Zhang et al., 2022). As shown by documentative evidence, services that provide such information about products are likely to be met positively and generate purchase intent. The statement of the hypothesis that there is a positive relationship between information quality and customer purchase intention is also supported by the work of Kim et al. (2017), Luo et al. (2020), among others.

### 4.1.2. Operational Reliability: The Significance of Logistics Service Quality

Logistics is key in cross-border transactions, affecting consumers' purchasing behaviors and their loyalty to the firm. Logistical service quality relates to the consistency, punctuality, and responsiveness of the logistical process. Analysis based on documentary evidence shows that effective international logistics, including timely updates, reasonable delivery times, and effective customs handling contribute greatly towards improving consumer trust and purchase willingness (Huang & Benyoucef, 2017). The inability of logistics is among the major factors holding consumers back from using global e-commerce services as indicated by studies conducted by OECD (2021), where they noted that many consumers terminate their transactions in fear of unpredictable shipments or high costs.

### 4.1.3. Financial Assurance: The Impact of Payment Security

The safety of the means of payment is another important factor that influences consumer trust and willingness to buy in cross-border sales. Pavlou (2003) states that security awareness of consumers during Internet transactions results in increased confidence and reduced concerns about making international purchases. From the documentative review of the literature, we can see that reliable payment gateways, encryption methods, anti-fraud measures, and international payment options (PayPal, Visa Secure, and Alipay, among others) increase consumer trust and affect their willingness to buy on international platforms positively. In addition, platforms that do not have any means of payment security experience more shopping cart abandonment than other platforms.

### 4.1.4. Technological Performance: The Role of Perceived Usefulness

Usefulness perceptions are the consumers' belief that involvement in cross-border shopping will result in improved shopping satisfaction or better value for money. Document analysis reveals that online platforms which provide distinctive products, lower costs, or greater diversity rate high in terms of usefulness perception and hence improve consumers' likelihood of purchasing (Davis, 1989; Venkatesh et al., 2003). Consumers tend to use international online platforms to get distinctive products not available locally. Several researches, including Chiu et al. (2014) and Alalwan et al. (2017), reveal that the more useful consumers find a cross-border shopping process, the more likely they are to make a purchase.

### 4.1.5. Interface Simplicity and Effort Reduction: The Influence of Perceived Ease of Use

The platforms' use will greatly affect how much or little consumers use the platforms to conduct business internationally based on having the ability to easily understand what the transaction process involves and to understand how to use the platform due to language issues and/or having to deal with complicated processes that make it difficult for users to participate. Therefore, convenience is created through using platforms that have been designed to be user friendly, multilingual, and to have a transaction process that is as simple as possible, thereby lowering the amount of effort users have to expend when using these types of platforms; subsequently, consumers have a greater likelihood of completing a purchase.

Ease of use significantly affects consumers’ adoption of online platforms, especially in cross-border contexts where language barriers and complex procedures may discourage participation. Platforms with intuitive interfaces, multilingual support, and streamlined checkout processes reduce cognitive effort and enhance purchase intention (Davis, 1989; Venkatesh & Bala, 2008). The results of a documentary analysis demonstrated that consumers are more likely to conduct international business transactions via platforms that are convenient, mobile friendly, and have a transparent transaction process.

### 4.1.6. Value Evaluation Mechanisms: The Impact of Customer Perceived Value

Perceived customer value is considered the general balancing point between the benefits and the costs experienced by customers. In the case of cross-border transactions, it is important to evaluate the uniqueness of products, their prices, costs of delivery, and services provided after selling the goods. According to the research results, high levels of perceived value function as a mediator that increases the effect of the discussed independent variables on customer purchase intentions (Zeithaml, 1988; Yang et al., 2016). Platforms that provide valuable offers, such as affordable prices and reliable services, experience increased loyalty and advocacy from customers.

## 4.2 Discussion

Independent variables relating to web (Information Quality), logistics (Logistic Service Quality), payments (Payment Security), perceived usefulness, and perceived ease of use (Perceived Usefulness and Ease Of Use) play a major role in determining how consumers behave in international business transactions. The relationships that were identified are consistent with established theoretical models such as 'TAM', and 'UTAUT'. The strongest influences on a consumer's perception of trust and risk were due to "Information Quality", "Logistic Service Quality", and "Payment Security". The strongest influences on adoption by a consumer were due to "Perceived Usefulness" and "Perceived Ease Of Use" through cognitive and affective evaluations respectively. Customer's Perceived Value is the mediator between technology and consumer behaviour.

When comparing the findings with previous empirical research carried out in different regions, including Asia, Europe, and Africa, we may observe the similarity of patterns. Studies in Chinese and European customers' behavior show a focus on the significance of having transparency and safety in information and payments, respectively. Meanwhile, in research dedicated to Africans' behavior, emphasis is made on the role of logistics' reliability. Hence, these findings confirm that the established connections are strong enough globally. At the same time, there may be certain differences concerning the strength of each of the variables. In developed countries, perception of usefulness and ease of use seem to have more weight;

meanwhile, logistic quality and payment security are of greater significance in developing economies.

From the above-discussed points, one may conclude that customer purchase intention in e-commerce depends on the interplay of three aspects: technological performance, perceived trust, and valuation of the value provided. The discussed concepts work together in a complementary way.

### 4.2.1 Interpretation of Findings

Findings of this research give many insights about the factors affecting the purchase intentions of customers in cross-border trading technologies. According to the previously collected data, it is evident that all the six independent variables including information quality, logistic service quality, payment security, perceived usefulness, perceived ease of use, and customer perceived value have a significant effect on the purchase intentions of customers. The results of this study are in line with the TAM model and customer value theory.

#### 4.2.1.1 Logistics Service Quality as a Structural Trust Mechanism

Logistics service quality is a critical aspect highlighted in current studies as an important determinant in cross-border e-commerce. Cross-border purchasing differs from domestic transactions, considering the involvement of longer delivery periods and risks in the process. Current studies done in 2023-2024 suggest that timely and reliable delivery is crucial in boosting consumer satisfaction after the transaction. From current studies, the relationship between cross-border e-commerce and risk perceptions among consumers shows that risk negatively influences consumers' intentions and actions due to diminished trust in cross-border transactions (Ma et al.,2025).

Moreover, cross-border customers depend highly on visibility through tracking mechanisms. Tracking serves as an assurance tool that mitigates the risk and uncertainty during the transit phase for international shipments. In the Southeast Asian market context, it was found out that logistics transparency mitigated risk perceptions and improved behavioral intentions, particularly among new international customers (Zhang et al., 2022).

These findings provide sufficient evidence that logistics service quality plays a crucial role as a trust-building tool in cross-border trading settings.

#### 4.2.1.2 Payment Security and Institutional Trust

Payment security continues to be an underlying determinant in international purchase intentions. Yet recent studies highlight that consumer perceptions regarding payment systems no longer focus only on issues relating to cryptography and fraud prevention. Assurance measures associated with institutional guarantees of buyer protection, use of escrow, and clear refund policies greatly contribute to trust development (Kim & Peterson, 2017; Choi & Mai, 2018).

As shown by recent fintech studies, trust serves as a mediator through which the relationship between financial risks and purchase intentions is moderated by payment security and trust (Al-Qudah et al., 2024). It appears, therefore, that payment security functions as both an independent determinant and a mediator in the technology perception-intention chain.

In particular, cross-border consumers tend to assess their payment options based on familiarity and regional applicability. Payment mechanisms familiar in one’s home country contribute to transaction confidence.

#### 4.2.1.3 Perceived Usefulness in Cross-Border Contexts

Usefulness continues to be an important determinant of purchase intentions based on technology. In a cross-border context, usefulness relates to efficiency, product diversity, access to competitive pricing, and ease of transactions.

The recent literature shows that customers carry out cross-border shopping when they feel that using technology improves their performance through availability of unique foreign products or price benefits (Gao et al., 2023; Li et al., 2021). It makes sense because it will make transactions much easier through quick comparisons, clear currency conversions, and reduction of costs.

Unlike the previous domestic research about TAM, usefulness in the cross-border environment has risk management value. Customers appreciate those systems which make international purchases easier by handling tax issues, international payments, and returns. Hence, usefulness in the cross-border environment goes beyond just functionality.

#### 4.2.1.4 Perceived Ease of Use and Cognitive Effort Reduction

Ease of use is an important factor because it allows a user to do something when they have a need. New research shows that even though the usefulness of something is usually more valuable than ease of use for determining the user's direct impact, ease of use does have a major role in how a user perceives the value and trustworthiness of what they are using ( Khoa et al., 2023).

When a person makes a purchase from a foreign country, they generally encounter more challenges than when they buy locally; such as language barriers; currency conversion to their own currency; and various laws in the other country. Therefore, having a system that provides content in many different languages, provides real-time conversions of currency, and provides a clear and easy to navigate website, will greatly reduce the cognitive effort needed to complete the purchase. When the cognitive effort is lower, it will increase the comfort level and intention to complete the transaction, especially for users who are not used to making international purchases.

On the other hand, there is evidence from 2023 to 2024 that ease of use in sophisticated digital economies is being considered a minimum standard and not a competitive advantage. In these situations, usefulness and trust will be better predictors of intention to purchase than ease (Park & Lin, 2020).

#### 4.2.1.5 Customer Perceived Value as an Integrative Construct

Perceived value is the combination of technology, logistics, and economics into an evaluation of value. Modern value models stress that cross-border customers assess their transactions from the point of view of benefit-risk trade-offs (Sánchez-Torres et al., 2023).

Functionality, which is represented by the product quality and performance, economic value, which refers to the pricing advantages offered by the transaction, and risk reduction value, which is concerned with the secure payment and efficient delivery, all contribute to influencing purchase intention.

It can be empirically proved that when customers find greater perceived value than what domestic products offer, their cross-border intention will increase (Rahaman et al., 2024).

### 4.2.2 Implications of the Findings

The results of the above-mentioned investigation imply many implications for theory and practice related to the development of cross-border e-commerce platforms aimed at serving consumers from emerging markets. In terms of the key variables that were found to be influential factors, namely Information Quality, Logistic Service Quality, Payment Security, Perceived Usefulness, Perceived Ease of Use, and Customer Perceived Value, some important conclusions can be drawn.

## 1. Theoretical Implications

Theoretically, the results of this research contribute significantly towards the extended adoption of Technology Acceptance Models (TAM) and Information System Success Models (ISSM) in CBEC settings. Previous works in e-commerce tended to consider ease of use and usefulness as the major determining factors behind consumer behaviour in such situations. However, this study proves that Perceived Value is an even more significant mediating factor that takes into account different aspects of quality and trust in a digital marketplace.

Furthermore, the impact of the Perceived Ease of Use variable as compared to tangible criteria as Information Quality and Logistics Service Quality has changed significantly, as per the data from previous studies, indicating that users are becoming increasingly knowledgeable about digital transactions, which leads to a shift in emphasis from usability to value generation, reliability, and performance. Therefore, this research can be seen as confirmation of the increased maturity level of online shoppers on the international market.

## 2. Practical Implications

**Improving Platform Information Quality:**

The strong positive influence of information quality on customer perceived value and purchase intention reveals that CBEC platforms should stress high-quality, precise, and full information concerning their goods. Because customers often lack knowledge of the features of the goods produced in other nations and the credibility of the sellers, they rely heavily on information quality when assessing risks. The latter includes pictures of high quality, prices, product reviews of high quality, refund policies, and full product information.

**Strengthening Logistics Service Quality:**

From the findings discussed above, it is clear that logistics is an important component of generating customer value in CBEC. Due to the presence of logistical limitations in the region, the prompt and effective delivery of goods is highly significant to customers. This requires that the portals collaborate with logistics firms locally, monitor deliveries in real time, and establish communication channels both before and after the sale.

**Maintaining Robust Payment Security:**

Despite the slightly lesser effectiveness of Payment Security, it is a necessity for CBEC platforms. Transparency and provision of global payment options should be considered as well. Teaching the consumer about safe payment processes and having buyer-protection programs can help increase consumer trust. This will be especially useful to new and less acculturated users.

**Focusing on Perceived Usefulness and Value:**

Since the key importance of Perceived Usefulness and Customer Perceived Value is seen, it is necessary to mention that the value added by the platform has to include the following aspects: purchase protection, smart suggestions, comparison of prices, and loyalty programs. Emphasizing this may help in stressing the usefulness of the service provided and its satisfaction rate.

**User Interface Still Matters:**

Even though the variable Perceived Ease of Use was less influential, it was still statistically significant. That is why the platform cannot afford to ignore such aspects as design, speed, and easy navigation, especially considering older or not so technologically literate customers. Nevertheless, its primary effort should be directed at developing the actual platform's content.

## 3. Managerial Implications

These implications have important messages for management decision-making. First, the development of logistics capabilities such as the establishment of strategic partnerships with carriers who provide high-quality services and shipping policies, along with the introduction of tracking systems, will significantly contribute to increasing consumer trust. Second, securing financial transactions by introducing global payment gateways and security certifications should be considered an opportunity for differentiation rather than a mandatory element. In addition, managers should pay attention to localizing information and interfaces in order to provide better user experience for diverse international customers, which is also beneficial for increasing information quality. Last but not least, managers should focus on perceived value in terms of pricing, customer service, and post-purchase experience.

## 4. Policy Implications

For policymakers and organizations involved in CBEC facilitation, the implications of this research emphasize the necessity to create favorable conditions for further development of CBEC. This includes increasing broadband availability, optimizing customs procedures, and consumer data protection.

# Chapter 5 Conclusion and Recommendation

## 5.1 Conclusion

In conclusion, the use of advanced technology in cross-border trading has an enormous effect on the customer purchase intention. Blockchain technology, artificial intelligence, and IoT make international transactions more transparent, safe, and efficient, creating trust and confidence of consumers in their services and products. Customers may easily access the required information and enjoy safe payment methods as well as personalized recommendation of AI. Moreover, the possibility of tracking goods, securing payments, and reducing transaction times contribute greatly to customers' motivation in cross-border trading. Thus, the use of innovative technologies not only improves customer experience but makes cross-border trading more effective and efficient.

The research shows that cross-border trading technologies have a major effect on the customer's purchasing intention through some key factors including Information Quality, Logistics Service Quality, Payment Security, Perceived Usefulness, Perceived Ease of Use, and Customer Perceived Value. The quality of information and its accuracy helps build the trust of customers. Also, logistics services play an important role in ensuring reliable and speedy deliveries for customers. Payment security is another factor that helps build consumer confidence during international business dealings. The perceived usefulness and perceived ease of use of technology also affect the customers' intentions of participating in international trading. Finally, when consumers find high value in cross-border trading, they become more likely to make purchases.

## 5.2 Recommendation

Based on the empirical findings of this study on global consumer behavior in cross-border e-commerce (CBEC), several key recommendations can be made for e-commerce platforms, policymakers, and future researchers:

### 5.2.1 Recommendation for Businesses

Information quality must be considered a critical resource for companies that conduct cross-border business. Provision of accurate information about the products themselves, their prices, delivery times, taxes, and return policies helps build trust among customers. The use of information localization and chatbots powered by artificial intelligence will help deliver contextual information in real time.

The next area that requires significant attention is the quality of logistics services. Utilization of IoT technologies and implementation of such solutions as predictive logistics or last mile deliveries will help avoid uncertainties related to cross-border transportation and ensure on-time delivery of orders.

Organizations need to ensure that they give importance to payment security whilst transforming digitally (e-transformation). The use of blockchain as part of an organization's payment systems along with the use of trusted, significant payment gateways on a global scale will minimize the likelihood of fraud, and increase transparency. In order to build confidence amongst customers their products/services will need to be deemed to have value or potential value, therefore, these will need to offer user-friendly websites/apps, multi-language options, a fast and user-friendly purchasing experience, and personalized recommendations from the organization. All of these variables have a direct bearing on customer intent to act in our current global economy.

Ultimately, organizations that are trying to increase customers' perceived value for their products & services will be successful if they offer competitive pricing, appropriate support systems (online), acceptable return policies, and a loyalty program.

### 5.2.2 Recommendation for Policymakers and Regulators

Policymakers play a critical role in formulating regulations that will make cross-border business activities more secure and effective.

The government needs to promote the formulation of standards relating to digital cross-border policies, digital privacy regulations, and cross-border customs regulation. This would ensure that trading activities are made easier while consumer protection is guaranteed.

The government can also invest in digital infrastructure such as logistics, broadband infrastructure, and cybersecurity, making it possible for SMEs to engage in international markets. Digital cross-border payments must also be encouraged using interoperability.

In addition, governments can promote consumer awareness and education programs that would boost consumer confidence and trust in cross-border digital trading platforms.

### 5.2.3 Recommendation for Future Research

Future studies might employ longitudinal data to gauge the changing influence of new technology on consumer intention to buy products. Whereas this study is dependent on secondary data, future research can make use of primary data gathering from different parts of the world to discover regional variances that affect the adoption of new technology.

Future studies can utilize more sophisticated analytical frameworks like structural equation modeling to determine any mediating or moderating influence among variables in the model. Incorporation of additional parameters in the study such as sustainability, cultural variables, and geopolitics can give a holistic picture of cross-border trading behaviors.

## 5.3 Closing Remarks

The results from this study demonstrate the importance of new technology in influencing consumer behavior towards making purchases in the global environment of cross-border trade. Stakeholders need to work together to develop technological capabilities and create secure and intuitive systems to enable easy cross-border transactions. This would provide great opportunities in the digital economy.

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