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**Investigating Cultural Differences,  
Risks, and Purchase intention in  
Cross-border e-commerce: A mixed-  
method analysis**

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Pécs, Hungary, 2024

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## List of Acronyms and Abbreviations

AF	Affective risk
AIM	Affect infusion model
AVE	Average variance extracted
B2B	Business-to-business
B2C	Business-to-consumer
C2C	Consumer-to-consumer
CAGR	Compound Annual Growth Rate
CCA	Confirmatory composite analysis
CFA	Confirmatory factor analysis
CMI	Centre for Market Insights
CO	Collectivism
COD	Cash-on-delivery
CSLC	Customer-service life cycle
CVSCALE	Individual Culture Value Scale
DOE	Design of experiment
DOI	Diffusion of innovation theory
E-commerce	Electronic commerce
E-WOM	Electronic word of mouth
ECDB	E-commerceDB
EDA	Electrodermal activity
EEG	Electroencephalography
EUT	Expected Utility Theory
FE	Femininity
Gof	Goodness of fit
GST	Gender schema theory
HOC	Higher-order construct
HOE	Hierarchy of effect
HTMT	Heterotrait-monotrait ratio of correlation
HU	Hungary
ICTs	Information communication technologies
ID	Individualism
IMARC	The International Market Analysis Research and Consulting Group
ISO	International Organization for Standardization
ITA	International Trade Association
LOC	Lower-order construct
MA	Masculinity
MCP	Multiple-country publications
MICOM	Measurement invariance of composite models
OECD	Organisation for Economic Co-operation and Development
P&T loss risk	Process and time loss risk
PD	Power distance
PI	Purchase intention

PLSs	Partial Lease Squares
PR	Perceived risk
PR&PI	Perceived risk and Purchase intention
SCP	Single-country publications
SEM	Structural Equation Modelling
SET	Secure electronic transaction
SOR	Stimulus-Organism-Response
SPAR-4-SLR	Scientific Procedures and Rationales for Systematic Literature Reviews
SRMR	Standardized Root Mean Square Residual
SSL	Secure socket layer
TAM	Technology acceptance model
TCM	Theory-Context-Method
TPB	Theory of planned behaviour
TRA	Theory of reasoned action
TTF	Task-technology fit model
UA	Uncertainty avoidance
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
USA	United State of America
VIF	Variance Inflation Factors
VN	Vietnam
WoS	Web of Science

## **Statement of Original Authorship**

I, Pham Thi Van Anh, hereby declare that this dissertation is entirely my original work, except where otherwise indicated. All sources used in this work are properly acknowledged and cited. This document has not been submitted in whole or in part for any academic qualification or degree at any other institution.

Signed: .....

Date: .....



## **ABSTRACT**

The shift from a product-centric approach to a customer-centric approach drives great demand for consumer behaviour and perception knowledge to promote the company's performance. Especially in cross-border e-commerce (CBEC), firms need to understand consumer perception and behaviour to make suitable judgements. Despite the huge benefits of e-commerce and CBEC, negative aspects such as the risk associated with these shopping channels have also been important. Additionally, cultural values provide a solid theoretical foundation for comprehending consumer perception and behaviour under risks. Given the worldwide nature of online shopping, a solid understanding of why consumer perception and behaviour under risk vary across cultural values regarding CBEC should be critical. The literature on perceived risk in marketing has been growing during these decades. However, several theoretical and empirical gaps have been revealed. Accordingly, the theories and models explaining risk and consumer behaviour in e-commerce lack a comprehensive approach. Consequently, the factors of emotion and culture have not been frequently integrated to understand consumer behaviour in CBEC. To date, little empirical research examines all aspects of risk and the role of the individual-level cultural dimensions in e-commerce and CBEC.

Two major motivations for this dissertation encompass investigating multiple aspects of risk (i.e., perceived risk and affective risk) in consumer decision-making, and the impact of individual-level cultural dimensions on purchase behaviour within CBEC platforms. Drawing on these motivations, three research questions are furnished such as: (1) Is perceived risk considered a multidimensional concept in CBEC? (2) what is the role of affective risk in the decision-making process? and (3) How do the individual-level cultural dimensions influence consumers' risk perception and purchase intention in CBEC? These aim to identify the multifaced nature of risk and understand the mechanisms driving consumers' perceptions, emotions and purchase intentions under risks in e-commerce and CBEC.

An explanatory sequential mixed-method approach was utilised in this research. Accordingly, the author combines a quantitative and qualitative approach (QUAN -> qual) to address these research questions. A total of 800 questionnaires from Vietnamese and Hungarian respondents were used for the quantitative phase with the analysis using composite-based Structural Equation Modelling (SEM) to test all the hypotheses. Then, 26 respondents were invited to return and engage in in-depth interviews (IDIs). The qualitative

data was analysed using the content-analysis technique and fuzzy-set qualitative comparative analysis (fsQCA) to dig deeper into the quantitative findings. This dissertation puts forth several findings.

First, this research reveals that perceived risk in CBEC is a multidimensional construct comprising seven key sub-dimensions: fraud risk, delivery risk, financial risk, product risk, process and time loss risk, privacy risk, and information risk. These sub-dimensions strengthen the total perceived risk and diminish customers' purchase intentions in CBEC. Second, the research differentiates two aspects of risk in CBEC relying on consumers' perceptions and reactions towards risks, such as perceived risk (based on risk-as-analysis) and affective risk (based on risk-as-feelings). Additionally, the research also highlights the mediating role of affective risk in the pathway of how consumers progress from perceiving risks to arriving at behaviours (purchase intention) in CBEC. The third important finding is that individual-level cultural dimensions play a significantly crucial role in shaping consumer behaviour in CBEC. Accordingly, individual-level cultural dimensions such as uncertainty avoidance and collectivism moderate the effects among perceived risk, affective risk, and purchase intention. In other words, these cultural dimensions strengthen the negative impacts of perceived risk and affective risk on purchase intention in CBEC. Especially, by integrating fsQCA findings of the qualitative phase, this research emphasises the complex interaction of individual-level cultural dimensions, perceived risk, and affective risk to drive consumers' behavioural intentions in CBEC.

From a theoretical standpoint, this research provides a multidimensional model of perceived risk in CBEC and identifies the multifaced nature of the risk in consumer perception. It also explains and consolidates the psychological process of consumers from perceiving and feeling risks to driving behavioural intentions. Further, by integrating the individual-level cultural dimensions, this research provides evidence that the cultural dimensions at the individual level are more effective in shaping consumer behaviour in CBEC rather than the national-level cultural dimensions. Additionally, individual-level cultural dimensions also interact in complicated ways, which enhances the heterogeneity in consumer segmentations in CBEC. The findings obtained from this research are also significant for e-commerce professionals and regulators who attempt to understand consumer behaviour, improve customer trust, and mitigate risks in e-commerce and CBEC.

# CHAPTER ONE

## 1. INTRODUCTION

This chapter presents an introduction of this research. Accordingly, the author describes an overview of the global e-commerce picture during this decades. This is considered a practical foundation for the current research. Next, the author presents a theoretical foundation to identify the research problems. The research statement is also included to emphasise the intended message of the research. Three (3) research questions and six (6) research objectives are exhibited to reveal the direction of the research. Further, the author also discusses the significance of the research to highlight the significant insights brought by the research. Finally, the author presents the organisation of the dissertation to identity the main ideas in each chapter.

### 1.1. A brief introduction of e-commerce and cross-border e-commerce

E-commerce has been defined in several ways. For instance, e-commerce refers to the application of technology to business transactions to create the ability to purchase and sell products and services online (Kalakota and Whinston, 1997). Turban et al. (2017) highlight that the concept of e-commerce only focuses on the activities of online purchases. By contrast, the OECD (2019) defines e-commerce as all sales and purchases of products and services in which orders are received and committed over the Internet. Accordingly, the classification of a business transaction as e-commerce is based on the manner of ordering, rather than the specific goods, persons involved, payment method, or delivery channels. E-commerce is categorised according to the nature of the transactions or the relationships between the parties involved, in which e-commerce platform providers work as intermediaries to connect sellers and buyers (Manzoor, 2010).

Regarding the nature of the transactions, e-commerce involves domestic and cross-border orders. Domestic e-commerce emphasises transactions in which the buyer and the seller are located in the same country. By contrast, cross-border e-commerce allows participants to engage in a cross-border online transaction (UNCTAD, 2016). Cross-border e-commerce is defined as “an online transaction of buying and selling products and services using information communication technologies (ICTs), where buyers and sellers are located in two different countries and, therefore, different jurisdictions” (Mou *et al.*, 2019, p. 752). Regarding the participants of a transaction, e-commerce is classified into multiple models, in which the three most common types of e-commerce are business-to-business (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C). B2B e-commerce refers to

the exchange of goods and services between two businesses (Burt and Sparks, 2003). B2C e-commerce includes transactions between businesses and the public via catalogues using shopping cart software. By contrast, in the C2C e-commerce model, consumers are acting as buyers or sellers (Manzoor, 2010). This study concentrates on cross-border e-commerce with a B2C model, as it is one of the fastest-growing industries worldwide (Huseynov and Yildirim, 2016). Further, cross-border e-commerce is seen as much more complex and dangerous than domestic e-commerce (Guo *et al.*, 2018).

According to IMARC (2023), the predicted value of the global B2C e-commerce is expected to reach \$9.0 trillion by 2032. Global statistics indicate that in 2022, 22% of all electronic commerce transactions occurred internationally (Statista, 2023a). According to Statista, (2023b), the worldwide market for cross-border business-to-consumer e-commerce is projected to reach a value of \$7.9 trillion by 2030. Nevertheless, the share of B2C cross-border e-commerce income is much smaller in comparison to domestic e-commerce, amounting to less than 30% globally (Statista, 2023b). Additionally, the business-to-consumer (B2C) e-commerce has expanded into several industries including automotive, beauty and personal care, electronics, apparel and footwear, books, etc. Especially, the sales generated by clothing and footwear constitute the majority, amounting to \$752 billion. It is also the most favoured category for online purchases from overseas (Statista, 2023b). Amazon, Alibaba, and Shein are the most favoured platforms for international cross-border e-commerce online orders. Additional international electronic commerce platforms include Temu, eBay, Wish, and Zalando.

The number of online shoppers worldwide reached 2 billion people, accounting for 64.6% of total internet users. This means that 6 in every 10 people access the internet to do online shopping (Statista, 2021a). The increasing number of online buyers also creates challenges for e-commercial suppliers and sellers to understand online consumers in terms of preference, perception and satisfy their requirements. The report by Forbes (2023) shows that 57% of investigated online shoppers report shopping internationally, as domestic e-commerce fails to fulfil their requirements. Accordingly, leading reasons for cross-border e-commerce purchases consist of lower prices, the wide variety of items offered by the brand, better quality, etc. (Statista, 2023d). By contrast, the report also reveals five major reasons why online shoppers abandon their cart, including risks related to extra cost, slow delivery, website privacy, distrust, complicated check-out process, account requests, etc. Additionally, the ratio of shopping cart abandonment on desktops is 72%, while this figure on mobile devices is 84% due to the failure to well integrate the website into mobile devices.

## 1.2. Research background and problem statement

The advancement of technology and the expansion of e-commerce platforms in recent decades have significantly transformed customer preferences, prompting sellers and organisations to adapt their marketing strategies. According to Gupta and Ramachandran (2021), customer-centricity would be able to help firms achieve high performance, stronger brand value, and customer loyalty. It involves understanding customers at an individual level and assessing their future profitability. The philosophy of customer-centricity creates demand for companies to research consumer behaviour and perception. It is especially essential in the context of cross-border e-commerce due to the variety of customer segments all over the world. The e-commerce landscape is defined by attributes like rapidity, connectedness, information transparency, extensive variety, filtering, dependability, and product evaluation. In contrast, seller anonymity, insufficient product openness, inadequate process transparency, and uncertainty are detrimental attributes of the e-commerce landscape (Chatterjee and Datta, 2008; Golicic *et al.*, 2002; Shafiyah *et al.*, 2013). Consumers may find it challenging to evaluate the information quality that sellers provide due to the information asymmetry in transactions (Lin, 2014). Guo *et al.* (2018) show that cross-border e-commerce (CBEC) is even more complicated and risky due to the high information asymmetry between international buyers and sellers, inadequate legal enforcement across nations, language and cultural differences, etc.

According to Mitchell (1999), perceived risk is considered a critical factor to explain consumers' behaviour because consumers tend to be motivated to minimise failure rather than to pursue the purchase process. Therefore, from a management perspective, understanding consumers' perceived risk and its nuanced nature in e-commerce enables companies to address the deficiency in consumers' perceptions. The investigation of the influence of perceived risk on purchase intention in e-commerce has surged significantly in the current decade. The findings also varied, ranging from insignificantly to significantly influence. Generally, most of the studies found that perceived risk negatively influences consumer purchase intention in e-commerce (e.g., studies by Amaro and Duarte (2015); Belanche *et al.* (2012); Chafidon *et al.* (2022); Chiu *et al.* (2014); Mezger *et al.* (2020); Pappas (2016); Rahmi *et al.* (2022); Wang *et al.* (2017)). In other words, online shoppers refuse to purchase when they perceive high risks on the website. However, there are a few theoretical gaps figured out in this area. First, the theory of perceived risk has not been discussed thoroughly although it is clear from the studies. Previous scholars failed to explain perceived risk theory in particular circumstances. Consequently, the research streams and

measurement approaches towards perceived risk were not thoroughly investigated. Second, prior researchers mainly integrated risk and decision-making under risk into a cognitive and logical process. According to Luce and Weber (1986), individuals' decision-making under risk includes a combination of probabilities (the likelihood of winning, losing, and getting nothing), anticipated profits given a win, and expected losses given a loss. Consequently, the aspect of perceived risk mostly dominated the literature on economics, marketing, etc., for a considerable period. From the perspective of psychology, neuroscience, and behavioural economics, risk is also considered from an emotional perspective. The reason is that apart from analysis-based decisions, humans rely on intuition, instinct, and feeling (Slovic et al., 2004). However, to date, little empirical study has investigated emotion in the context of risk (referred to as affective risk). This study, therefore, focuses on examining two dimensions of risk: perceived risk and affective risk..

Given the worldwide nature of cross-border e-commerce (CBEC), it is significant to comprehend the influence of cultural factors on consumers' risk perception and behavioural intention. The concept of culture has been extensively acknowledged in Anthropology, Sociology, and Psychology. It is also important in international marketing. According to Burton (2008), globalisation has made the world a single space where people become share a similar culture. As a result, companies ignore regional and national differences in operating their marketing strategies as if the world were a single market. In contrast, some scholars contend that if globalisation is an unavoidable process, then cross-culturalization will also be unavoidable. From the managerial perspective, cultural differences are significant, as they are associated with the strategies of localising their e-commerce websites for customers living in different countries. According to Jin et al. (2008), Cultural diversity may provide a pertinent explanation for the differential effectiveness of some marketing strategies used by firms internationally, succeeding in some nations while failing in others. In other aspects, empirical studies on the impact of culture have essential theoretical contributions to the application of culture to international marketing. Although the number of cultural research has been significant during the last decades, little empirical research has examined the role of the cultural dimensions in consumers' perception, emotion, and behaviour under risk in cross-border e-commerce. Further, one of the long-lasting debates in cultural research is about the unit of analysis. Prior scholars mostly utilised the national-level approach to measure culture, such as Weber and Hsee (1998), Ko et al. (2004), etc. Accordingly, the nation was used as the proxy of culture. The experts concur that national cultures persist throughout time (Hofstede) and are crucial for identifying people (Karahanna, 2013). By

contrast, the objection to this assumption shows that There should be diversity in cultural views and consumer behaviour within nations and uniformity among nations. McCoy et al. (2005) show that the assumption of homogeneity is not appropriate as there is variability across individuals in, or from any given nation. Hence, in certain instances, individuals within society may not possess identical cultural value systems (Yoo et al., 2011). Given the rapid transition from offline to online shopping and the spread from domestic e-commerce to cross-border e-commerce, the author doubts whether culture should be considered at the national or individual levels. Therefore, the other motive of this study is to investigate the role and the impact of the individual-level cultural dimensions in cross-border e-commerce.

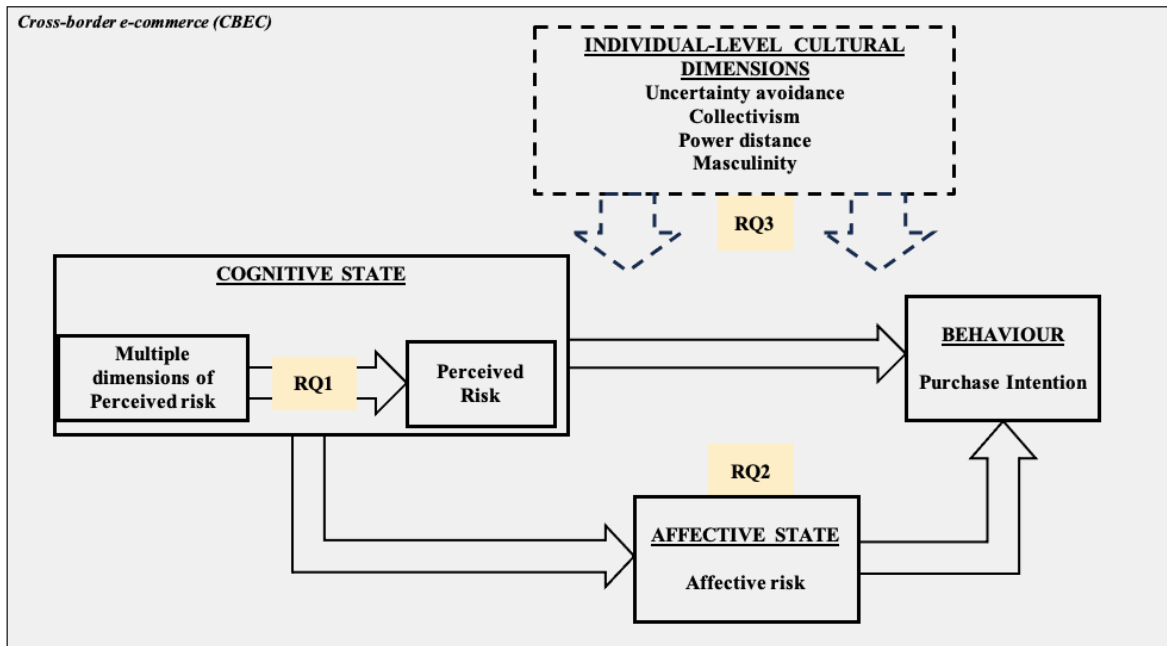
### **1.3. Research statement**

This dissertation investigates the impacts of the individual-level cultural dimensions and the multi-aspect nature of risk on the decision-making process of consumers in cross-border e-commerce. This aims to understand the mechanisms driving consumers' perceptions, emotions and purchase intentions under risks in the online environment.

### **1.4. Research questions**

- RQ1: Is perceived risk considered a multidimensional concept in CBEC?
- RQ2: what is the role of affective risk in the decision-making process?
- RQ3: How do the individual-level cultural dimensions influence consumers' risk perception and purchase intention in CBEC?

The main research areas and causal relationships in this research are presented in Figure 1. Accordingly, the core of the research is centred on two aspects of risk to drive behavioural intention and the effect mechanisms of the individual-level cultural dimensions on the decision-making in CBEC.



**Figure 1. The conceptual model – Source: Author’s contribution**

### 1.5. Research objectives

- **Research objectives of the quantitative phase**

- To assess perceived risk as a higher-order composite in CBEC
- To investigate roles of affective risk towards perceived risk and purchase intention in CBEC
- To investigate moderating effects of the individual-level culture in the relationships between perceived risk, affective risk, and purchase intention in CBEC.

- **Research objective of the qualitative phase**

- To re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC
- To re-investigate whether perceived risk is different from affective risk, and whether perceived risk (cognitive stage) precedes affective risk (affective stage) in the decision-making journey in CBEC
- To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture.

### 1.6. Significance of the research

This dissertation is significant in two (2) strands, including theoretical and practical aspects.



Regarding theoretical significance, the present study augments the existing theories of risk and offers a thorough methodology for comprehending consumer behaviour in the context of e-commerce. Notably, this research also challenges the traditional assumption of using the nation as the surrogate of culture in international marketing. First, the study supports the multi-dimensional theory of perceived risk by validating perceived risk as a higher-order composite formulated by seven subdimensions (fraud risk, delivery risk, financial risk, product risk, process & time loss risk, privacy risk, and information risk). Furthermore, the findings emphasise the multifaceted nature of perceived risk by vividly describing each aspect. These findings demonstrate the complexity of perceived risk within the e-commerce environment.

Second, the integrations of multiple theories and models such as the theory of planned behaviour (TPB), the dual process theory, the hierarchy of effect (HOE) model, and the multi-dimensional theory of culture extend and refine the existing theoretical frameworks. This offers an extensive insight into customer behaviour in e-commerce and cross-border e-commerce (CBEC). Accordingly, the study integrates the factors of emotion and culture in explaining consumer behaviour in e-commerce and CBEC. Relying on the view that one single theory would not capture all aspects of behaviours by itself, this integrative method provides profound insights into the intricacies of consumer decision-making within the internet context. The study also visualises the internal pathway of how consumers progress from awareness and understanding of risks to emotional reactions and to behavioural intentions when shopping in a cross-border e-commerce platform.

Third, the study provides empirical evidence for the view that culture should be evaluated at the individual level rather than at a national level. These findings challenge the conventional assumption that a country serves as a surrogate for culture in studies on international marketing. The study highlights the importance of the cultural dimensions at the individual level in shaping consumer behavioural intention in CBEC. Culture is an integral part of the process of experiencing and remembering, existing inside consumers' long-term memories. Therefore, these result in considerable variation in consumers' perceptions, feelings, and behaviours under risks in e-commerce and CBEC. The study empirically validates the heterogeneity of cultural values within nations and the homogeneity of cultural values between nations. In other words, it reveals that consumers in a country may not have the same cultural values. However, there are groups of consumers sharing the same cultural values across nations.

Regarding practical significance, the findings of this study provide e-vendors and e-businesses with many suggestions in terms of mitigating the perceived risk of consumers. It is significant, as minimising total perceived risk via its dimensions may be the foundation to navigate consumers' positive emotions, which improves behavioural intention such as purchase intention in CBEC. Notably, the study also provides references to understand the role of the individual-level cultural dimensions in driving consumer behaviour. Emphasising the cultural dimensions at the individual level sets the background for a new strategy of consumer segmentation in international marketing in e-commerce and CBEC. The research also has social consequences. To reduce online risks, it emphasises consumer education and empowerment. The research also promotes corporate social responsibility (CSR) by protecting customer data, ensuring product quality, and implementing clear and fair online regulations.

### **1.7. The structure of the dissertation**

The structure of the dissertation is presented below. Chapter 2 presents a literature review on perceived risk and purchase intention in e-commerce. The literature provided a theoretical and conceptual background to construct the research. Further, the literature review also revealed research gaps in previous studies and offered potential directions for further research. In Chapter 3, the author formulates three (3) research questions based on the research directions in chapter 2. Additionally, the author also provides an overview of the theoretical foundation for the study. Chapter 4 presents the research methodology. Accordingly, based on the pragmatist worldview, an explanatory sequential mixed-method study is utilised to address the research questions. The author presents the regional scope of the research, research design for the quantitative and qualitative phases. Sample techniques, data collections, and data analysing methods are also described. Chapter 5 proposes hypotheses and the hypothetical research model for the quantitative phase. Accordingly, the perceived risk was modelled as a second-order composite with seven reflective constructs, including fraud risk, delivery risk, financial risk, process & time loss risk, product risk, privacy risk, and information risk. The conceptual model was created to investigate the mediating role of affective risk on the negative influence of perceived risk on purchase intention in CBEC. Further, four dimensions of culture, such as uncertainty avoidance, power distance, collectivism, and masculinity, were moderators in assessing the impacts of the relationship between perceived risk, affective risk, and purchase intention. In Chapter 6, the findings and the research analysis of the quantitative and qualitative phases are presented.

In Chapter 7, the author integrates the findings of the two phases and interprets how qualitative findings explain and reinforce the quantitative results. The discussion that compares and contrasts the integrating results of this study to prior research is also presented. Finally, in chapter 8, the summary of the dissertation is presented. The theoretical, practical, and societal implications are discussed. The limitations and research directions are also presented. The research process flowchart is shown in Figure 2.

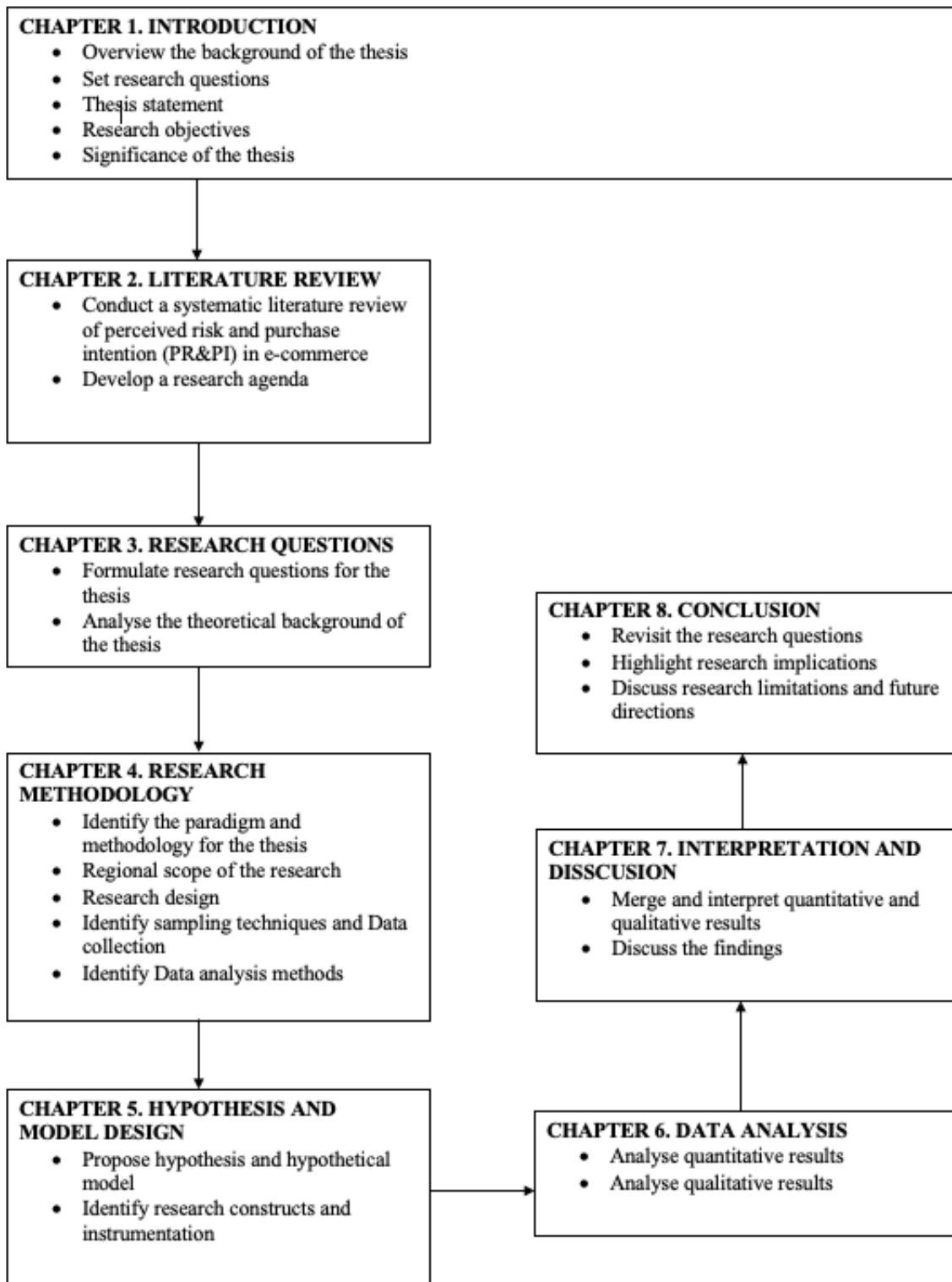


Figure 2: Research process flowchart

## CHAPTER TWO

### 2. LITERATURE REVIEW

This chapter presents important themes and aspects that previous researchers have investigated regarding perceived risk and purchase intention (PR&PI) in e-commerce<sup>1</sup>. The bibliometric analysis, SOR and TCM frameworks have been used as investigative lenses to provide a holistic picture of this research field since 2010. It is essential to uncover “what do we know” and “what do we need to know” about the literature on PR&PI in e-commerce. Further, it reveals research gaps in previous studies and offers potential directions for further research. Some research gaps were used as a conduit for this research.

#### 2.1. Introduction of perceived risk

Risk refers to the probability of anything terrible or uncertain in the action, which results in negative and unwanted effects (ISO, 2009). According to the classical decision theory, risk is defined as a fluctuation in the distribution of potential outcomes, their probabilities, and their subjective values (Mitchell, 1999). In other words, risk was often embedded with the aspects of probabilities, chances, and consequences. People take risks because they have to and they want to (Ale, 2009). Bauer was one of the first scholars who introduced the concept of risk and uncertainty to marketing when observing that “consumer behaviour involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant” (Bauer, 2001, p. 13).

Bauer’s introduction has resulted in two streams of research on risk and uncertainty. The first stream considered a risk as an individual’s subjective feeling of uncertainty that the outcomes of a future transaction will be beneficial. Consequently, uncertainty is conceived as a function of risk. According to Cunningham (1967), it is extremely unusual to have precise probabilities in purchasing behaviours, and even if they are provided, consumers are unlikely to consider them. Consequently, the two concepts might be used synonymously. In contrast, the other stream viewed risk and uncertainty as different concepts. Hereby, probability is the critical element in distinguishing between risk and uncertainty. Risk refers to “a state in which the number of possible events exceeds the number of events that will occur, and some measures of probability can be attached to them” (Stone and Grønhaug,

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<sup>1</sup> This chapter is a part of my article published in the International Journal of Consumer Studies, titled “The influence of perceived risk on purchase intention in e-commerce – Systematic review and research agenda”, <https://doi.org/10.1111/ijcs.13067>

1993, p. 40). By contrast, uncertainty has “no probability attached to it. In this situation, anything can happen, and one has no idea what” (Hofstede, 2001, p. 148). Thus, the term “perceived risk” reflects the distinction between risk and uncertainty in marketing (Cho and Lee, 2006).

Previous scholars have introduced several definitions of perceived risk over time (Table 1). For instance, perceived risk is defined as “*the consumer’s perception of the uncertainty and adverse consequences of buying a product or service*” (Dowling and Staelin, 1994, p. 119). In the context of the Internet and e-commerce, perceived risk pertains to “*the degree to which individuals believe that if they purchase products or services through the Internet, they will suffer losses*” (Lim, 2003, p. 222) or “*the potential for loss in the pursuit of a desired outcome of using an e-service*” (Featherman and Pavlou, 2003, p. 454). According to Chen *et al.* (2021), perceived risk refers to “the likelihood of a consumer suffering a loss in the purchase on the fresh e-commerce platform”. Although scholars have introduced various definitions of perceived risk in e-commerce, they share the core idea of the possibility of loss in purchasing on an e-commerce platform.

**Table 1: Definitions of Perceived risk – Source: Author’s contribution**

<b>References</b>	<b>Definitions</b>
Kogan & Wallach (1964)	perceived risk may have “ <i>two, somewhat different facets: a chance aspect where the focus is on probability: and a danger aspect where the emphasis is on severity of negative consequences</i> ” (Mitchell, 1992, p. 167)
Sjoberg (1980)	perceived risk as a function by the product of probability and consequences. It could be misleading or unfortunate (Mitchell, 1992, p. 167)
Stone and Winter (1987)	risk as a subjectively decided expectation of failure “ <i>the greater the probability of this loss, the greater the risk thought to exist for an individual</i> ”(Mitchell, 1992, p. 167)
Dowling and Staelin (1994)	Perceived risk is defined as “ <i>the consumer’s perception of the uncertainty and adverse consequences of buying a product or service</i> ” (p. 119)
Lim (2003)	Perceived risk has been explained as “ <i>the degree to which individuals believe that if they purchase products or services through the Internet, they will suffer losses</i> ” (p. 222)
Featherman and Pavlou (2003)	“ <i>The potential for loss in the pursuit of a desired outcome of using an e-service</i> ” (p.454)
Li and Huang (2009)	“ <i>Perceived risk is a possibly pervious measure of consumer perceived usefulness and perceived ease of use towards purchasing on the internet</i> ” (p.914)
Glover and Benbasat (2010)	“ <i>A consumer’s expectation that the actions entailed in purchasing goods or a service from an e-commerce site could have unwanted outcomes</i> ”
Chiu <i>et al.</i> (2014)	“ <i>The trade-off between cost and benefits, i.e., the overall consumer assessment of the utility of the product or service based on what is received as compared to what is paid</i> ”

Amaro and Duarte (2015)	<i>“The potential loss perceived by a consumer in considering the purchase of travel online when compared to the purchase of travel offline”</i>
Ariffin <i>et al.</i> (2018)	<i>“Consumer perceptions of the results obtained by consumers that are not following initial expectations, including the possibility of obtaining unfavourable results and the existence of losses in making online purchase transactions”</i>
Chen <i>et al.</i> (2021)	<i>“The likelihood of a consumer suffering a loss in the purchase on the fresh e-commerce platform”</i>
Chidambaram <i>et al.</i> (2023)	<i>“The chance of getting a low-quality product delivered than exhibited in an online store”</i>

Perceived risk has been applied in many contexts of judgement and decision-making, especially consumer behaviour and decision. It is also identified as an essential factor in purchase behaviour (Crespo *et al.*, 2009; Kim *et al.*, 2009). Economists argue that an individual’s decisions are reason-based and associated with rationality. Particularly, people make decisions based on reasons, which may be lists of pros and cons. Individuals possess reasons for selecting action X in the case of occurrence A, and distinct motivations for choosing X in the absence of A (Tversky and Kahneman, 1992). Similarly, in a risky environment, individuals’ decision-making is described as a combination of probabilities (the likelihood of winning, losing, and getting nothing), anticipated profits (each gain increased to a certain exponent) given a win, and expected losses (each loss raised to a different exponent) given a loss (Luce and Weber, 1986).

Marketing scholars often explain the relationship between perceived risk and purchase intention based on theories, such as the theory of reasoned action (TRA), the theory of planned behaviour (TPB), and the technology acceptance model (TAM). It raises concern if other theories and perspectives can be applied to explain consumers’ behaviour under perceived risk in e-commerce. Despite recent advancements in the literature concerning perceived risk, the current state of research remains relatively fragmented, posing difficulties in deriving conclusive and meaningful implications. For instance, literature review performed earlier than 2000 (e.g., the studies by Mitchell (1999) and Ross (1975)) mainly targeted at the context of offline buying. The online context and the factors driving perceived risk have not been thoroughly explored. The research conducted by Maziriri and Chuchu (2017) did not properly provide a comprehensive analysis of perceived risk and presented an inadequate framework of elements influencing social risk. By contrast, Pelaez *et al.* (2019) investigated the connection between perceived risk and purchase behaviour surrounding theories, such as TAM, TPB, and TRA. The study by Rehman *et al.* (2020) reviewed the literature on perceived risk using the model antecedents, reducers, and consequents to organise the research findings. However, antecedent factors related to

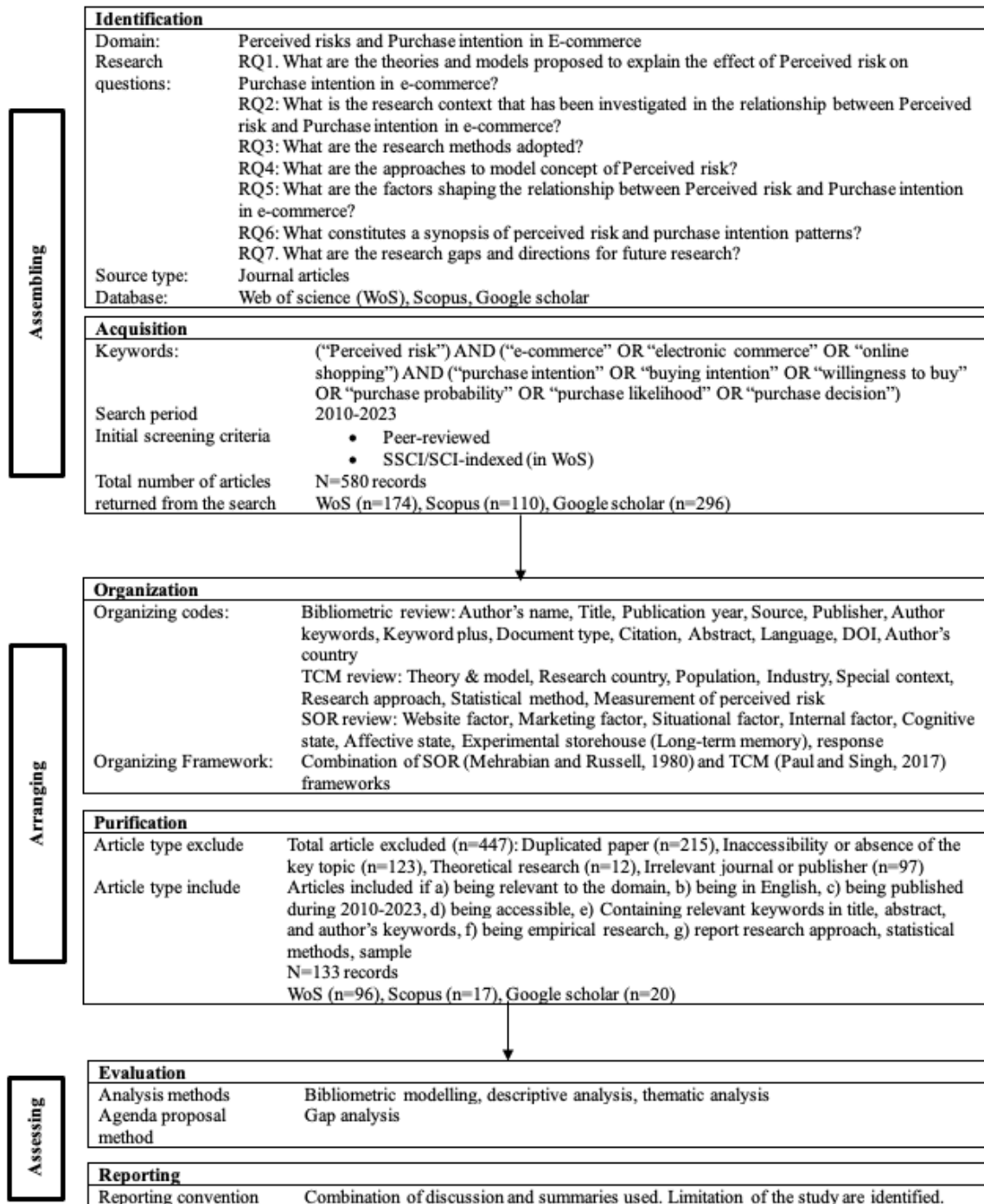
website functions were not mentioned. Further, the factor of culture was also underrated when being categorised as a miscellaneous factor.

## **2.2. The organising frameworks, inclusion criteria, and study selection**

The objective of the literature is to examine and assess findings on the impact of perceived risk on purchase intention (PR&PI) in the context of general e-commerce. Paul and Criado (2020) identified numerous categories of systematic reviews, including domain-based, theory-based, method-based, and meta-analytical. This study integrates a bibliometric review and a framework-based systematic review to provide a more robust encapsulation of PR&PI literature. A thematic cluster analysis is used as the background to assess and synthesise the findings into the theories, contexts, and methods (TCM) framework (Paul *et al.*, 2017) and the stimulus-organism-response (SOR) paradigm (Mehrabian and Russell, 1980). The integration of these frameworks is necessary since each framework in isolation is inadequate to reveal elements of the correlation between perceived risk and purchase intention in e-commerce. The SOR framework identifies and categorises the factors surrounding the relationship between perceived risk and purchase intention in e-commerce. It also demonstrates the dimensionality or relational aspects particular to the conceptions (Jacoby, 2002). By contrast, the TCM framework explains the theoretical, methodological, and contextual drivers that underpin those constructs in PR&PI literature (Paul *et al.*, 2017). Consequently, these two frameworks encompass the entirety of the current PR&PI literature regarding “what we know and how we know it”.



The author utilised the SPAR-4-SLR methodology, as proposed by Paul et al. (2021), to systematically find, select, and integrate the available literature. Figure 3 presents the process of assembling, arranging and assessing the studies.



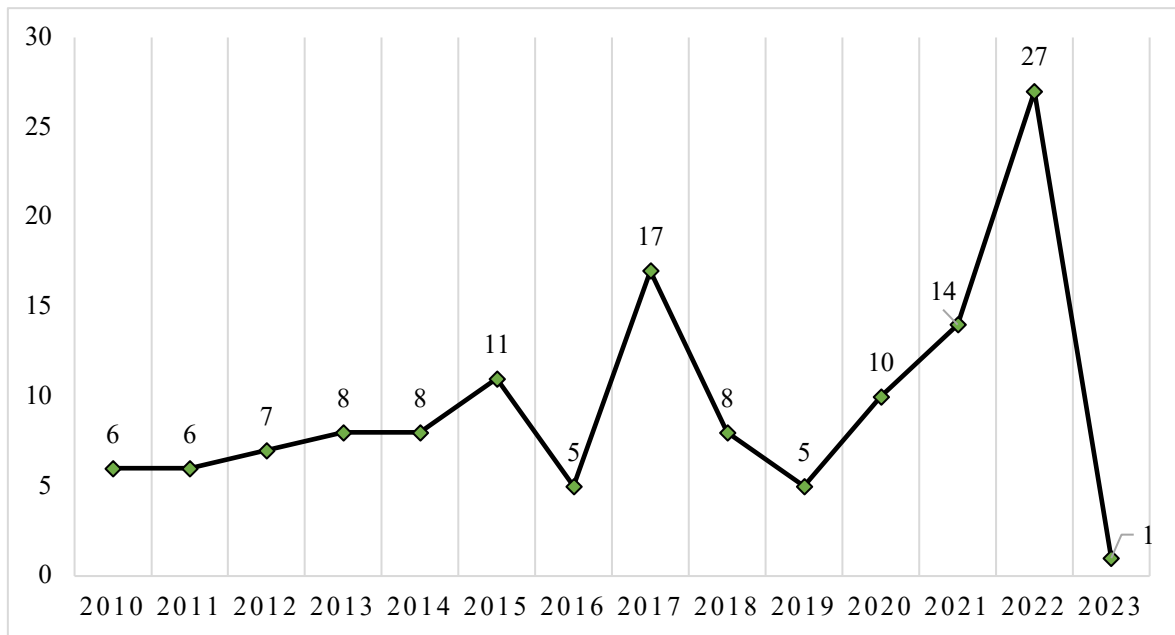
**Figure 3: SPAR-4-SLR framework for systematic review adapted from Paul et al. (2021)**

### Stage 1: Assembling

The assembling stage includes two sub-stages (i.e., identifying and acquiring relevant

literature). The research domain and research questions were identified in the identification sub-stage. To address these questions, the study adopted a hybrid review, including bibliometric and framework-based review methods, to facilitate critical discussion of themes through integrating relevant literature, synthesising relevant studies, identifying knowledge gaps, and assisting future researchers (Dabić *et al.*, 2020; Paul and Rowley, 2020). Journal article is preferred in this study due to their contribution to academic progress and their rigorous peer review process (Paul *et al.*, 2021). As suggested by Paul and Criado (2020), two widely used databases, including Web of Science (WoS) and Scopus were applied to collect the list of potential studies. Further, the study also merged Google Scholar, to ensure all relevant articles were included.

During the acquisition sub-stage, a Boolean search was conducted on these databases using specific combinations of keywords and their variants to get all relevant results: (“perceived risk”) AND (“e-commerce” OR “electronic commerce” OR “online shopping”) AND (“purchase intention” OR “buying intention” OR “willingness to buy” OR “purchase probability” OR “purchase likelihood” OR “purchase decision”). The query “Topic-All fields” was applied in the WoS database, while “Tittle-Abstract-Keyword” was applied in the Scopus database. The query “All fields” was adopted in Google Scholar. The study included academic articles published during 2010-2023 as research on the effect of perceived risk on purchase intention in e-commerce has increased rapidly during the current decade (Figure 4). The study results exhibited a wide range of outcome, ranging from a little effect to a significant one. Moreover, with the rapid growth of the Internet, e-commerce has seen a significant transition since 2010, including the proliferation of electronic payment systems (e.g., Google Wallet, Apple Pay), the advent of social media purchasing, and the rise of mobile shopping. Additionally, security and privacy concerns also grew significantly with the growth of cyber crimes. Specifically, Target had a substantial data breach in 2013 (Jones, 2021). In 2014, EBay had a database breach (Reuters, 2014). Furthermore, the emergence and rapid transmission of the COVID-19 epidemic in late 2019 and the increase in internet purchasing during lockdowns and implementation of social distancing measures significantly influenced online consumer behaviour and perception of risk. The end date of the electronic search was March 25, 2023. The initial search yielded a total of 580 records.



**Figure 4: Articles published from 2010 to 2023 – Source: Author’s contribution**

### Stage 2: Arranging

The data were organised and purified in the second stage (Paul *et al.*, 2021). In the sub-stage of organisation, the articles were coded in terms of Author’s name, Title, Publication year, Source, Publisher, Author keywords, Keyword plus, Document type, Citation, Abstract, Language, DOI, Author’s country; Theory & model, Research country, Population, Industry, Special context, Research approach, Statistical method, Measurement of perceived risk; Website factor, Marketing factor, Situational factor, Internal factor, Cognitive state, Affective state, Experiential storehouse (Long-term memory), and Response. These codes were combined and organised in line with the bibliometric analysis, the TCM and the SOR frameworks.

In the purification sub-stage, a rigorous manual screening was performed with the excluded and included criteria to select the high-quality and relevant studies. Out of all the data, 215 studies were eliminated because they were duplicated. Subsequently, 365 papers were evaluated based on review of their titles, abstracts, and keywords. After screening, 123 studies were removed due to their inaccessibility and the absence of the key topic. 12 theoretical studies were also removed. In addition, to guarantee the trustworthiness and dependability of study results, the sources of publications, including scientific journals and publishers, were also evaluated. Consequently, 97 irrelevant articles were removed. At the end of the screening process, 133 eligible articles were included in the qualitative assessment and synthesis.

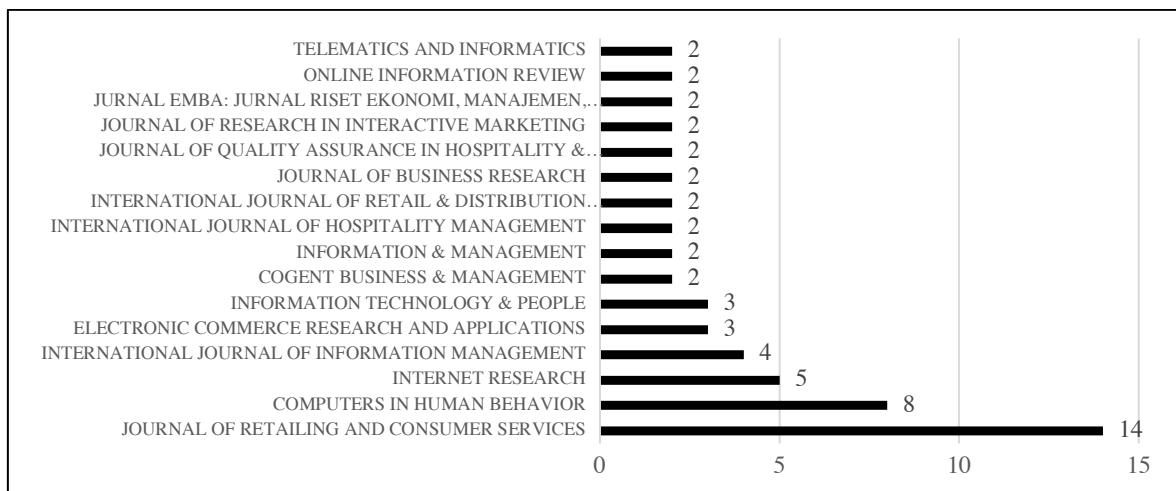
### Stage 3: Assessing

In the third stage, evaluation and reporting were conducted. The bibliometric modelling was performed by applying the bibliometric R-package (Biblioshiny) to attain and document the quantitative data relating to the numerous articles chosen (Aria and Cuccurullo, 2017). The descriptive analysis and thematic analysis were performed through a content review. In addition, a gap analysis was conducted to examine the identified research gaps and establish future research objectives.

#### 2.3. Bibliometric analysis

- Sources of articles

Figure 5 presents the list of journals publishing more than one relevant study. It is obvious that the study focused on certain journals that are dedicated to consumer behaviour on the Internet, such as the Journal of Retail and Consumer Services, Computers in Human Behaviour, and Internet Research.



**Figure 5: Sources' production over time – Source: Author's contribution**

- Authors' countries

Table 2 presents the list of countries' scientific production for the research on the effect of perceived risk on purchase intention in e-commerce. The results report single-country publications (SCP) (i.e., the articles that the same country researchers publish); and multiple-country publications (MCP) (i.e., the articles that are published by the researcher from distinct countries). It is observed that the top five productive countries include China with 22 articles (SCP: 19, MCP: 18); the USA with 21 articles (SCP: 6, MCP: 15); Taiwan with 20 articles (SCP: 14, MCP: 6); Indonesia with 13 articles (SCP: 13, MCP: 0); and the UK with 11 articles (SCP: 3, MCP: 8). United States has the highest MCP rate (MCP: 15), while Taiwan has the highest SCP rate (SCP: 6). Compared to the SCP rate, the MCP rate is higher

in some countries, such as China, the USA, and the UK. This outcome shows that these countries are more receptive to international associations in research than other countries.

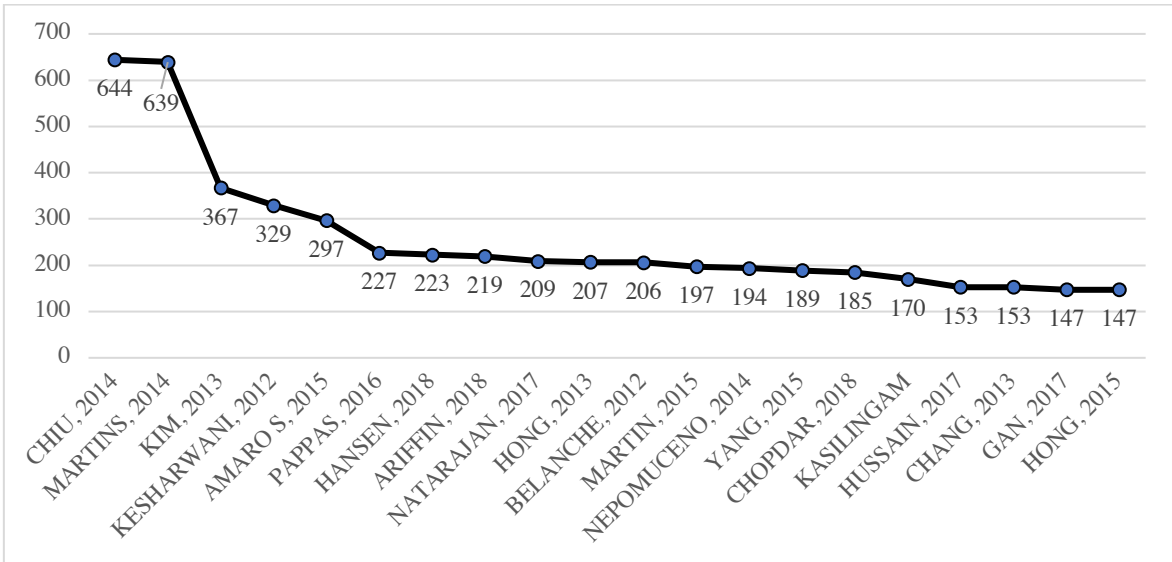
**Table 2: Country scientific production – Source: Author’s contribution**

<b>Country</b>	<b>Research articles</b>	<b>SCP</b>	<b>MCP</b>
China	22	10	12
USA	21	6	15
Taiwan	20	14	6
Indonesia	13	13	0
UK	11	3	8
Malaysia	10	7	3
India	9	6	3
Spain	8	5	3
Canada	6	1	5
Korea	6	3	3
Pakistan	4	2	2
Portugal	4	3	1
Republic of Korea	4	0	1
Australia	3	2	1
Egypt	3	2	1
New Zealand	3	0	3
Saudi Arabia	3	0	3
Vietnam	3	3	0
Brazil	2	2	0
Italy	2	1	1
Jordan	2	1	1
Kuwait	2	0	2
Mexico	2	0	2
Qatar	2	0	1
Slovenia	2	1	1
South Africa	2	0	2
Thailand	2	2	0
Belgium	1	1	0
Bolivia	1	0	1
Ecuador	1	0	1
Fiji	1	1	0
France	1	1	0
Germany	1	0	1
Greece	1	0	1
Iran	1	0	1
Japan	1	0	1
Morocco	1	0	1
Netherland	1	0	1
Norway	1	0	1
Philippines	1	0	1
Romania	1	1	0

Sudan	1	0	1
<b>SCP: single country publication, MCP: Multiple country publication</b>			

- **Authors' citations**

There were over 9000 citation counts relating to the authors in this research domain (Figure 6). For instance, Chiu's publication from 2014 was highly quoted by other researchers. This figure is followed by Martins's publication in 2014, Kim's publication in 2013, Kesharwani's publication in 2012, and Amaro's publication in 2015.

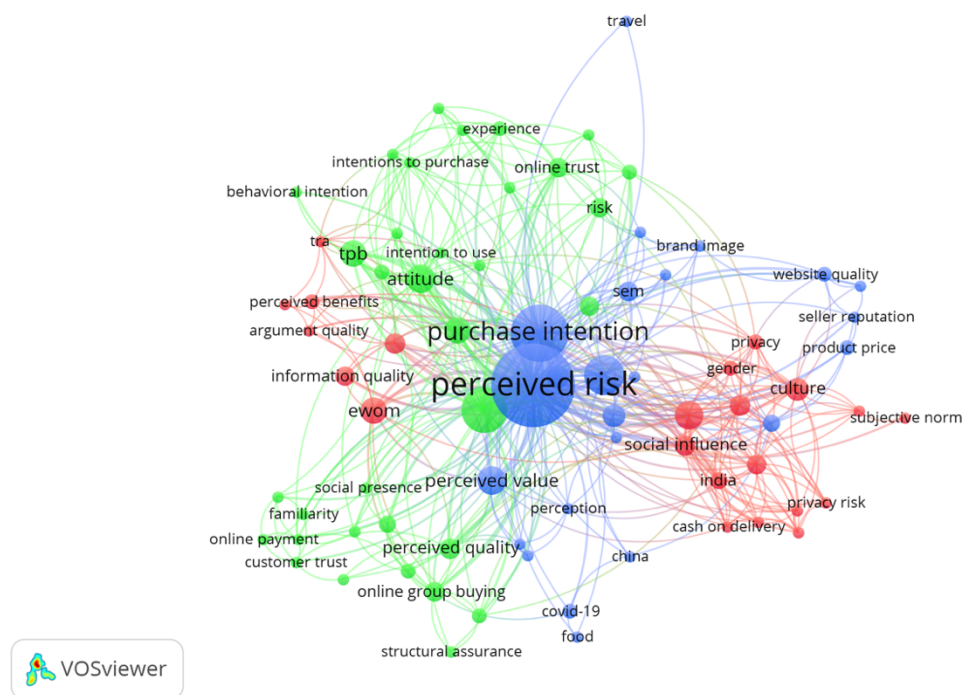


**Figure 6. Top 20 documents with the highest citations – Source: Author's contribution**

- **Key word co-occurrence and Thematic map**

VOSviewer has been used to visualise keywords and important clusters in the literature (Figure 7). The software facilitates the formation of clusters by classifying nodes in a network based on their interaction with words. Accordingly, all keywords were considered the unit of analysis, aided by the full counting method. A minimum of 2 occurrences of a keyword was set as a limiting factor. Consequently, 80 items were selected. The results show that perceived risk and purchase intention are among the most highly co-occurring keywords, with occurrence weights (total link strength) of 90 (248) and 42 (124), respectively. This implies their prominence over other items. Meanwhile, the distance of these keywords from other items indicates their relatedness and links. Further, 3 general clusters have been formed from the keywords. Cluster 1 (blue) is representing commonly related terms to perceived risk, purchase intention, and the factors associated with the product, brand, and website. As such, the most common factors synthesised from this cluster include website quality (Chang et al., 2019; Park et al., 2012), seller reputation (Kim &

Lennon, 2013; Park et al., 2012), product price (Pappas, 2016; Wu et al., 2011), and brand image (Tam et al., 2022; Shukla, 2014). Cluster 2 (red) focuses more on “environmental/external” factors associated with community, society, and culture. Accordingly, PR&PI are more interlinked with the keywords e-WOM (Amarullah et al., 2022; Ilhamalimy & Ali, 2021; Liao et al., 2021; Yuan et al., 2020), gender (Kasilingam & Lingam, 2020; Alrawad et al., 2023), culture (Pratesi et al., 2021; Rosillo-Díaz et al., 2019), and social influence (Chopdar et al., 2018; Tandon et al., 2017). Cluster 3 (green) gives information on factors associated with individual perceptions and attitudes. As such, trust and attitude are the key points of the cluster.



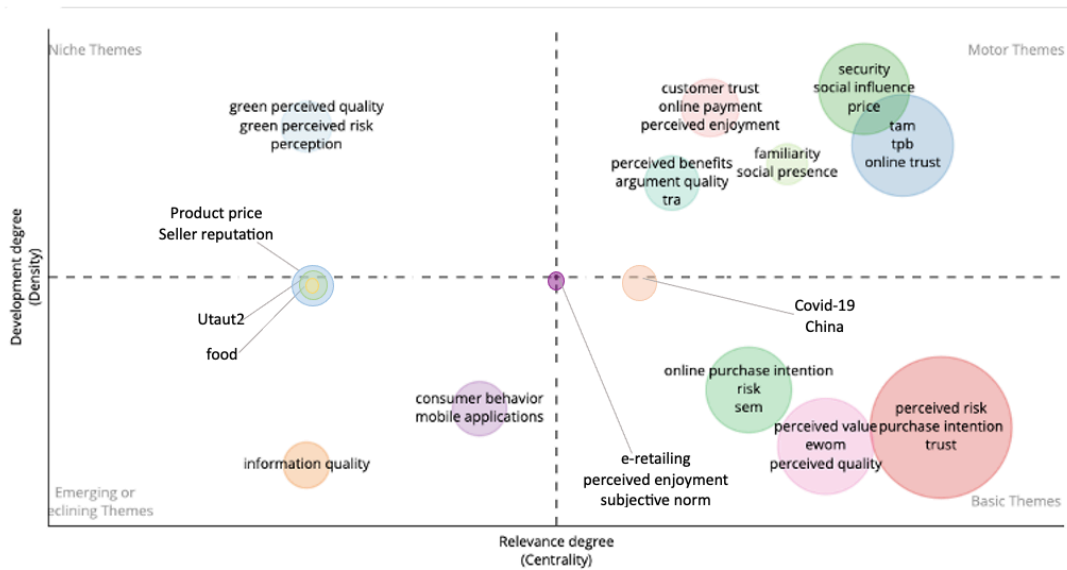
**Figure 7. Co-occurrence map of the keywords – Source: Author’s contribution**

Figure 8 describes the thematic cluster analysis of PR&PI research. The clustering was done by using the “Walktrap” clustering algorithm. The research themes derived from this clustering approach are characterised by two factors, including “density”, referring to the degree of development of a theme, and “centrality”, indicating the significance of a theme in the growth of the study area (Cobo *et al.*, 2011). Accordingly, 21 clusters were categorised into 4 quadrants, including emerging and decline themes, basic themes, niche themes, and motor themes.

Motor themes consist of themes such as TAM, TPB, security, price, quality, website design, website reputation, online trust, social influence, etc. These topics are closely

interconnected, resulting in a high level of density. They also have a direct connection to ideas used in other disciplines that have comparable themes, meaning they likewise have a significant level of importance. These topics, now propelling the advancement of the study area, are situated in the upper right quadrant. The upper left quadrant encompasses themes such as green perceived quality and green perceived risk. These themes have low centrality but high density, indicating a greater concentration of internal connections and a lack of significant connections with other themes. These topics are considered niche themes with strong internal development but somewhat less influence on the overall study of PR&PI in e-commerce. The basic themes include perceived risk, purchase intention, trust, consumer behaviour, culture, SEM, E-WOM, etc. These topics have high centrality but have lower density values, indicating their significant conceptual connections with all other themes in the research area. However, they are not well-defined inside their respective clusters. These ideas are deemed vital in study areas, but need more internal development. The emerging or declining themes at the bottom left corner have themes like information quality and mobile applications. These topics are deemed to be developing due to their limited internal growth and restricted exterior connections with other themes. Research areas seem to be too nascent to have conceptual integration with other subjects. Apart from clear and distinct segmentations, some other topics are considered transitional and overlapping. For instance, the topics of COVID-19 and China are located between basic and motor themes, indicating the growing significance and maturity of these subjects throughout time. Topics of e-retailing, perceived enjoyment, and subjective norm are categorised as overlapping with the basics and declining themes. This signifies that these topics are slowly acquiring the status of the basic topics in PR&PI research.





**Figure 8. Thematic cluster analysis – Source: Author’s contribution**

## 2.4. Distribution of articles by the TCM model

The TCM framework consists of three components: theories (T), contexts (C), and methods (M). Theories involve conceptual frameworks, models, and theories examined by scholars for research purposes, while contexts include the specific situations involved in the examination, and procedures prioritise the use of empirical facts to enhance the quality of the analysis. Paul and Singh (2017) stated that the TCM framework is advantageous for organising the foundation of prior research. Additionally, it facilitates the discovery of novel insights by future researchers.

### 2.4.1. Theories

Based on the systematic review, the results show that over 20 different theories, theoretical frameworks, and models have been applied in the studies on the effect of perceived risk on purchase intention in e-commerce since 2010. However, only around 30% of studies reported the theories, frameworks, and models applied. It indicates that the current theoretical landscape of PR&PI in e-commerce may lack breadth and depth in scholarly insights. Further, 12% of studies were found to adopt more than one theory or framework, which shows the potential of combining and deploying theories in future PR&PI research. Table 3 presents theories, frameworks and models applied in the studies since 2010. The majority of researchers applied the Technology Acceptance Model (TAM) and the theory of planned behaviour (TPB) in their studies. The theory and model are interrelated. TAM and TPB were derived from TRA (Fishbein and Ajzen, 1975) to explain consumer behaviour concerning new technology adoption. These theories are also the driving theories of PR&PI

research. Further, several studies were found to apply the Stimulus-Organism-Response (SOR) framework to investigate the relationships between perceived risk and purchase intention in e-commerce. The SOR framework was introduced by Mehrabian and Russell (1980) to better reflect individuals' cognitive and affective states before their response behaviours in online environments.

It is obvious that studies on the relationship between perceived risk and purchase intention in e-commerce highly emphasise behaviour theories rather than perceived risk theory. Particularly, scholars rarely reported perceived risk as an applied theory in their research. Furthermore, the thematic analysis also presents that perceived risk has high centrality but has lower density values, indicating its significant conceptual connections. However, it is not well-defined inside their respective themes.

**Table 3: Prominent theories, framework, and model used in PR&PI research – Source: Author's contribution**

Theories/ Frameworks /Models	No. of studies	Explanation	Exemplary papers
TAM	12	Ease of use and usefulness are the key factors of acceptance and use	Amaro and Duarte (2015); Carvache-Franco <i>et al.</i> (2022); Cheng <i>et al.</i> (2012); Faqih (2022); Han and Li (2020); Hansen <i>et al.</i> (2018); Kasilingam and Lingam (2020); Kesharwani and Singh Bisht (2012); Natarajan <i>et al.</i> (2017); Nunkoo and Ramkissoon (2013); Tsai and Yeh (2010); Wong <i>et al.</i> (2021)
TPB	9	behavioural attitudes, subjective norms, and perceived behavioural control impact behavioural decisions	Ali and Aziz (2022); Amaro and Duarte (2015); Bangun and Handra (2021); Hansen <i>et al.</i> (2018); Liao <i>et al.</i> (2010); Rahmi <i>et al.</i> (2022); Sinha and Singh (2017); Yu <i>et al.</i> (2018); Zhou and Liu (2022)
SOR framework	5	The stimuli influence the organism, often impacting the emotional, cognitive, or affective processes of a consumer, which eventually results in their behavioural reaction.	Amarullah <i>et al.</i> (2022); Chang <i>et al.</i> (2019); Gong <i>et al.</i> (2022); He <i>et al.</i> (2022); Kim and Lennon (2013)
UTAUT	3	Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions are four fundamental characteristics	Chen <i>et al.</i> (2021); Chidambaram <i>et al.</i> (2023); Han and Li (2020)

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Diffusion of innovation theory (DOI)	2	that directly influence behaviour. innovation as “an idea, practice, or object perceived as new by an individual or other unit of adoption.”	Kasilingam and Lingam (2020); Natarajan <i>et al.</i> (2017)
UTAUT2	2	Hedonic motivation, price value, and habit are added the UTAUT	Chopdar <i>et al.</i> (2018); Tandon <i>et al.</i> (2017)
TRA	2	attitudes and subjective norms sharp behavioural intentions, which in turn determine behaviours	Amaro and Duarte, (2015); Featherman <i>et al.</i> (2021)
Prospect theory	2	Individuals' behaviour is determined by their assessments of different options, which are influenced by both the potential consequences and their attitudes towards risk.	Chiu <i>et al.</i> (2014); Wong <i>et al.</i> (2021)
Signalling theory	2	The quality of a given cue is assessed based on its diagnostic and the presence of additional signals. In general, cues may be classified as information indices and information signals.	Meents and Verhagen (2018); Shao <i>et al.</i> (2021)
Equity theory	1	Individuals undergo motivational and cognitive processes by assessing the trade-offs or contributions (inputs) in relation to the benefits (outputs) and then contrasting the outcome with other comparable experiences or circumstances.	Lim (2020)
Risk-Benefit Framework	2	Consumers would consider benefits and risks simultaneously to make a final decision	Featherman <i>et al.</i> (2021); He <i>et al.</i> (2022)
The protection-motivation theory	1	Individuals safeguard themselves by considering four key factors: perceived severity of a threatening event, perceived probability of occurrence or vulnerability, efficacy of recommended preventative	Gong <i>et al.</i> (2022)

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		behaviour, and perceived self-efficacy.	
Generation cohort theory	1	age can impact consumers' attitudes, interests, and shopping behaviour	Sharma <i>et al.</i> (2022)
Social cognitive theory	1	human behaviour is a value-driven behaviour	Lho <i>et al.</i> (2022)
Value-based adoption theory	1	the perceived values and costs are considered as the antecedents to satisfaction and continuance intention.	Lho <i>et al.</i> (2022)
Two-factor theory	1	Individual' motivations are influenced by motivation factors and hygiene factors	He <i>et al.</i> (2022)
Cue utilisation theory	1	The use of a particular cue in evaluating quality differs depending on its diagnosticity and the presence of additional signals.	Shao <i>et al.</i> (2021)
Mean-end chain theory	1	Consumer behaviour is determined by the value they perceive in a product or service, which ultimately shapes their decision-making behaviours.	Chiu <i>et al.</i> (2014)
Flow theory	1	The individual is fully engrossed in an activity, completely unaware of themselves, which leads to a heightened sense of enjoyment.	Wu <i>et al.</i> (2020)
Social presence theory	1	the presence of the information sender influences recipients' understanding of the message	Zhang <i>et al.</i> (2012)
Expectation-confirmation model	1	a customer's repurchase intention from their satisfaction in terms of a confirmation for expected and perceived performance of products/services	Lho <i>et al.</i> (2022)
The CSLC framework	1	to develop a clear understanding of how information transparency is	Zhou <i>et al.</i> (2018)

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		perceived and create a classification system	
Task-technology fit (TTF) model	1	the capabilities of the technology characterised by task characteristics, technology characteristics, utilisation, and performance affect the individual's task	Chen and Huang (2017)
The Affect Infusion Model (AIM)	1	the influences of mood would become accelerated in complex and unanticipated situations.	Zhang <i>et al.</i> (2012)

#### 2.4.2. Contexts

According to Paul et al. (2017), context pertains to the specific setting or circumstances in which the research was conducted. Table 4 offers a summary of contextual coverage. Accordingly, this review considered four main contexts: countries, respondents, industries, and special contexts.

In terms of countries, 112 studies concentrate on one country. About 15.7% (21 studies) use samples wherein more than one country is included. It implies that comparative research has been less concerned. Further, researchers pay great attention to the Asian nations. Of these, roughly 18% (24 studies) are concentrated in China, the largest e-commerce market in Asia. 11.27% (15 studies) focused on Taiwan, and 10% (14 studies) focused on Indonesia. It is unsurprising because they are also the nations with the highest production of PR&PI research. The United States market is also concerned with 8 studies. The composition of countries is worrying as smaller markets, such as African, Central European, and emerging markets, appear to be underrepresented and, thus, deserve scrutiny in future research.

In terms of respondents, e-shoppers, or e-consumers, are the most preferred group of samples, accounting for over 60% of total studies. Roughly 15.7% of the studies have used a sample of online users. The studies using the sample of students account for 13%. Further, only 9% of the studies used a discipline-specific sample (e.g., travellers, online banking users, and social media users).

**Table 4: Contextual coverage – Source: Author's contribution**

Context	No. of articles	% of articles	Context	No. of articles	% of articles
<b>Countries</b>			<b>Countries (contd.)</b>		
China	24	18.045	Bolivia	1	0.75
Taiwan	15	11.278	Canada	1	0.75
Indonesia	14	10.526	Chile	1	0.75
India	8	6.015	Germany	1	0.75

United State	8	6.015	Korea	1	0.75
Malaysia	6	4.511	Kuwait	1	0.75
South Korea	5	3.759	Mexico	1	0.75
Portugal	4	3.008	Morocco	1	0.75
UK	4	3.008	Netherland	1	0.75
Australia	2	1.504	Pakistan	1	0.75
Brazil	2	1.504	Romania	1	0.75
Egypt	2	1.504	Slovenia	1	0.75
Thailand	2	1.504	South Africa	1	0.75
Vietnam	2	1.504	Spain	1	0.75
				112 <sup>a</sup>	84.21%
<b>Respondent</b>			<b>Respondent (contd.)</b>		
E-shopper	83	62.406	Student	18	13.53
Online banking user	1	0.752	Traveller	6	4.51
Online user	21	15.789	Social media user	4	3.01
				133	100%
<b>Industries</b>			<b>Industries (contd.)</b>		
Hospitality industry	15	11.28	Retail industry	12	9.02
Food industry	6	4.51	Service industry	3	2.26
				36 <sup>b</sup>	27.07%
<b>Special context</b>					
COVID 19	7 <sup>c</sup>		Cultural difference context	6	

<sup>a</sup>21 papers used samples wherein more than one country is included

<sup>b</sup>97 studies used E-commerce general context

<sup>c</sup>Counted in 57 studies during 2019-2023

In terms of industries, most of the studies concentrate on a general context of e-commerce (97 studies), in which several studies also mentioned other e-commerce channels, such as mobile e-commerce and social e-commerce. Around 18% of the studies investigated a specific industry, such as the hospitality industry in terms of tourism, food delivery services, and restaurant sectors; the food industry with the food distribution sector; and the service industry with banking and health care sectors. Further, roughly 9% of the studies focusing on the retail industry investigated the relationship between perceived risk and purchase intention on e-commerce platforms, including Jingdong, Taobao, Alibaba, Amazon, Aliexpress, Ebay, Shopee, and IKEA.

Significantly, the results also reveal some special contexts discussed in the literature, such as cultural differences and COVID-19 contexts. The review shows that only 7 studies out of 57 studies during 2019-2023 mentioned the context of COVID-19. Further, only 6 studies mentioned the cultural difference as a special context, though 21 studies used a sample of more than 1 country.

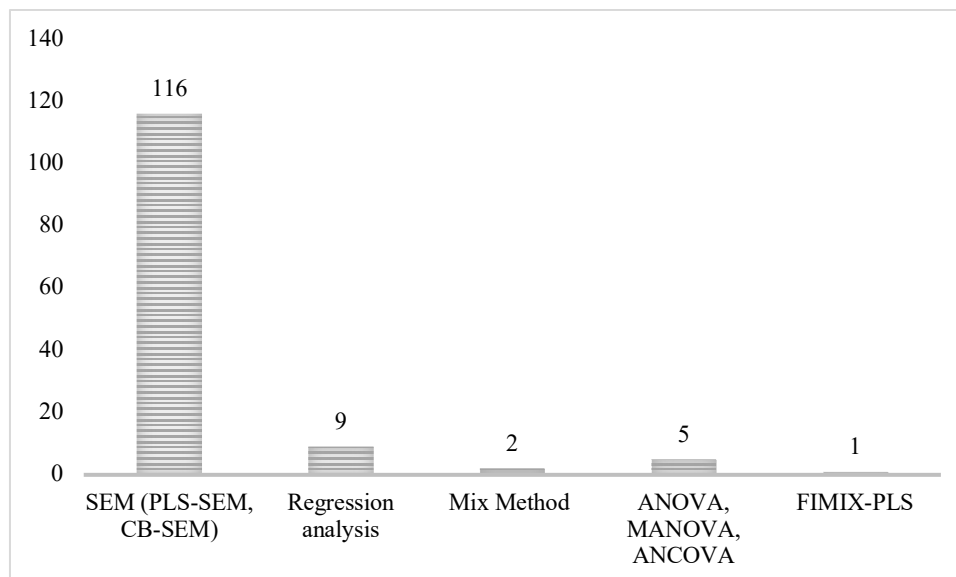
### 2.4.3. Methods

Methods involve the various research methodologies and analytical techniques employed by scholars. The review only focuses on empirical research using primary data. To assess the literature in terms of methods, a total of 133 papers were examined, taking into account the research approaches and the statistical techniques. Further, the methodological approaches to modelling the concept of perceived risk were also explored. Of these, over 96% of the studies applied a quantitative approach (Table 5). Only 2.26% of the studies (3 studies) adopted experiments in the research. Only 1 study combined a design of experiment (DOE) and a quantitative approach. Qualitative and experimental research approaches were the least used, which encourages future research to be pursued.

**Table 5: Research approach – Author’s contribution**

Research approach	No. of articles	% of articles
Primary data (N=133)		
Quantitative	129	96.99
Experimental	3	2.26
Experimental and quantitative	1	0.75

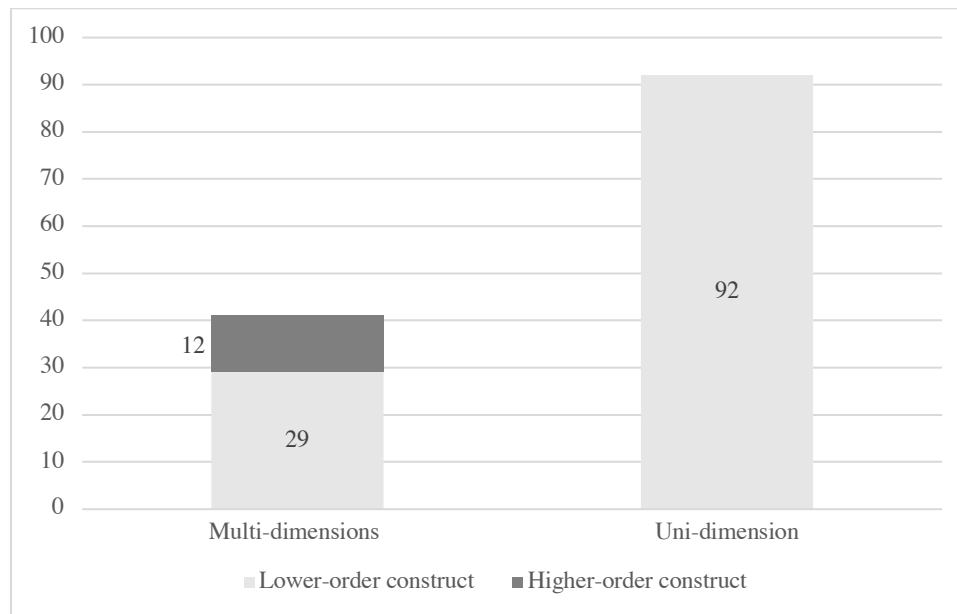
Figure 9 shows the statistical methods adopted in the literature. It is observed that Structural Equation Modelling (SEM) is the most widely used method (116 studies). Of these, 31 studies reported to apply PLS-SEM to analyse the sample. Regression analyses are also preferred with several methods such as multi-regression analysis and hierarchical regression analysis. Other methods such as ANOVA, MANOVA, and ANCOVA were also applied. Further, 2 studies recorded adopted a mix method in the study.



**Figure 9: Statistical methods – Author’s contribution**

Especially, the results demonstrate that most studies approached perceived risk as a uni-dimensional construct (92 studies) (Figure 10). On the other hand, 41 studies examined

perceived risk as a multi-dimensional construct with several types of risk. In terms of methodology, the review explored two popular methods of modelling perceived risk, including lower-order and higher-order models. Of these, lower-order modelling is the most widely used, with 121 studies. Only 12 studies modelled and assessed the perceived risk as the higher-order variable.

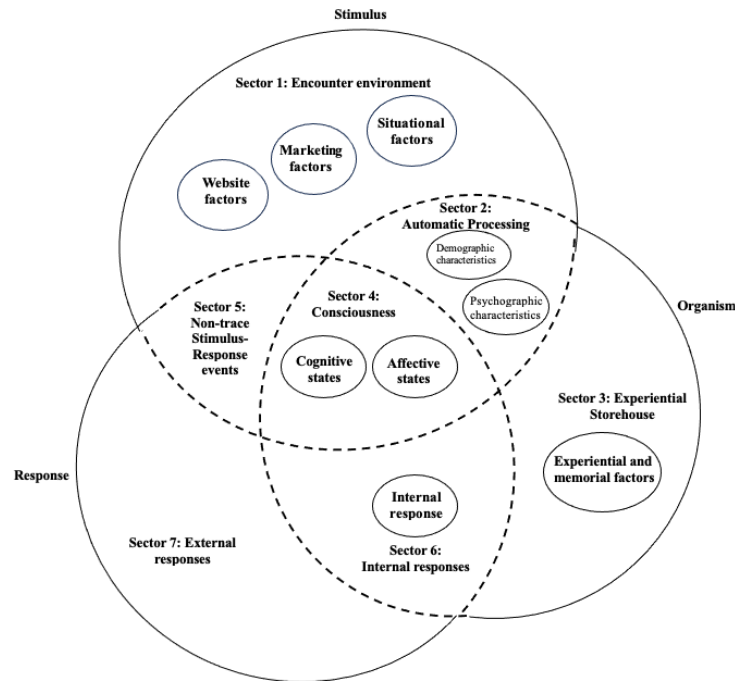


**Figure 10: Modelling construct of perceived risk – Author’s contribution**

## 2.5. Distribution of articles by the SOR model

As seen in the theory analysis, the SOR framework has been preferred to model and explain the relationship between perceived risk and purchase intention in e-commerce. Consequently, this review also applied this framework to organise the research findings. However, different from other research that constructed a sequential SOR manner, this review visualises the SOR as a Venn diagram (Figure 11). The impact of perceived risk on purchase intention in e-commerce is an internal, psychological process of consumers. Therefore, the SOR model is appropriate to explain a variety of phenomena, constructs, and relationships that are both internal and external to the organism (consumer). Further, it is not always clear whether the culture of consumers should be outside or inside factors and whether the relationships among factors such as stimulus, organism, or response are sequential or not. Therefore, the Venn diagram implies that relationships between perceived risk, purchase intention, and other influencing factors in the SOR model are sometimes psychological, fluid, and dynamic.





**Figure 11. Visualisation of the SOR framework adapted from Jacoby (2002)**

Sector 1. Encounter environment – External stimuli: Sector 1 consists of the external stimuli that the consumers or individual encounters at the moment in time. It includes 3 groups of factors, such as (i) website-related factors, (ii) marketing-related factors, and (iii) situational factors.

Sector 2. Automatic processing – Internal stimuli: Sector 2 is an overlapping area between the stimulus and the organism. Sector 2 involves internal stimuli that surface within the organism (Jacoby, 2002). These stimuli are non-visible. However, they can stimulate consumers’ perceived risk and purchase intention. The review categorised these internal stimuli into demographic and psychographic characteristics (Satyavani and Chalam, 2018).

Sectors 3. Experiential storehouse: It includes experiential and memory factors.

Sector 4. Consciousness: it presents the confluence of stimulus, organism, and response. The intention behind it is to imply that humans typically do not sequentially analyse incoming inputs. Instead, while the organism receives and processes sensory inputs, it simultaneously responds (perhaps only internally) to those and other inputs. This sector includes the consumers’ cognitive and affective states.

Sector 5. Internal response: Internal response refers to the non-visible response.

### **2.5.1. Perceived risk as a cognitive state**

Relying on the SOR model, the organism refers to consumers’ internal evaluation. This evaluation can be a cognitive or affective assessment. As mentioned previously, cognitive

and affective states belong to sector 4, the confluence of stimulus, organism, and response. Cognitive states pertain to the various concerns surrounding shoppers' interpretation of online information and the subsequent thoughts and beliefs regarding the product or service (Hajiheydari *et al.*, 2017). Therefore, perceived risk can be one of the cognitive responses of customers during online shopping.

The review results indicate two fundamental research lines regarding perceived risk in e-commerce. First, perceived risk is considered a unidimensional concept (92 studies), which means the researchers primarily examine perceived risk as a single conceptual structure, neglecting to delineate distinct categories of risk. In these studies, scholars concentrate on explaining the relationships between perceived risk and other factors such as trust (Chang *et al.*, 2019; Choon *et al.*, 2011; Ilhamalimy and Ali, 2021; Mezger *et al.*, 2020; Suprpto *et al.*, 2022), attitude (Liao and Huang, 2021; Lin *et al.*, 2019; Tran and Nguyen, 2022), purchase intention (Gašper *et al.*, 2018; Pillai *et al.*, 2022; Vo *et al.*, 2022), etc. Additionally, several scholars have investigated the moderating role of perceived risk (14 studies). For instance, Tam *et al.* (2022) examine the moderating role of perceived risk in the effect of trust on intention. Ali and Aziz (2022) investigate the moderating effect of perceived risk on the connection between online experience and purchase intention.

Second, perceived risk is considered a multidimensional concept (41 studies), which means that scholars classify perceived risk into several sub-dimensions. Some common sub-dimensions of perceived risk are given in Table 6. In addition, researchers offer appropriate categorizations based on the industries they are examining. For instance, the study of Choi *et al.* (2013) on the dimensions of consumer risk and benefit perception towards street food delivery involves the categorization of perceived risk into four distinct sub-dimensions (i.e., hygienic risk, environmental risk, health risk, and social-psychological risk). Regarding the hospitality sector, Lho *et al.* (2022) examine two aspects of perceived risk: social and performance risks. By contrast, studies on travel categorise perceived risk into price risk, quality risk, web-vendor quality and security risk (Pappas, 2016). Notably, the multidimensional research stream mainly examines the independent relationships between each dimension of perceived risk (also called the lower-order model) and other factors. For instance, Hong and Cha (2013) investigated impacts of 7 dimensions of perceived risk on trust and purchase intention. Similarly, Ariffin *et al.* (2018) examined the relationship between 6 factors of consumers' perceived risk and purchase intention. The majority of experts in this field agree that the impact of risk is applicable just to certain categories of

risk, rather than to the general perception of danger. Moreover, it is crucial to examine the various categories of perceived risk as separate variables and their distinct effects.

**Table 6. Dimensions of perceived risk – Source: Author’s collection**

<b>Types of perceived risk</b>	<b>Explanation</b>	<b>Study</b>
Financial risks	The belief that a certain sum of money is required or may be forfeited for a product to function properly	Alrawad <i>et al.</i> (2023); Ariff <i>et al.</i> (2014); Pillai <i>et al.</i> (2022); Rosillo-Díaz <i>et al.</i> (2019); Sharma and Crossler (2014)
Seller’s fraud risk	Concerns about the reliability of online sellers, such as product information not reflecting actual quality, difficulty in finding a place to resolve disputes that arise when buying online	Nguyen <i>et al.</i> (2021)
Performance risk	The potential for customers to experience stress as a result of their buying habits.	Hamed and El-Deeb (2020); Lin <i>et al.</i> (2022); Pentz <i>et al.</i> (2020); Sharma <i>et al.</i> (2022); Thakur and Srivastava (2015)
Time loss risk	Time lost due to difficulties navigating the website, submitting the product order, and waiting for the product delivery	Ariffin <i>et al.</i> (2018); Chen <i>et al.</i> (2012); Jillian <i>et al.</i> (2015); Nepomuceno <i>et al.</i> (2014)
Social risk	Fear of societal rejection or isolation due to the sort of goods purchased or the online store used	Lho <i>et al.</i> (2022); Pentz <i>et al.</i> (2020); Sharma <i>et al.</i> (2022); Wu and Ke (2015)
Delivery risk	Lost or damaged products and shipping to the wrong location after buying	Hong (2015); Rahmi <i>et al.</i> (2022); Yang <i>et al.</i> (2015)
Privacy risk	The probability for consumers feels angry due to online retailers use their personal information without permission and proper ways	Chen and Huang (2017); Martin <i>et al.</i> (2015); Rahmi <i>et al.</i> (2022); Rosillo-Díaz <i>et al.</i> (2019); Sharma <i>et al.</i> (2022)
Psychological risk	A possibility for consumers scares self-image and self-concept will be lost and the products may not suit for their image due to the product purchased	Alrawad <i>et al.</i> (2023); Ariff <i>et al.</i> (2014); Pillai <i>et al.</i> (2022); Rosillo-Díaz <i>et al.</i> (2019); Sharma and Crossler (2014)
Information risk	A possibility of losing control of personal information	Alrawad <i>et al.</i> (2023); Nguyen <i>et al.</i> (2021)
Product risk	The perception that a purchased product may not perform as expected	Ariffin <i>et al.</i> (2018); Pillai <i>et al.</i> (2022); Rahmi <i>et al.</i> (2022); Salim and Bahanan (2022)
Security risk	Unfavourable factors contributing to the slow growth rate of user acceptance of e-commerce	Ariffin <i>et al.</i> (2018); Han and Kim (2017); Tandon <i>et al.</i> (2017)

### 2.5.2. Affective states

The affective state involves emotional reactions arising when consumers interact with stimuli, long-term memories, and cognitive states. The affective state is also part of the

organism. The systematic review shows that trust, attitude, satisfaction, and emotion are mostly cited as affective states in the literature (Table 7).

**Table 7. Patterns between cognitive and affective states – Author’s contribution**

Relationship	Studies	Relationship (cont.)	Studies (cont.)
trust => PR *	Amaro and Duarte (2015); Kesharwani and Singh Bisht (2012)	time risk => attitude(-)^	Sinha and Singh (2017)
product price risk => product trust(-)*	Pappas (2016)	delivery risk => attitude (-)^	Sinha and Singh (2017)
product quality risk => product trust (-)*	Pappas (2016)	product risk => attitude (-)*	Suki and Suki (2017)
security risk => vendor trust (-)*	Pappas (2016)	financial risk => attitude (-)^	Suki and Suki (2017)
performance risk => trust(-)*	Hong and Cha (2013)	time risk => attitude (-)^	Suki and Suki (2017)
psychological risk => trust(-)*	Hong and Cha (2013)	PR => emotion(-) *	Kim and Lennon (2013)
social risk => trust (-) ^	Hong and Cha (2013)	PR => satisfaction (-)*	Chen, <i>et al.</i> (2015); Martin <i>et al.</i> (2015); Natarajan <i>et al.</i> (2017); Shukla (2014)
financial risk => trust (-)^	Hong and Cha (2013)	Satisfaction => PR*	Gan and Wang (2017)
online payment risk => trust (-)^	Hong and Cha (2013)	financial risk => satisfaction (-)*	Tandon <i>et al.</i> (2017)
delivery risk => trust(-)^	Hong and Cha (2013)	product risk => satisfaction(-)*	Tandon <i>et al.</i> (2017)
PR => trust(-) *	Yang <i>et al.</i> (2015)	time risk => satisfaction (-)*	Tandon <i>et al.</i> (2017)
PR => attitude (-) *	Meents and Verhagen (2018); Zhou and Liu (2022); Zhu <i>et al.</i> (2011)	social risk => satisfaction (-)*	Tandon <i>et al.</i> (2017)
financial risk => attitude (-)*	Sinha and Singh (2017)	security risk => satisfaction(-)*	Tandon <i>et al.</i> (2017)
product risk => attitude (-)*	Sinha and Singh (2017)	security risk => satisfaction (-)*	Tandon <i>et al.</i> (2017)
Trust in website, vendor, group member => PR*	Hsu <i>et al.</i> (2014)	Trust in website, vendor, group member => attitude*	Hsu <i>et al.</i> (2014)

Notes: \*Significant effect; ^Insignificant effect; (-) negative hypothesis

The concept of trust varies in PR&PI research. Consumers’ trust includes trust in brands (Gong *et al.*, 2022), trust in sellers, trust in intermediaries (Malak *et al.*, 2021), and trust in the Internet (Amaro and Duarte, 2015; Kesharwani and Singh Bisht, 2012; Yang *et al.*, 2015). Most of the studies figured out the negative relationship between perceived risk and trust in e-commerce, such as studies by (Hong and Cha, 2013; Pappas, 2016; Yang *et al.*, 2015). Accordingly, if consumers perceive a higher level of risk in e-commerce, they tend to decrease their trust. However, the study by Hong and Cha (2013) only confirmed the

significant negative impacts of two sub-dimensions on trust (i.e., performance risk and psychology risk).

The factor of attitude was also frequently examined in the literature. Attitude is defined as positive or negative feelings toward online sellers (Pillai *et al.*, 2022). Generally, scholars argued that perceived risk causes the attitude of customers toward online shopping to worsen. Meents and Verhagen (2018) showed that perceived risk was considered the determinant of consumer's attitude. Accordingly, consumers are generally less positive about conducting themselves in a particular way if they perceive that there are risks associated with the transaction.

Similarly, satisfaction was also cited as another affective state. According to Tandon *et al.* (2017), satisfaction is the customer's response to indicating their contentment, which is an emotion-based evaluation. Scholars also figured out the negative impacts of each risk dimensions on consumers' satisfaction (Chen, *et al.*, 2015; Martin *et al.*, 2015; Natarajan *et al.*, 2017; Shukla, 2014).

The factor of emotion was underrepresented in PR&PI studies, as few studies investigated this relationship. Emotion is the set of clearly felt feelings that are triggered when using or consuming a product. It can be described by the different types of emotional experience and expression, like happiness, anger, and fear (Kim and Lennon, 2013). The research of Kim and Lennon (2013) found that perceived risk generates these negative emotions and lowers purchase intentions.

Furthermore, most studies indicate that perceived risk has been considered the antecedent of affective states such as trust, attitude, emotion, and satisfaction. Accordingly, if consumers perceive a higher level of risk in e-commerce, they tend to decrease their trust, satisfaction, positive attitude, and emotions. However, the research by Amaro & Duarte (2015) and Kesharwani & Singh Bisht (2012) reveal that trust can be the antecedent of perceived risk. If consumers trust the e-commerce website, online vendors, and groups of reference members, their risk perception may be reduced (Hsu *et al.*, 2014). Generally, the review implies that factors in the organism may not operate sequentially. Alternatively, the factors can inter-correlate and impact each other.

### **2.5.3. Experiential storehouse**

The experiential storehouse refers to the factor residing in a consumer's long-term memory. It includes experiential and memory factors associated with prior experiences, knowledge, beliefs, awareness, and expectations, as well as the culture of the consumer. These factors are part of the environment encountered earlier. However, they were incorporated into the

organism and introduced as a part of the organism (Jacoby, 2002). Several experiential and memory factors were found in the literature, such as consumer expectation, experience, habit, familiarity, knowledge, and culture (Table 8).

**Table 8. Patterns among experiential factors, cognitive, and affective states – Source: Author’s contribution**

Relationships	Studies	Relationships (cont.)	Studies (cont.)
Brand awareness => PR*	Rahmi <i>et al.</i> (2022)	culture => trust *	Pratesi <i>et al.</i> (2021)
shopping experience => PR*	Mohseni <i>et al.</i> (2018); Sharma <i>et al.</i> (2022); Tong (2010); Martin <i>et al.</i> (2015)	habit => satisfaction *	Tandon <i>et al.</i> (2017)
experience => satisfaction*	Sharma <i>et al.</i> (2022)	familiarity => trust *	Dachyar and Banjarnahor, (2017); Rouibah <i>et al.</i> (2016)
experience => trust *	Agag and El-Masry (2017)	proficiency => website trust *	Agag and El-Masry (2017)
culture => PR*	Pratesi <i>et al.</i> (2021); Rosillo-Díaz <i>et al.</i> (2019); Tong (2020)	knowledge => trust *	Zhu <i>et al.</i> (2011)
		consumer knowledge v trust*	Nurunnisha (2019)
culture x trust =>PR*	Park <i>et al.</i> (2012)	culture x trust =>PI*	Park <i>et al.</i> (2012)

*Notes: \*Significant effect; ^Insignificant effect; (-) negative hypothesis*

The direct impact of consumers’ experiential storehouses on PR&PI could be attributed to consumers’ shopping experiences. Accordingly, consumers with positive experiences in e-commerce perceive lower risks and tend to purchase on the platform (Martin *et al.*, 2015; Mohseni *et al.*, 2018). Brand awareness among consumers was found to impact perceived risk in e-commerce (Rahmi *et al.*, 2022).

Notably, culture is also considered an experiential and memory factor. The reason is that once the consumer incorporates the cultural component into their mindset, it may become deeply ingrained in their memory and difficult to access or recover (Jacoby, 2002). Culture is described as the collective mental conditioning that differentiates one group of individuals from another (Ganguly *et al.*, 2010). Culture encompasses systematic modes of thought, emotion, and response, acquired and conveyed primarily through symbols, representing the unique accomplishments of human societies, including their manifestations in artefacts; the fundamental essence of culture comprises traditional (i.e., historically derived and selected) concepts and their associated values (Sarma, 2014). The systematic review reveals that studies on the impact of culture have been under-represented in the PR&PI literature since 2010. Scholars show that culture affects consumers’ risk perceptions (Pratesi *et al.*, 2021).

Rosillo-Diaz et al. (2019) demonstrate that the perceived risk associated with e-commerce websites is more pronounced among customers exhibiting stronger uncertainty avoidance and those with collectivist tendencies. Jacoby (2002) also reveals that many core phenomena across sectors can occur in the experiential storehouse. For instance, information from external stimuli enters consciousness in the organism and combines with information retrieved from the experiential storehouse to create new beliefs. This belief is then stored in the individual's experiential storehouse. According to Park et al. (2012), cultural dimensions also moderate the relationships between external stimuli and consumers' online trust, between online trust and perceived risk and willingness to purchase.

Further, the review also reveals that the cultural factor was underrated in the literature of PR&PI in e-commerce. In particular, few discussions of theoretical and methodological aspects towards the cultural factor were found on this topic. Scholars mostly agree that cultural difference is the national factor, meaning nations with different cultures face perceived risk differently. This view applied the national scores to measure cultural differences, such as The Value Survey Module (VSM 94) by Hofstede (1994) in studies by (Park *et al.*, 2012; Tong, 2010). In other aspects, studies by (Pratesi *et al.*, 2021; Rosillo-Díaz *et al.*, 2019) approached Hofstede's national cultural value model. This approach encounters no difficulties when the unit of study is a country. However, these scholars have used a measurement developed by Yoo et al. (2011), who approached culture at the individual level. In other words, these studies utilised the individual as the unit of the study. Consequently, this results in a serious paradox, as people acquire unique variations even when they are born and raised in the same country.

#### **2.5.4. Purchase intention as an internal response**

As mentioned previously, internal response refers to the non-visible response. It is not directly visible to an outsider, and it results from prior conscious processing. The sector of internal responses is located by the confluence between organism and response, as they are characterised by behavioural factors. However, they are invisible from the outside. Purchase intention is cited as an internal response variable in the literature. Purchase intention is seen as the readiness to participate in a purchasing transaction (Hansen *et al.*, 2018). A consumer's purchase intention is essential to predict consumers' actual behaviour. Consequently, Perceived risk influences buying intention (Liao *et al.*, 2021; Mohseni *et al.*, 2018; Sari *et al.*, 2020; Sharma *et al.*, 2022; Vo *et al.*, 2022).

Table 9 presents the affecting mechanisms of determinants (e.g., stimuli, perceived risk, and affective states) on purchase intention in e-commerce. Accordingly, scholars presented

multiple patterns describing the impacts of determinants on purchase intention in e-commerce. A partial S-O-R pattern has been investigated frequently, in which consumers' purchase intention (response) is driven by a cognitive or affective interaction between the individual (organism) and a stimulus. For instance, Featherman *et al.* (2021) explored the impact of vendor expertise and trustworthiness on perceived risk and purchase intention in e-commerce. He *et al.* (2022) assert that product legitimacy, third-party validation, governmental credibility, and influencer endorsements may alleviate customers' perceived risk, hence enhancing buy intention. Similarly, Shao *et al.* (2021) revealed that return policy and tariff refund in e-commerce decreased consumer's risk perception, then improving their purchase intention.

By contrast, other studies adopted a complete S-O-R model, which implies that purchase intention was influenced by a sequential cognitive-to-affective interaction between the individual (organism) and a stimulus, such as studies by Kim and Lennon (2013); Rouibah *et al.* (2016); Shukla (2014); Sodadasi and Jyothi (2017); Wu *et al.* (2011). Accordingly, studies indicated that trust, attitude, satisfaction, and emotion mediate the effect of perceived risk on purchase intention in e-commerce. For instance, Wu *et al.* (2011) found that perceived risk worsens consumer's attitudes towards e-commerce, lowering their intention to purchase. However, product price and seller reputation mitigate perceived risk. The study by Kim and Lennon (2013) reveals that seller reputation, website design, service, reliability, and security are determinants that minimising perceived risk, while promoting positive feelings and purchase intention.

Furthermore, two distinctive patterns, including S-cognitive state-R and S-affective state-R, were also investigated simultaneously. For instance, Amarullah *et al.* (2022) showed that E-WOM credibility impacts purchase intention via trust rather than perceived risk.

**Table 9: Affecting mechanisms on purchase intention – Source: Author's contribution**

Relationships	Study	Relationships (cont.)	Study (cont.)
product authenticity =>PR* =>PI*	He <i>et al.</i> (2022)	positive online comment => PR* => PI*	Zhao <i>et al.</i> (2017)
third party =>PR* =>PI*	He <i>et al.</i> (2022)	seller reputation => trust* => PR* => PI*	Dachyar and Banjarnahor (2017)
government credibility =>PR* =>PI*	He <i>et al.</i> (2022)	website reputation => risk* => trust* => PI*	Sodadasi and Jyothi (2017)
officer streamers =>PR*=>PI*	He <i>et al.</i> (2022)	website quality => PR* => PI*	Wang (2017)
social media marketing => PR* =>PI*	Chafidon <i>et al.</i> (2022)	information costs => PR* => PI*	Wang (2017)



personalisation of the website => PR* => Intention*	Alimamy and Gnoth (2022)	Information quality => PR^ => PI*	Bebber <i>et al.</i> (2017)
E-WOM credibility => PR^ => PI*	Amarullah <i>et al.</i> (2022)	third-party seal => PR* => intention^	Rouibah <i>et al.</i> (2016)
E-WOM credibility => trust* => PI*	Amarullah <i>et al.</i> (2022)	third-party seal => PR* => trust*=> PI*	Rouibah <i>et al.</i> (2016)
vendor trustworthiness => PR* => PI*	Featherman <i>et al.</i> (2021)	E-WOM => PR* => PI*	Lim (2015)
vendor expertise => PR* => PI*	Featherman <i>et al.</i> (2021)	Internet ads => PR* => PI*	Lim (2015)
return policy => PR* => PI*	Shao <i>et al.</i> (2021)	price dispersion => PR* => trust*=> PI*	Wu <i>et al.</i> (2015)
tariff refund => PR* => PI*	Shao <i>et al.</i> (2021)	order fulfilment => PR* => trust* => PI*	Shukla (2014)
Negative review => PR* => attitude* => PI*	Liao and Huang (2021)	visual appeal => PR* => trust* => PI*	Shukla (2014)
seller reputation => PR* => PI*	Malak <i>et al.</i> (2021)	absence of errors => PR* => trust* => PI*	Shukla (2014)
perceived effectiveness of e-commerce institutional mechanisms => PR* => PI*	Han and Li (2020)	brand image => PR* => trust* => PI*	Shukla (2014)
website security => PR* => trust* => PI^	Sari <i>et al.</i> (2020)	order fulfilment => PR* => satisfaction* => PI*	Shukla (2014))
website privacy => PR* => trust* => PI^	Sari <i>et al.</i> (2020)	visual appeal => PR* => satisfaction* => PI*	Shukla (2014)
E-WOM => trust^ => PI^	Sari <i>et al.</i> (2020)	absence of errors => PR* => satisfaction* => PI*	Shukla (2014)
website reputation => trust* => PI*	Sari <i>et al.</i> (2020)	Seller reputation => PR* => emotion* => PI*	Kim and Lennon (2013)
website security => PR*=> PI*	Sari <i>et al.</i> (2020)	website design => PR* => emotion* => PI*	Kim and Lennon (2013)
website security => PR* => PI*	Sari <i>et al.</i> (2020)	website reliability => PR* => emotion* => PI*	Kim and Lennon (2013)
website quality => PR* => trust* => PI*	Chang <i>et al.</i> (2019)	website service => PR* => emotion* => PI*	Kim and Lennon (2013)
brand equity => PR* => trust*=> PI*	Chang <i>et al.</i> (2019)	website security => PR* => emotion* => PI*	Kim and Lennon (2013)
quality label => PR* => PI*	Yu <i>et al.</i> (2018)	website design => PR* => PI*	Kesharwani and Singh Bisht (2012)
product transparency => PR* => PI*	Zhou <i>et al.</i> (2018)	social influence => PR* => PI*	Kesharwani and Singh Bisht (2012)
vendor transparency => PR* => PI*	Zhou <i>et al.</i> (2018)	mood => PR^ => PI*	Zhang <i>et al.</i> (2012)
transaction transparency => PR* => PI*	Zhou <i>et al.</i> (2018)	product price => PR* => attitude*=> PI*	Wu <i>et al.</i> (2011)
fear of financial loss => PR* => PI*	Gašper <i>et al.</i> (2018)	seller reputation => PR* => attitude*=> PI*	Wu <i>et al.</i> (2011)
fear of reputation damage => PR* => PI*	Gašper <i>et al.</i> (2018)	Product information => PR* => PI*	Tsai and Yeh (2010)
brand reputation => PR* => PI*	Mohseni <i>et al.</i> (2018)	service => PR* => PI*	Tsai and Yeh (2010)
personal value => PR* => PI*	Mohseni <i>et al.</i> (2018)	website design => PR* => PI*	Tsai and Yeh (2010)

reference group => PR* => PI*	Zhao <i>et al.</i> (2017)	transaction & delivery capacity of the seller => PR* => PI*	Tsai and Yeh (2010)
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Notes: \*Significant effect; ^Insignificant effect.

## 2.6. Recommendations for future research

Based on the systematic review, various gaps emerged from 133 studies. Using these as a foundation, the study set a future research agenda for PR&PI in e-commerce. Several research directions were suggested to guide future research (Table 10).

**Table 10. Future research questions – Source: Author’s contribution**

	Gap area	Type of gap	Research Directions (D)
Theory	In particular circumstances, perceived risk theory is not explained by the authors, although they are obvious from the discussion.	Theoretical	D1: Future research should provide more explanation on perceived risk theory
	Theories applied to PR&PI are limited in TAM and TPB theories. Other behavioural economics, socio-psychological, and cultural theories are less used.	Theoretical	D2: Future research should explore behavioural economics, social-psychological, and cultural theories and models to explain consumers’ risk perception and behaviour in e-commerce.
Context	Limited studies about the less-developed e-commerce markets	Population	D3: Future research should investigate consumers’ perceived risk and purchase intention in different countries, cultures, and special contexts
	Limited studies about the special context such as pandemic and world conflicts	Population	
Methods	Need more qualitative and experimental studies	Methodology	D4: Qualitative and experimental research should be applied to explore consumers’ perceived risk and purchase intention in e-commerce.
	Need more study in modelling perceived risk as a higher-order construct (HOC)	Methodology	D5: The construct of perceived risk should be modelled as a higher-order construct
Organism	Limited studies on role of cultural factor	Empirical	D6: The role of culture (e.g., moderating role) should be concentrated in studies of consumers’ risk perceptions and behaviours in e-commerce
	Limited studies on emotional factors (e.g., negative emotions)	Empirical	D7: The role of affective risk (negative emotion) should be examined in the process of decision-making

### 2.6.1. Theory

The results show that the authors did not explain perceived risk theory in particular circumstances, although they are obvious from the discussion. Perceived risk theory is used

to elucidate consumer behaviour in decision-making. Accordingly, consumers are driven by the desire to minimise risk rather than maximise benefit when making a purchase (Mitchell, 1992). In general, researchers establish perceived risk according to the specific conditions of their studies. For instance, in the context of the hospitality industry, risk perception tends to be more pronounced when a product is novel or when there is little knowledge about it. The degree of perceived risk is further heightened when goods or services include direct food intake (Hwang and Choe, 2020). Similarly, with the increasing popularity of e-commerce, perceived risk theory is also adopted to explain consumer's views about the possible negative consequences and uncertainties associated with participating in online transactions (Sharma *et al.*, 2022). This calls for a discussion of the perceived risk theory with the behavioural intentions of e-commerce consumers at their core. For instance, the theoretical backgrounds for research streams towards perceived risk should be concentrated. Although the literature review shows two primary streams of perceived risk research including uni-dimensional and multi-dimensional, prior academics have not extensively examined their theoretical foundations. This raises the research direction:

- D1. Future research should provide more explanation on perceived risk theory

Second, prior researchers have drawn heavily from theories such as TAM, TPB, TRA. These theories focus on explaining individual behaviours and behavioural intentions in the online environment, such as e-commerce. The study suggests that alternative theories and frameworks could elucidate consumer behaviour through the lenses of economics, psychology, and culture.

Behavioural economic theories such as rational choice theory and game theory might be applied to explain consumer behaviour and risk perception. For instance, rational choice theory posits people make decisions following a rational evaluation of their preferences and all pertinent information. In social dimensions, it explains that user reviews and other factors can affect a group of people's reaction to a product, whether that reaction is favourable or unfavourable. This response can impact an individual's opinion and motivation to take action, such as purchasing. Furthermore, individual decisions to either buy or not buy a product can have a broader societal effect, resulting in a decrease or increase in the product's sales rank (Sajedikhah *et al.*, 2023). The rational choice theory is meaningful in examining the influence of perceived risk on consumer behaviour, as consumers are considered to analyse risk and benefit simultaneously before arriving at final decisions. The case for this point is the study of He *et al.* (2022). These scholars revealed that live streaming exposes online consumers to both benefits and perceived risks, such as product quality risk, personal

information leakage, and financial loss. Consequently, consumers' purchase intention should be considered based on other factors relative to streamers, products, or government credibility. As an extension of rational choice theory, game theory also has potential in this research domain. The primary regulation of the game theory is that the players make decisions based on their gained information (Rajbhandari and Snekenes, 2011). However, the e-commerce environment is characterised by the information asymmetry about the product and service qualities existing between the buyers and sellers (Shao *et al.*, 2021), between different online sellers, and between the sellers and the platform managers (Nana *et al.*, 2022). Consequently, the game theory may contribute to explaining the opportunistic behaviours existing in online transactions (PhamThi, 2022).

Other theories, such as two models of thinking (also called dual process theory), hierarchy of effect (HOE), flow theory, etc., may be useful in explaining consumers' risk perceptions and behaviours in e-commerce. For instance, According to Chiu *et al.* (2014), prospect theory is valuable, since it clarifies the asymmetries in consumer behaviour about perceived losses and benefits in online buying, highlighting the influence of emotions and risk perception. Additionally, the neuroscience and cognitive psychology perspectives also introduce the theory of two-model thinking (also called dual process theory) for individuals to comprehend risk, including risk-as-analysis and risk-as-feelings (Slovic *et al.*, 2004). According to these scientists, risk-as-feelings pertain to the individual's rapid, instinctual, and intuitive responses to risks. Whereas, risk-as-analysis applies logical, rational, and scientific thinking to the management of hazards. Therefore, this model may be meaningful to explain the relationship between perceived risk, emotion, and purchase intention in e-commerce.

Further, cultural theory has not been well defined in the PR&PI research yet, despite its significant conceptual connections. Cultural theory postulates that cultural factors influence various aspects of individual behaviour (Hofstede and Bond, 1988). Therefore, it can be applied to explain the variety of consumers' preferences and decisions (Brown *et al.*, 2002; Chen *et al.*, 2005). Hofstede's national cultural value model was approached in studies such as (Chopdar *et al.*, 2018; Rosillo-Díaz *et al.*, 2019). However, these scholars have used a measurement developed by Yoo *et al.* (2011), focusing on the individual level. Therefore, a deeper discussion of cultural theory is needed to explain the differences between national and individual cultures. Further, other cultural models such as GLOBE's or Trompenaar's theories (House *et al.*, 2004; Smith *et al.*, 1996) may also be of value. This suggests that:

- D2. Future research should explore behavioural economics, social-psychological, and cultural theories and models to explain consumers' risk perception and behaviour in e-commerce.

### **2.6.2. Context**

The research on PR&PI in e-commerce has been predominantly conducted in Asian markets and high-developed e-commerce markets, such as China, the USA, India, etc., with less than a fourth of the studies in the less-developed and emerging e-commerce markets. According to Ventre and Kolbe (2020), perceived risk tends to be less for frequent online shoppers. Therefore, it might not be a barrier to the decision-making process of experienced online shoppers. By contrast, consumers with less experience making online purchases in emerging markets may perceive more risk than others (Thakur and Srivastava, 2015). Further, cultural differences can also be a meaningful context in this field, as consumers' behaviours and perceptions are not homogenous across nations and cultures (De Mooij, 2019). Consequently, comparative studies should be highly concerning.

Second, it may be interesting to see how perceived risk influences online consumer purchase intention in special contexts, such as pandemic and world conflict contexts. A little focus has been given to the COVID-19 pandemic in the past. According to Nguyen *et al.* (2021), purchasing food online was booming during the COVID-19 pandemic in Vietnam due to governmental regulations such as social distancing. Therefore, the perception of risk may change when consumers have more experience with online purchasing. The context of COVID-19 was also an opportunity for marketing tools such as E-WOM to share knowledge and experience. Thus, it influences the negative correlation between perceived risk and purchase intention (Nilashi *et al.*, 2022). On the other hand, the pandemic outbreak led to a significant reliance on online shopping. It raises major concerns about perceived privacy, security, and delivery risks (Gong *et al.*, 2022). The results raise the research direction:

- D3. Future research should investigate consumers' perceived risk and purchase intention in different countries, cultures, and special contexts.

### **2.6.3. Method**

The results indicate that too much focus was given to quantitative research with an SEM analysis, which resulted in the replication of the research results. Quantitative research and SEM analysis are powerful tools for investigating complex models. However, most prior studies were limited to widely used methods and techniques, such as cross-sectional data collection and non-probability sampling techniques. Cross-sectional data collection was preferred in this field due to its convenience. However, this type of data collection only

offers a snapshot of consumers' risk perception and purchase intention at a given point in time. Therefore, a longitudinal study may be meaningful to assess the causality of the relationships and the change in consumers' risk perception. Additionally, it may be effective for studies focusing on the impact of stimulus factors on consumer's perceived risk and purchase intention. Further, survey and non-random sampling techniques are prevalent in this review. This method may affect the representativeness of the entire population because of the potential for sampling bias. This has also been one of the challenges for researchers due to their lack of permission to access a list of the population. However, the work of Belanche *et al.* (2012) suggested an interesting technique to support the representative nature of the sample. Accordingly, the socio-demographic characteristics of the sample were compared to available information about a wider population. The congruence in age and sex between the respondents and the population enhances the representativeness of the data. Additionally, it might be a promising endeavour to apply neurophysiological methods, such as electroencephalography (EEG) and electrodermal activity (EDA), to capture perceived risk and its emotional aspects instead of constructs using Likert scales. Electrodermal activity (EDA) can be utilised to record consumers' emotional variables, such as enjoyment, fear, nervousness, and anxiety (Erdos and Horvath, 2023). By contrast, electroencephalography (EEG) supports recording brain activities for risk processing (Baltruschat *et al.*, 2021).

Further, besides the quantitative research approach, the review suggests that qualitative and experimental methods were under-represented in this domain. Qualitative research methodologies, including focus groups and in-depth interviews, are essential for investigating PR&PI, as they enable researchers to examine new phenomena that affect the link between perceived risk and purchase intention. The qualitative method is also better at capturing the social context and cultural nuances that shape an individual's experience (Khan and Razzaque, 2023). In addition, the technique of netnography might be useful for studying online communities, cultures, and social interactions and understanding consumer perception and behaviour in an online environment (Salam *et al.*, 2022). Further, the design of experiments (DOE) is also encouraged in this field to study the impact of stimulus factors, such as online reviews, website stimuli, and marketing stimuli, on consumers' perceived risk and purchase intention. Therefore, the results suggest that:

- D4. Qualitative and experimental research should be applied to explore consumers' perceived risk and purchase intention in e-commerce.

Further, the review shows that the construct of perceived risk was primarily modelled as a lower-order construct (LOC), though the multidimensional approach has been popular in this research field. According to Koufteros *et al.* (2009), multi-dimensional constructs with a strong correlation may not provide a clear factor structure when submitted to factor analysis and hypothesis testing. Whereas a higher-order model acknowledges the significance and preserves the unique characteristics of individual lower-order constructs, seeing them as different aspects of the overarching higher-order construct. Therefore, constructing higher-order constructs may contribute to reducing model complexity and alleviating numerous methodological problems that challenge empirical studies. Therefore, the review suggests that

- D5. The construct of perceived risk should be modelled as a higher-order construct.

#### **2.6.4. Organism**

In contrast, an array of factors associated with organisms contributing to the perceived risk – purchase intention relationship in e-commerce lacks investigation. For instance, the experiential factors residing somewhere in consumers' long-term memories can be further considered. The review shows that most studies investigated the relationships between factors and PR&PI in e-commerce at a cross-sectional point in time. As consumers change over time, their prior experience, awareness, knowledge, and cultural values may integrate new stimuli to change consumers' risk perception and purchase intention (Jacoby, 2002). The thematic analysis also indicates that the topics related to the familiarity, experience, and culture of consumers have a higher degree of development and relevance to the PR&PI field. Therefore, the role of experiential factors should be thoroughly investigated. Further, the cultural factor has been underrated and underrepresented in this field.

Although cultural differences and cross-culture have been mentioned, A deficiency exists in the comprehension of the theoretical and methodological aspects of cultural approaches in PR&PI studies. Accordingly, the discussion of cultural variables and the investigation of their roles should be concentrated on the relationship with PR&PI, as different cultural values may be the background for different perceptions of risks in e-commerce. Additionally, two different approaches to culture have been widely used, including national and individual approaches. The view applied to the national approach shows that cultural differences are reflected in national differences (Karahanna, 2013). However, the individual stream argues that culture is not always correlated with national borders. In certain instances, individuals within society may possess differing cultural values (Yoo *et al.*, 2011). Notably, each approach towards culture has utilised a distinctive measurement. For instance, the

national-level culture often applied the national scores of Hofstede, while the individual-level culture often applied the measurement of Yoo et al. (2011). The current literature on PR&PI in e-commerce has overlooked these issues. Consequently, a thorough knowledge of the operation of culture and its approaches may be meaningful. One another aspect of culture that may be interesting is the nature of its impact on perception and behaviour in e-commerce. The study by Rosillo-Díaz et al. (2019) showed that cultural dimensions directly impact consumers' perceived risk and purchase intention. By contrast, Park et al. (2012) reveal the moderating role of culture in the relationship between trust and perceived risk. Investigating the nature of the impact exposes the affecting mechanism of culture together with the direction of relationships. For instance, the moderating impact highlights the need to recognise the contextual diversity of culture. This knowledge aids in determining whether reported effects are applicable universally or exclusive to a particular culture. By using culture as a moderating element, researchers may improve the applicability of their results, ensuring that their conclusions remain accurate across numerous settings.

- D6. The role of culture (e.g., moderating role) should be concentrated in studies of consumers' risk perceptions and behaviours in e-commerce

Regarding the affective state, the emotional aspect has been underrepresented. Especially, the impact of negative feelings on the correlation between perceived risk and purchasing intention. According to Abdellaoui et al. (2007), negative emotional impacts are more significant than positive emotional ones. Therefore, feelings (e.g., worry, anxiety, threat, and fear) may be a part of the decision-making journey. Future research can also incorporate the role of negative feelings and consumers' cultural values in PR&PI in e-commerce because consumers' negative feelings may sometimes derive from different cultural values.

The interplay between cognitive stage (i.e., perceived risk) and affective state should be further discussed due to the debate that either cognition precedes emotion or emotion precedes cognition. These two views have been observed in this review. For instance, perceived risk was found to be the antecedent of the emotion (Kim and Lennon, 2013). On the other hand, trust was indicated to be the predictive factor of the perceived risk (Malak *et al.*, 2021; Nilashi *et al.*, 2022). The review suggests that:

- D7: The role of affective risk (negative emotion) should be examined in the process of decision-making

## **2.7. Summary**

This chapter began with a systematic review of studies on perceived risk and purchase intention (PR&PI) in e-commerce. In total, 133 studies were retrieved for the analysis. The



results show that since 2010, the number of studies has increased rapidly. Researchers worldwide have been highly concerned about the research topic of perceived risk and purchase intention in e-commerce. Accordingly, scholars from China, Indonesia, Taiwan, the USA, etc. have contributed the highest number of studies to this research field.

Relying on the TCM model, the review found that PR&PI research in e-commerce is frequently investigated through theories and models, such as TAM, TRA, DOI, TPB. However, the number of studies showing theories applied is not equivalent to the number of studies in this research area. Scholars rarely used other psychological, sociological, neuroscience, cultural etc. theories to explain consumers' risk perception and behaviour in e-commerce. Additionally, prior scholars mainly focus on developed e-commerce markets, such as China, the USA and the UK. Smaller and less-developed markets, such as Central Europe, emerging countries (Southeast Asia) etc., appear to be underrepresented. Further, quantitative research and SEM analysis have dominated the literature. The cross-sectional data collection and non-probability sampling techniques are frequently applied in this field. Regarding the measurement of the perceived risk, the review revealed two prevalent approaches, including lower-order (LOC) and higher-order (HOC) variables. However, prior studies have mainly modelled perceived risk as a lower-order construct (LOC).

Regarding the SOR model, the review synthesised the literature on perceived risk and purchase intention in e-commerce in a Venn diagram with 5 sectors. Sectors 1 and 2 depict stimulus factors, involving external and internal factors. Sector 3 presents the experiential and memorial factors, including culture, habit, expectation, knowledge, etc., of consumers. These factors are parts of the organism, residing somewhere in the long-term memory. The role of culture is underrepresented and underrated in prior studies, as scholars failed to analyse cultural theories and its effect on perceived risk and purchase intention. Sector 4 includes cognitive and affective states, in which perceived risk is cited as a cognitive evaluation. The results reveal two research streams of perceived risk, involving uni-dimension and multi-dimensions. Obviously, the uni-dimensional stream is more frequently investigated. By contrast, affective states consist of variables, such as trust, attitude, emotion, and satisfaction. The review also indicates that the aspect of emotion (i.e., negative feelings) are less concerned in this field. Finally, sector 6 involves internal responses (purchase intention). The overall findings are shown in Figure 12. Further, the systematic review also presented an agenda to identify research gaps and propose potential directions for future research on PR&PI in e-commerce.

Theory and Model		Context		Method
UTAUT	Equity theory	<b>Country</b>		<b>Research approach</b> Quantitative research Experiment
UTAUT2	Flow theory	Australia	Kuwait	
TRA	Diffusion of	Bolivia	Malaysia	<b>Special context</b> COVID context Cultural difference context
TPB	innovation theory	Brazil	Mexico	
TAM	Means-end chain	Canada	Morocco	<b>Respondent</b> E-shopper Online banking user Online user Student Traveler Social media user
The protection-motivation theory	theory	Chile	Netherland	
Prospect theory	Social presence theory	China	Pakistan	<b>Statistical Method</b> SEM (PLS-SEM, CB-SEM) Multi-regression analysis Regression analysis Hierarchical multiple regression Mix Method ANOVA FIMIX-PLS MANOVA ANCOVA <b>Modelling "Perceived risk"</b> Lower-order construct (LOC) Higher-order construct (HOC)
Generation cohort theory	Benefit-risk framework	Egypt	Portugal	
Social cognitive theory	SOR framework	Germany	Romania	
Value-based adoption theory	Risk-Benefit Models, Expectation-confirmation model	India	Slovenia	
Two-factor theory	The CSLC framework	Indonesia	South Africa	
Signaling theory	Likelihood model	Jordan	South Korea	
Cue utilization theory	Task-technology fit (TTF) model	Saudi Arabia	Spain	
	The Affect Infusion Model (AIM)	Thailand	Taiwan	
		UK		
		United State		
		Vietnam		

Sector 1: External factor			Sector 2: Internal factor
<b>Website factors</b>	<b>Marketing factors</b>	<b>Situational factors</b>	<b>Demographic characteristics</b>
<i>Website functionality</i>	<i>Brand factors</i>	EWOM	Gender
Technology	Social media marketing activity	Social influence	Age
Personalization	Brand image	Third party seal	<b>Psychographic characteristics</b> Personal value Community belongs Fear and anxiety Hedonic value Hedonic motivation Mood
Navigation	Product marketing activity	Governmental influence	
Visual appeal	Brand equity	Officer streamer	
Presentive measure	Brand popularity	Source credibility	
Accessibility	<i>Product factors</i>	Source expertise	
Loading time	Price	Institutional mechanisms	
Vividness	Product authenticity	Review	
Interactivity	Product	Reference effects	
Design	transparency	Communicability	
Customisation	Quality label	Interpersonal influence	
Consistency	Product category		
Absence of errors	Product information		<b>Sector 3: Experiential storehouse (Long-term memories)</b> Brand awareness Experience Culture Habit Familiarity Proficiency Effort expectancy Performance expectation Knowledge
<i>Website quality</i>			
Security			
Privacy			
Information quality			
Services			
Website credibility			
Website reliability			
Information costs			
Ease of use			
Usefulness			
<b>Sector 6</b>	<b>Sector 4</b>		
<b>Internal Response</b>	<b>Affective state</b>	<b>Cognitive state</b>	
Purchase intention	Trust	Perceived risk	
Intention to buy	Attitude		
Willingness to buy	Emotion		
Repurchase intention	Satisfaction		
Continuous intention			
Behavioural intention			

Figure 12: Overview findings based on S-O-R and TCM frameworks – Source: Author’s contribution

## CHAPTER THREE

### 3. RESEARCH QUESTIONS AND THEORETICAL BACKGROUND

The literature review chapter included a comprehensive examination of the existing studies on perceived risk and purchase intention in e-commerce drawing on the TCM and SOR models. Additionally, a research agenda was also proposed to fill the research gaps. Therefore, this chapter presents research questions constructed from the mentioned research directions and their supportive theoretical foundations. The research questions and their theoretical backgrounds are presented as an a priori framework for guiding the objectives of this current research.

#### 3.1. Perceived risk – Cognitive stage under risk

As introduced in the systematic literature, perceived risk theory was categorised into two major streams: uni-dimensional and multi-dimensional. Nevertheless, the one-dimensional flow has been more extensively examined in academic research, as seen by the larger number of papers conducted on this topic. Therefore, this study raises the research question (RQ):

- *RQ1: Is perceived risk considered a multidimensional concept in CBEC?*

##### 3.1.1. The multi-dimensional theory of perceived risk

According to Mitchell (1999), the multidimensional theory of perceived risk emerged from the requirements of prediction and practical implications. Accordingly, multiple dimensions of the perceived risk aid in predicting the probable reasons that deter customers from purchasing. Furthermore, marketing practitioners may utilise perceived risk in many ways to create strategies to lower risk. According to Roselius (1971), the vendor must weigh the expense of providing a risk mitigator against the advantages of increased sales resulting from lowering customer reluctance to purchase due to perceived risks. Therefore, multidimensional theory facilitates businesses to target their resources in the right places to reduce consumers' perceived risk.

Cunningham (1967) was one of the first to propose the multi-dimensional theory of perceived risk with two components, including uncertainty and dangerousness of consequences. According to this scientist, overall risk was measured by multiplying two dimensions. This is also one of the simplest models of perceived risk (Mitchell, 1992). Cunningham also acknowledged that this was an artificial approach to formulating the perceived risk index (Cunningham, 1967).

Other scholars highly focused on the consequences of a failed purchase in categorising and modelling perceived risk. According to Roselius (1971), perceived risk was consistent with a kind of subjective expected loss in terms of time loss, hazard loss, ego loss, and money loss. Consequently, the scholar categorised perceived risk into 4 dimensions (i.e., financial risk, physical risk, psychological risk, and time loss). On the other hand, Jacoby and Kaplan (1972) proposed a complex risk model with five dimensions, such as financial risk, psychological risk, performance risk, physical risk, and social risk. These dimensions were constructed based on 12 product categories. Therefore, they concentrate more on explaining the consequences brought by the product. Further, Jacoby and Kaplan (1972) also revealed that five dimensions of perceived risk may be used to forecast the total perceived risk reasonably.

The development of multiple dimensions of perceived risk was also presented in the systematic literature review (Chapter 2). However, being categorised in several dimensions results in misunderstanding and repetition in terms of terminology. It also makes the practical application more difficult. Therefore, the author synthesises into 7 prevalent dimensions, including: fraud risk, delivery risk, financial risk, product risk, process & time loss risk, privacy risk, and information risk. These dimensions represent different aspects of perceived risk in cross-border e-commerce.

Perceived risk, as defined by Yang et al. (2016), derives from customers' apprehensions over possible financial and product risks. Hence, financial risk pertains to potential financial loss or incurring supplementary expenses when participating in e-commerce transactions. Product risk refers to the possible financial loss that may occur when products fail to meet anticipated performance standards.

From the standpoint of principal-agent theory, the possible danger of fraud (fraud risk) in e-commerce might derive from the doubt of online consumers about the possible consequences of hidden information and hidden activities in transactions. Therefore, fraud risk pertains to the potential for a seller to be untrustworthy in electronic commerce (Pavlou *et al.*, 2007).

Further, the perceived risk in e-commerce is particularly connected to the procedures of sharing information and delivering products. Customer exposure to various information risks including insufficient information and information disorganisation, heightens the perceived risk level. Thus, information risk pertains to the potential for unequal distribution of information on sellers and goods. Moreover, the concerns pertaining to the transportation and organisation of the acquired goods additionally heighten the perceived level of risk for

buyers. The delivery risk refers to the potential for delayed product delivery or prolongation of the shipment duration (Alrawad *et al.*, 2023; Ariffin *et al.*, 2018).

Pentz *et al.* (2020) identified time loss and procedure annoyance (process and time loss risk) as significant factors contributing to the perceived risk among online customers. Hence, it is regarded as the potential for a consumer's annoyance beyond the anticipated procedure of ordering. Privacy risk, as described by Zhang *et al.* (2012, p. 3), refers to “the potential loss of control over personal information when the information is used without permission”. In this context, the perceived risk arises from the apprehensions of customers over the potential misuse of their financial and personal data by an e-commerce website, or the failure of the e-commerce website to protect their information from cybersecurity breaches (Alrawad *et al.*, 2023).

### **3.1.2. Perceived risk and the theory of planned behaviour (TPB)**

The theory of planned behaviour (TPB) is a conceptual framework that builds upon the theory of reasoned action (TRA). It emphasises that individuals commit to certain behaviours based on their confidence in their own capability to do such behaviours (Ajzen, 1991). TPB introduces three dimensions (i.e., attitude, subjective norm, and behavioural control) as antecedents of an individual's intention. The theory suggests that the attitude towards a certain action (such as purchasing from e-commerce), subjective standards, and behavioural control are important factors that might predict actions.

Ajzen (1991) defined behavioural intention as the core notion of the Theory of Planned conduct (TPB), which pertains to the driving factors that influence a manner. It reflects how hard individuals are prepared to attempt and how much work they intend to put out in order to engage in the behaviour. Attitude relates to how positively or negatively a person evaluates or appraises the behaviour in issue. Subjective norms denote the perceived social pressures that affect an individual's choice to either participate in or refrain from a certain action. Furthermore, behavioural control may be described as an individual's ability to do activities in accordance with established expectations.

The possible outcomes of participating in e-commerce transactions associated with different risks might impact users' views towards their intent to make a purchase. Fishbein and Ajzen (1975) show that consumers' views regarding the desire to shop online may change if they consider the possible outcome connected with the risk or perceive the social pressures to perform the behaviour. Moreover, the impact of perceived risk on transactional effectiveness is significant, as the lack of clarity about transaction effectiveness reduces the perceived

level of control. Research indicates that perceived risk significantly affects customer transactions in e-commerce (Pelaez *et al.*, 2019).

### **3.2. Affective risk – Affective stage under risk**

The research agenda revealed that limited studies considered the role of emotion, particularly negative emotions, on perceived risk and purchase intention in e-commerce. The study conducted by Abdellaoui *et al.* (2007) revealed that the negative emotional consequences were more significant than the favourable emotional benefits. Consequently, investigating the role of negative emotions would be essential. The study proposes that:

- *RQ2: what is the role of affective risk in the decision-making process in CBEC?*

Emotions should be considered in the decision-making process. Emotion refers to a distinct and perceptible range of sentiments that are elicited while using or ingesting a product. Emotional experience and expression may be characterised by several sorts, such as happiness, rage, and fear (Kim and Lennon, 2013). Based on the findings of Finucane *et al.* (2000), emotions often have a substantial influence. These scholars agree that affect encompasses individuals' subjective emotional state and the evaluative dimension of desirability or undesirability linked to things. Individuals' classification of positive or negative emotions to goods may serve as a cognitive signal for the development of judgements.

#### **3.2.1. Two models of thinking (dual process theory)**

The perspective of cognitive psychology and neuroscience introduce two models to comprehend risk including (1) risk-as-analysis and (2) risk-as-feelings (Slovic *et al.*, 2004; Slovic and Peters, 2006). The risk-as-analysis model, also known as the analytic model, denotes a logical and cognitive response to risk. The emphasis is on logical, reasoned, and deliberative processing for decision-making under conditions of risk. Several theories were constructed based on this model of thinking, such as the expected utility (EU) theory and the prospect theory. The EU theory posits that individuals make rational choices by selecting the option that maximises expected utility when faced with risky decisions (Mogin, 1998). Prospect theory posits that individuals base their decisions on perceived gains rather than perceived losses (Kahneman and Tversky, 1979). These theories generally support the perspective that making a risky decision is a cognitive process, wherein individuals evaluate the consequences of various choice alternatives to inform their decisions. Moreover, the influence of emotions, particularly negative emotions, is often overlooked or considered secondary in the decision-making process under risk (Loewenstein *et al.*, 2001). According

to Mellers *et al.* (1998), emotions such as negative ones might lead to a reduction in focus and an inability to explore alternate options in decision-making.

By contrast, risk-as-feelings (the affective model) refers to fast, instinctive, and intuitive reactions to danger. This model focuses on intuitive processing (Tompkins *et al.*, 2018). The affect-as-information model proposes that affects or moods function as sources of information. Hence, individuals will view their circumstances in different ways, depending on their positive or negative emotions. Further, people's emotions directly affect their judgements or decisions (Clore, 1992). According to the theory of affect heuristic, Slovic *et al.* (2007) demonstrate that individuals frequently base their decisions on their present emotional state. In addition, the "risk-as-feelings" (RaF) theory demonstrated that cognitive risk perception and anticipatory emotion served as precursors to an individual's deliberate desire to behave (Loewenstein *et al.*, 2001). Broadly speaking, researchers that endorse the risk-as-feelings paradigm emphasise the significance of affects (emotions) in shaping risk perceptions and risk-related behaviour (also known as affective risk). The reason is that negative emotional responses such as anxiety might serve as a driving force for behaviours and cognitions aimed at preventing the experience of such emotions (Loewenstein *et al.*, 2001).

### **3.2.2. Role of affective risk in decision-making**

The existing body of research on online consumer behaviour mostly focusses on the cognitive process of risk perception, which involves analytical, logical, reason-based, and cognitive processing. Hence, this phenomenon is classified as a perceived risk. The reason for this is that rational choice theory and risk-as-analysis have been the prevailing paradigms in economics, political science, finance, marketing, and other disciplines for a considerable period of time (Mellers *et al.*, 1998). According to Slovic *et al.* (2004), prior to the development of probability theory and analysis-based decisions, humans relied on intuition, instinct, and gut feeling to determine if it was safe to approach an animal or drink water. As human civilization advanced, human beings developed analytical tools to enhance the logical and rational aspects of thinking. Later on, analytic thinking and rationality were highly regarded and depicted as the ultimate embodiment of decision-making. Further, the classical theory of risk in decision-making also primarily emphasises rationality, probability, anticipated profits, and expected losses (Luce and Weber, 1986). Consequently, prior studies on the perceived risk of online shopping have thoroughly assessed aspects of perceived risk and its effects (Amaro and Duarte, 2015; Ariffin *et al.*, 2018). However, it lacks a

comprehensive exploration of the emotional aspect of risk (affective risk). The reason is that emotions are temporary and impossible to recall or predict (Slovic *et al.*, 2004).

Affective risk pertains to the immediate anticipatory perceptions of risk (such as anxiety, concern, or danger) that people undergo while making decisions or participating in an activity (Loewenstein *et al.*, 2001). Sha (2018) demonstrates that perceived risk refers to the cognitive assumptions or computations associated with a dangerous occurrence, while affective risk refers to an individual's emotional affect. Affective risk does not need prolonged brain processing, indicating less engagement in cognitive calculations, and so may be quickly triggered. The importance of emotions, especially negative emotions (affective risk) was recognised by decision and neuroscience researchers. For instance, Bower (1991) revealed that the individual in a bad mood tends to make pessimistic decisions. Damasio (1994) concluded that the presence of affect enhances the precision and effectiveness of the decision-making process, whereas its absence, as demonstrated in individuals with certain brain injuries, impairs decision performance. This scholar argued that affect (feelings) was marked to somatic states as a signal. Consequently, when a negative somatic signal becomes associated with a mental representation of a prospective result, it triggers an alert. In other words, scholars acknowledge that individuals may depend on instinctual hunches or intuitive assessments in addition to thorough analytical thinking, particularly when faced with risks. Additionally, affective risk also contributes to understanding real-world behaviours. For instance, Hemmerich *et al.* (2012) show that physicians experience emotional distress after bad patient outcomes. They experience guilt, which subsequently impacts the advice they would provide to future patients. Physicians may depart from evidence-based criteria in their treatment recommendations to avoid suffering remorse. The benefit of researching emotions, especially negative emotions (i.e., affective risk) is associated with the attempt of deliberate manipulation towards individuals' emotions by those who wish to control people's behaviours (e.g., marketing, advertising, etc.) (Slovic *et al.*, 2004). According to Hogarth and Kunreuther (1995), marketing efforts for investments in protective measures like warranties and insurance often highlight the emotional benefits, such as peaceful feeling or restful sleep. Likewise, lottery marketers underline the pleasurable feeling of expectation that accompanies the purchase of lottery tickets, with expressions such as “purchase a dream”, rather than revealing the factual probability of winning. In other words, affective risk contributes to predicting behavioural anomalies, that appear irrational from a purely analytical perspective.



From the behavioural economics point of view, there exists a correlation between individuals' anxiety and danger. Anxiety in individuals is affected by unpredictability or uncertainty, potentially impacting decision-making processes. Consequently, individuals tend to exhibit risk aversion in unknown situations (Hartley and Phelps, 2012). According to Maner and Schmidt (2006), individuals' risk perception correlates favourably with anxiety levels. Individuals used to anxiety would possess a heightened awareness of the associated risks compared to others. Therefore, risk somewhat relates to people's perceptions and behaviours. Furthermore, Loewenstein et al. (2001) argue that risk-related feelings or affective risk extend beyond just a simple occurrence in decision-making. Although researchers have recognised the existence of anxiety and conflict in situations characterised by uncertainty (Featherman and Pavlou, 2003), they have not adequately taken into account negative emotions in their conceptual design and assessment. Affective states, especially those associated with danger, have a substantial influence on people's actions and judgements.

### **3.2.3. The pathway of influence between cognitive and affective stages**

Previous research has shown the correlation between perceived risk and affective risk. Therefore, prior research generally concur that the perception of risk is the precursor of affective risk, which refers to negative feelings. The hierarchy of effect (HOE) model suggests that customers initially gain knowledge through advertising, subsequently form emotions related to the product, and finally exhibit behaviour (Rehman et al., 2014). Lavidge and Steiner (1961) propose that the HOE model consists of three stages: cognition (awareness or learning), affect (feeling, interest, or want), and action or conation (activity). This level of cognition, often known as the rational state, encompasses the perception and knowledge or comprehension of the product. Accordingly, consumers approach the information and ideas surrounding the products (e.g., the existence of the product, what the product offers, etc.). The affection stage (or the emotional stage) reflects the consumers' strong preference. Ultimately, at the action stage (behaviour), customers' purchasing inclination is ignited, and their pronounced preference compels them to act on the items. Consequently, people are inclined to acquire things.

According to Zhu *et al.* (2019), the sequence of HOE is consistent with the decision-making journey of consumers cross-border e-commerce (CBEC). At first, a consumer's attention is drawn to anything on a CBEC platform (cognition). Subsequently, the client develops a keen interest and strong inclination for a certain item or concept (affect). Finally, the customer engages in action on the CBEC platform (conation). Hazel and Kang (2018) show that the

HOE model is appropriate to explain consumers' perceptions and emotions on social media platform. Then, it is also utilised to examine whether perceptions and emotions can predict consumers' behavioural intentions or not.

### **3.3. Culture and the role of culture**

Multiple aspects of individual behaviour are significantly influenced by cultural phenomena. Hence, the study of culture and its impact on consumer behaviour has mostly been conducted within the field of behavioural sciences (Hofstede and Bond, 1988). The discipline of business management has now attracted significant scholarly attention towards cultural studies. The rationale for this is that cultural diversity might provide a pertinent rationale for the effectiveness of some marketing strategies used by multinational firms in certain countries while being ineffective in others (Jin et al., 2008). However, the systematic literature review found little focus on the role of cultural context in consumers' risk perception and behavioural intention in e-commerce. Consequently, culture and its relative theory have been also underrated, even overlooked. Additionally, the emergence of e-commerce and cross-border e-commerce has sparked a discussion over the influence of culture and the need for e-businesses to tailor localised versions of their websites for clients residing in other countries. Burton (2008) claims that globalisation has united the globe into one culture. E-businesses operated as if the globe were one giant market, ignoring superficial regional and national distinctions. Other experts believe that globalisation will lead to cross-culturalization. Thus, the way consumers perceive risk and their behaviours of making online purchases vary depending on the culture. The study raises the following research question:

- *RQ3: How do the individual-level cultural dimensions influence consumers' risk perception and purchase intention in CBEC?*

#### **3.3.1. Definition of Culture**

Culture is defined as the shared cognitive framework that differentiates individuals belonging to one group from those belonging to another group (Hofstede and Bond, 1988). According to Sarma (2014, p. 66), culture refers to “systematic patterns of thinking, feeling, and responding, primarily acquired, and passed on through symbols, which represent the unique accomplishments of human societies, including their manifestations in objects. The fundamental essence of culture is determined by traditional (i.e., historically derived and chosen) concepts and particularly their associated values”. In psychology, “culture” refers to a group's common ideas, values, and social standards that influence their behaviour (Stankov and Lee, 2009). Despite different definitions, most scholars share the idea that most

differences among people come from their cultural backgrounds. Therefore, culture can influence consumers' preferences and decisions (Brown *et al.*, 2002; Chen *et al.*, 2005).

According to Hartmann (2014), the concept of culture has been investigated through two prevalent perspectives. From an emic perspective, culture is considered a unique phenomenon that can only be comprehended from an internal standpoint. In other words, culture is viewed as a singular conceptualisation. Accordingly, each culture would be understood in its own terms, such as Guanxi in the Chinese culture. By contrast, the etic perspective (or cultural dimensions theory) views culture in universal categories or dimensions along which different cultures can be classified or measured. The term "etic" refers to comparative, across-culture studies (Stankov and Lee, 2009). The theory of cultural dimensions was the premise for several models and studies, such as Hofstede (1984); House *et al.* (2004); Schwartz (1994); Trompenaars and Hampden-Turner (1998).

### **3.3.2. The theory of cultural dimensions**

According to Nardon and Steers (2009), the idea of cultural dimensions is presented as a collaborative effort aimed at developing a more thorough understanding of cultural features or symptoms, rather than being seen as a chaotic or disorganised concept. Accordingly, the majority of cultural dimensions have been derived from the fundamental principles of previous studies.

Hofstede's cultural dimensions model is a significant framework that deviated from the interpretative methods used by anthropologists to compare cultures. It introduced the first extensive quantitative analysis of cultural characteristics (Hartmann, 2014). Accordingly, this social psychologist arrived 5 primary cultural dimensions including (1) power distance (high versus low), (2) individualism versus collectivism, (3) masculinity versus femininity, (4) uncertainty avoidance (high versus low), and later long-term versus short-term orientation (Hofstede and Bond, 1988). In other aspects, Trompenaar's model identifies 7 cultural dimensions as couples of opposing attitudinal dispositions. These researchers characterise culture as the method by which a group of individuals addresses challenges and resolves conflicts (Trompenaars and Hampden-Turner, 1998). After that, GLOBE's framework with 9 dimensions is also adopted wisely as an alternative to the frameworks of cultural dimensions (House *et al.*, 2004). GLOBE's dimensions have seen many differences from Hofstede's framework. For instance, the term "collectivism" is divided into two sub-dimensions: institutional collectivism and in-group collectivism. Moreover, GLOBE researchers also introduce two new dimensions including Gender egalitarianism and Assertiveness (Terlutter *et al.*, 2006).

According to Hadwick (2011), Hofstede's model is more straightforward and familiar than GLOBE's or Trompenaar's. The model of Hofstede offer a level of knowledge of the culture that can be easily remembered and grasped. De Mooij (2019) shows that Hofstede's model has been widely adopted due to the simplicity and applicability of his dimensions. According to Nakata and Izberk-Bilgin (2009), Hofstede's model has been used by marketing researchers much more than others. Additionally, Hofstede's paradigm has been used to examine the influence of cultural values on consumer behaviour in the internet domain in several previous research, such as research of Park et al. (2012); Pratesi et al. (2021); Rosillo-Díaz et al. (2019).

Four cultural dimensions have been frequently investigated, including (1) power distance, (2) individualism versus collectivism, (3) masculinity versus femininity, (4) uncertainty avoidance (Hofstede and Bond, 1988).

Power distance (PD) reflects the implications of social power disparities and relations of authority. It impacts connections of hierarchy and reliance within families and organisations (Soares *et al.*, 2007). Power distance is applied to measure the acceptance of power between individuals with more power and those with less power. In a sense, PD assesses the degree of equality within a nation's society. Consequently, a culture with a greater Power Distance (PD) score would embrace the hierarchical allocation of power, signifying acceptance of their position within the system (Hofstede, 2003).

Individualism (ID) versus collectivism (CO) reflects the relationship that individuals have in each culture. This score indicates the extent of individuals' integration into groups. It mirrors a society's core understanding of the individual and the extent to which personal fulfilling of needs within societal structures is accepted (De Mooij and Hofstede, 2011).

Masculinity (MA) versus femininity (FE) examines the degree to which a culture emphasises success or nurturing. Masculinity denotes the degree to which a culture emphasises assertiveness and accomplishment. Conversely, femininity pertains to the societal focus on quality-of-life issues, including caregiving, fostering social cohesion, and prioritising support for the disadvantaged. In this stream, masculine countries might be more assertive and competitive (De Mooij and Hofstede, 2011).

Uncertainty avoidance (UA) refers to the degree to which individuals have apprehension over uncertainty. The UA score pertains to society's ability to harbour uncertainty and misinterpretation. Uncertainty-averse societies may mitigate the danger of uncertainty by implementing stringent rules and safety measures. Conversely, communities that embrace

uncertainty tend to exhibit more tolerance for novel and different perspectives (Hofstede and Bond, 1988)

### 3.3.3. The factor of culture in studies of risk in online shopping

As mentioned previously, studies on the role of culture in the research of PR&PI in e-commerce were underrepresented. A collection of studies on culture and PR&PI in online shopping is shown in Table 11. Accordingly, most of these studies approached culture at the national level, which means that the nation was utilised as the unit of analysis. For instance, the studies by Park and Jun (2003) revealed significant differences in internet usage and perceived risk between Korea and the USA. Lim et al. (2004) showed that consumers in the UK had higher Internet shopping adoption rates than consumers in Hongkong. In other words, previous scholars mostly agreed with the view that national differences lead to the cultural differences, which results in differences in perceptions and behaviours.

Further, many studies only adopt a general comparison without specific cultural dimensions, such as studies by Comegys *et al.* (2009); Park and Jun (2003); Tong (2010). Whereas, other studies mainly adopt cultural dimensions such as Uncertainty avoidance and Collectivism & Individualism. For instance, studies by Lim *et al.* (2004); Rosillo-Díaz *et al.* (2019); Weber and Hsee (1998) only investigated the impact of uncertainty avoidance and collectivism in the context of online shopping. There is a limited amount of research that uses other cultural aspects, such as Masculinity, Power distance, etc.

**Table 11: Previous studies about the effect of culture on risk in online shopping – Source: Author’s collection**

Studies	Nations for comparison	Findings	Cultural dimensions used
Weber and Hsee (1998)	German, the US, and China	Culture can explain the national difference in risk-taking. Chinese and German are judged to provide more risk-seeking advice than the USA	Collectivism and Individualism
Park and Jun (2003)	Korea and the US	Significant differences of internet usage and perceived risk between Korea and the USA	No dimensions
Ko <i>et al.</i> (2004)	Korea and the US	Significant relative differences in specific risk terms between Korea and the US	Collectivism and Individualism
Lim <i>et al.</i> (2004)	The UK and Hongkong	Collectivism – Individualism and Uncertainty avoidance play a dominant role in explaining Internet shopping rates across culture. Consumers in the UK has higher Internet shopping adoption rates than consumers in Hongkong.	Collectivism and Individualism; Uncertainty avoidance
Comegys <i>et al.</i> (2009)	Finland and the USA	The US consumers respondent with higher level of trust toward online	No dimensions

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Tong (2010)	The USA and China	shopping, so they tend to buy more than Finnish consumer the perceived risks of internet shopping were significantly higher in China than in the USA	No dimensions
AlKailani and Kumar (2011)	The US, Jordan, and India	Cultures characterised by high uncertainty avoidance, such as Jordanians, had the most pronounced sense of risk while engaging in online purchases compared to the other two categories. The Americans had the least uncertainty avoidance relative to the other two groups and also possessed the lowest sense of risk while engaging in online transactions.	Uncertainty avoidance
Sims and Xu (2012)	The UK and China	The perception of aggregate risk is more likely to be comparable across British and Chinese Internet users.	Uncertainty avoidance
Park <i>et al.</i> (2012)	The USA and Korea	The cultural values of individuals from Eastern and Western backgrounds will affect how they develop confidence in e-shops and how that trust shapes their interactions with these retailers.	Uncertainty avoidance Individualism
Rosillo-Díaz <i>et al.</i> (2019)	International	Consumers with more uncertainty avoidance and collectivist tendencies perceive a larger level of risk associated with e-commerce platforms.	Uncertainty avoidance Collectivism
Pratesi <i>et al.</i> (2021)	Europe and Asia	Cultural factors influence how consumers perceive the level of risk associated with using a new e-commerce platform. Asian consumers may experience higher levels of perceived hazards compared to their European counterparts.	Uncertainty avoidance Masculinity Individualism Power distance Long-term orientation

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### 3.3.4. The unit-of-analysis: critique in cultural dimension theory

According to Blasco (2009), despite its significant impact on the teaching of culture in business schools and its dominance in cross-cultural business literature, the cultural dimension theory remains a subject of intense controversy in academic literature.

The most general point of critique refers to the unit of analysis. Accordingly, two prevalent research streams of culture include national-level and individual-level approaches. Generally, scholars in the cultural dimension theory agree that culture differs across countries (Lee *et al.*, 2007). The concept of national culture is founded on the premise that cultural distinctions between nations are more significant than those inside countries (Ganguly *et al.*, 2010). In other words, this research stream has used nations as units of analysis in cultural studies. Consequently, these academics have used the national cultural frameworks established by Hofstede or GLOBE. Moreover, they have used readily available

national culture data to elucidate a wide array of phenomena, including disparities at the national, organisational, and individual levels across different nations (Brewer and Venaiik, 2012).

Nevertheless, given the significant amount of time that has elapsed since Hofstede's study, it would be wise to be cautious in considering the ongoing accuracy of Hofstede's cultural metrics. Global transformations during that period likely influenced cultural changes within countries. This argument indicates the necessity of periodically updating data and, if considered useful, "country scores" (McCoy et al., 2005). Moreover, the premise that the "country scores" accurately represent the overall culture of all persons from that country has been shown to be unsuitable. The aspects of national culture developed by Hofstede were formulated at the national level. Their foundation was supported by variables that exhibited correlations across countries, rather than among persons or organisations. Indeed, his dimensions lack significance as descriptors of individuals or as predictors of individual differences due to the lack of meaningful correlation between the variables that define them across individuals (Minkov and Hofstede, 2011, p. 12). During the evaluation of the GLOBE cultural dimensions, Hanges and Dickson (2004) emphasise that they conducted their analysis on the average responses of the country items for each scale. This approach was chosen to assess the variation at the organisational or societal level rather than at the individual level.

Supporters of the individual-level approach contend that culture does not always align with national boundaries (Lee et al., 2007). Under some circumstances, individuals within a culture may not share same cultural values (Yoo et al., 2011). According to House et al. (2004), national borders may not sufficiently distinguish cultural boundaries due to the presence of significant subcultures inside many nations. McCoy et al. (2005) argue that it is inappropriate to assume homogeneity, since there exists inherent variation among people within or from any one country. "Regardless of their cultural heritage, individuals possess intricate identities that encompass distinct cognitive processes" (Bochner, 1994, p. 274). The research by Schwartz (1994) also yields compelling evidence that when comparable samples from a homogenous population in several places within a single nation are examined, they may exhibit cultural differences. In other words, the individual-level approach to culture assumes that there exists a heterogeneity of culture among individuals within a nation. Tung (2008) shows that intra-national variations are also significant in cultural studies. By prioritising customers above nation features, Patterson et al. (2006) argue that the probability of attaining marketing success may be greatly increased. Exploring individual-level culture

rather than national-level culture yields more robust explanatory capability in research. Implementing the cultural typology at the individual level is a valid method, as it allows for the identification of an individual's values within the context of certain cultural characteristics (Donthu and Yoo, 1998).

### **3.4. Summary**

This chapter is considered a transition between the literature review and the empirical research. Based on the research directions suggested in the research agenda, the author formulated three research questions to address the research problems. Further, the author also assessed the most relevant theories and models to the research and identified the core influence factors of behavioural intention (purchase intention) in cross-border e-commerce. This chapter offers a critical examination of the theoretical framework underpinning this dissertation. Accordingly, the study is based on a variety of theories and models from multiple perspectives, such as marketing, behavioural economics, psychology and neuroscience, and socio-culture.

Based on the multidimensional theory of perceived risk and the theory of planned behaviour (TBP), the author found that perceived risk can be modelled as a multidimensional concept with multiple risk dimensions. This facilitates the prediction of potential types of risk and contributes to constructing mitigating measures. Additionally, perceived risk is a powerful factor to explain consumers' behaviour in e-commerce and cross-border e-commerce.

From another perspective, the aspect of emotions (negative emotions or affective risk) also requires more attention to clarify possible aspects of consumers' reactions towards risk in e-commerce and cross-border e-commerce. Two models of thinking (or dual process theory) in cognitive psychology and neuroscience introduce the existence of two distinct risks, including perceived risk (based on risk-as-analysis) and affective risk (based on risk-as-feelings) in decision-making. Despite its limited appearance in the literature on e-commerce, the role of affective risk in individuals' decision-making is still emphasised. Accordingly, affective risk captures intuitive responses enhancing the quality of decision-making. Affective risk also provides an understanding of real-world behaviours and supports the predict behavioural anomalies. Additionally, the HOE model identified the sequences of consumers' responses (i.e., cognitive stage - affective stage - behaviour).

Finally, based on the review of cultural theory and models, the author found that culture is a complex concept and the cultural factor is essential to explain consumers' perceptions and behaviours. Additionally, the impact of culture in the context of online shopping was also discussed in this chapter. The author also revealed the limitation of studies on culture



towards perceived risk and behaviours in the online environment. Accordingly, most of the issues are associated with the unit of analysis when previous scholars considered the nation as the proxy of culture. The differences across nations result in different cultures, which lead to different perceptions and behaviours.

The theoretical backgrounds provide the following premises: First, perceived risk can be considered multi-dimensional. This implies that perceived risk is conceived by multiple aspects emerging from possible consequences or potential sources. Second, the concept of risk can be comprehended by two models of thinking corresponding with two aspects: (1) perceived risk (based on risk-as-analysis) and (2) affective risk (based on risk-as-feeling). Third, culture may not be homogenous within a nation. the individual-level approach towards culture provides the background of the role and operation of culture at the individual level. Finally, consumer behavioural intention (purchase intention) in CBEC was driven by several factors (e.g., perception, emotion, and even cultural values of consumers).

## CHAPTER FOUR

### 4. RESEARCH METHODOLOGY

This chapter presents methods and techniques adopted to address research questions and obtain research objectives. First, the author explains the philosophical assumption which is brought in this study. Then, the regional scope of the research is presented. The author explains the reasons why Hungary and Vietnam were selected for this study. In the next stage, the research design is given. Accordingly, the author describes the mixed method approach of quantitative study and qualitative study. Notably, the author also presents a comprehensive description of the study design, participants, and data collection and analyses for each type of study.

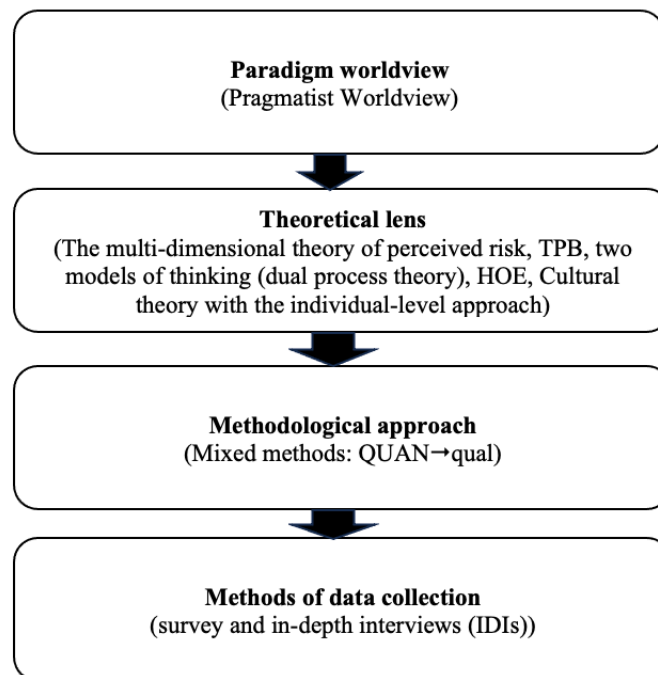
#### 4.1. Philosophy and Worldview

The research on human behaviour often necessitates the selection of a research paradigm aimed at enhancing the credibility and generalizability of the study (Kankam, 2019). According to Creswell and Creswell (2009), considering the philosophical worldview assumptions is essential to developing a research, as it will aid in elucidating the rationale behind the use of qualitative, quantitative, or mixed techniques approaches for the study.

Pragmatism is based on the idea that it is acts, circumstances, and their outcomes that shape our understanding of the world, rather than focusing on previous conditions, as post-positivism does. In the pragmatist worldview, researchers prioritise the research topic and question rather than focusing on methods, and use all available approaches to get a comprehensive understanding of the situation (Creswell and Creswell, 2009). The preference for pragmatism in research stems from its philosophical foundation for research. First, pragmatism does not adhere to a certain philosophical system or understanding of reality. Thus, researchers have the liberty to choose the methods, strategies, and processes of study that most effectively fulfil their requirements and objectives. Second, pragmatists see the world as lacking perfect unity. Consequently, researchers use many methodologies for gathering and examining data, rather than adhering exclusively to a single methodology, such as quantitative or qualitative. Third, truth may be defined as what is effective or successful at a given moment. Therefore, investigators use several datasets in order to have a comprehensive grasp of a research topic (Creswell and Creswell, 2009).

Pragmatism is considered the philosophical worldview assumption for this research for the following reasons: The focus of this study is to understand the mechanisms driving consumers' perceptions, emotions, and purchase intentions under risks in the online environment, such as cross-border e-commerce (CBEC). Therefore, the primary importance of the research questions is emphasised rather than the methods. Further, the study is expected to provide contributions to risk mitigation and purchase promotion in CBEC. It orients towards “what works” and real-world practice. Therefore, multiple methods of data collection and analyses (i.e., mixed methods) are adopted to inform the problems under study.

The pragmatist worldview is to inform the use of a theoretical lens and the methodological approach that the researcher may apply (Creswell and Clark, 2017). Accordingly, the author used multiple theories and models (i.e., the multi-dimensional theory of perceived risk, the theory of planned behaviour, two models of thinking, hierarchy of effect model, and culture theory under the individual-level approach) as the theoretical lens at the beginning of the mixed methods study. Theories and models informed the foundational context and shaped the research questions in the study. The study employed a mixed method approach, integrating both quantitative and qualitative techniques to address the research questions, utilising various data collection methods, including surveys and in-depth interviews (IDIs). The levels for developing the research are presented in Figure 13.



**Figure 13: Four levels for developing the research study adapted from Creswell and Clark (2017)**

## 4.2. The regional scope of the research

Hungary and Vietnam have been selected as regional scope of this research due to various reasons (Table 12).

**Table 12. Comparing between Hungary and Vietnam – Source: Author’s collection**

Aspect	Common feature	Different feature	
		Hungary	Vietnam
<b>Geographic location and market</b>	Small and less-developed market	Central European market	Southeast Asian market
<b>E-commerce adoption</b>	Significant expansion in recent years	Market volume of \$2.706 billion by 2023	Market volume of \$13.357 billion by 2023
<b>Consumer behaviour</b>	-The ratio of online shoppers is high (over 80%) -The most widely used payment method is COD	-Laptops and desktop computers are the most popular devices for activities associated with e-commerce purchases -Hungarian online shoppers prefer domestic e-commerce	-Vietnamese online shoppers prefer to use smartphones for online purchasing activities  -Vietnamese online shoppers prefer cross-border e-commerce
<b>Cultural characteristics</b>		-Higher rates of uncertainty avoidance, individualism, and masculinity -Lower rate of power distance	-Lower rates of uncertainty avoidance, individualism, and masculinity -Higher rate of power distance

Regarding the geographic location, Hungary is located in central Europe. The share of this region accounts for 8% of total European e-commerce turnover by region in 2022. Central Europe is also the third-largest e-commerce market by region in Europe. The number of Internet users reached 91%, while the proportion of e-shoppers reached 77% in 2022 (CMI, 2023). By contrast, Vietnam is located in Southeast Asia. Although Southeast Asia is not ranked in the list of leading e-commerce markets by region in Asia, most e-commerce marketplaces in Southeast Asia have reached their inflexion point, characterised by significant increases in the development of e-commerce over the past few years. Southeast Asia has a diverse array of economies that are situated at varying stages of development. Consequently, it is to be expected that the level of e-commerce penetration will vary among these nations. Indonesia and Singapore emerge as the frontrunners in the area, with an estimated e-commerce penetration rate of 30%. In contrast, the Philippines, Thailand, and Vietnam lag with a comparatively lower e-commerce penetration rate of about 15%

(MCKinsey, 2022). Therefore, Hungary and Vietnam are considered small and less-developed markets compared to others in their regions.

Regarding the B2C e-commerce market, both the Hungarian and Vietnamese markets have experienced significant expansion in recent years. The onset of the COVID-19 pandemic in Hungary has led to a significant increase in the field of electronic commerce. The expected annual revenue growth rate is forecasted to be 7.3%, leading to a market volume of \$2.706 billion by 2023 (ITA, 2022a). The projected market volume for revenue is anticipated to exhibit a compound annual growth rate (CAGR 2023-2027) of 5.5%, leading to an estimated value of \$3.4105 billion by the year 2027 (ECDB, 2023). The internet market share in the Hungarian retail industry is currently at 6.4%, with projections indicating an average annual rise of 6.7%, leading to a projected share of 8.2% by the year 2027. Whereas, the Vietnamese e-commerce market reported significant growth, with revenues anticipated to reach \$13.3579 billion by 2023 (EcommerceDB, 2022). According to estimations, the e-commerce industry in Vietnam is anticipated to reach a value of \$60 billion by the year 2030, positioning it as the second-largest market in Southeast Asia, behind only Indonesia (Statista, 2023e). The B2C e-commerce business in Vietnam has shown consistent year-on-year growth, culminating in a revenue of around \$16.4 billion in 2022. Regarding the retail industry, Vietnam's e-commerce sales accounted for 7% of total retail sales in 2022 (ITA, 2022b). Compared to the pre-pandemic level in 2019, around 57% of Vietnamese online shoppers stated that they shopped more online (Statista, 2022a).

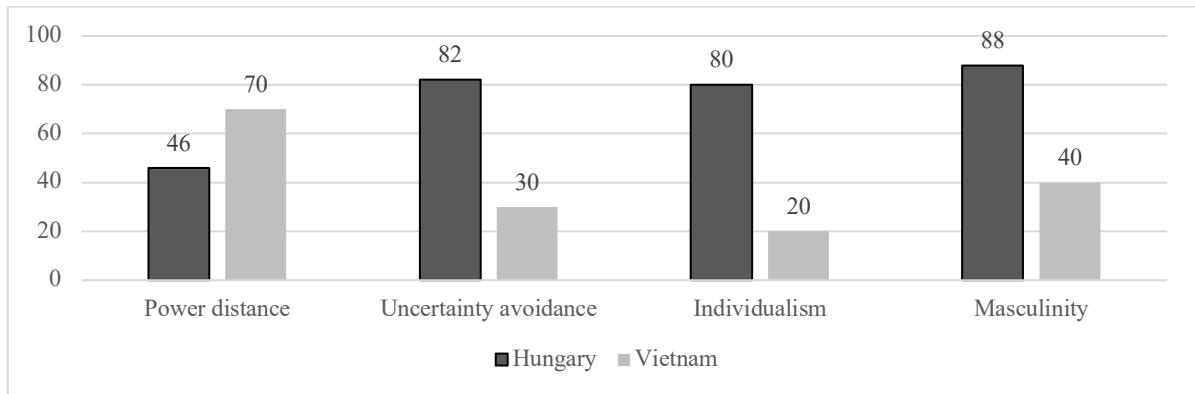
Regarding consumer behaviour in e-commerce, as of 2022, the proportion of the Hungarian population accessing the Internet was 90%, while the ratio of individuals engaging in online shopping was approximately 80% (Statista, 2023f). In Hungary, laptops and desktop computers are the preferred devices for activities related to e-commerce purchases, such as gathering information, browsing product catalogues, comparing prices, placing orders, and making payments. The popular payment methods in the Hungarian e-commerce market in 2022 include VISA or Mastercard payment, cash-on-delivery (COD), and bank transfer/cash in advance. While most Hungarian consumers favour cashless payment methods, cash-on-delivery (COD) remains a popular option as well. Additionally, two-thirds of online orders in Hungary were paid for using an upon-delivery payment method. Regarding shipping methods, Hungarian online shoppers also use several delivery methods, such as courier delivery, pickup points, and postal delivery. However, the shipping fee is the most important factor for Hungarians (Ecommerce News EU, 2022). Notably, cross-border e-commerce is not widely preferred in Hungary. According to the report by CMI (2023), Most online

shoppers tend to favour Hungarian web shops. Approximately 37% of all Hungarian online shoppers engage in cross-border e-commerce.

By contrast, in early 2023, the quantity of online users in Vietnam surpassed 77 million people, accounting for 80% of the total population. Of the total population of Vietnamese internet users, around 70% are online shoppers. According to Statista (2023), over 21% of the participants engaged in regular internet shopping, doing transactions many times each week. In comparison, a mere 3.5% of the participants said that they engage in internet purchasing once every six months. Unlike Hungarian shoppers, Vietnamese online shoppers prefer to use smartphones for online purchasing activities. The laptop is the second-most popular device. As a result, e-commerce providers also provide an in-app online shopping solution so that online shoppers can have a seamless experience with e-commerce. Although there are several payment methods available in Vietnam, such as bank transfer, card payment, and digital wallet (i.e., MOMO, MOCA, Vietel Pay, Zalo Pay, etc.), around 73% of online shoppers prefer cash-on-delivery (COD). Notably, the Vietnamese e-commerce market has a somewhat receptive attitude towards international vendors. E-shoppers also favour international products made in the US, EU, and China. Vietnamese shoppers favour Amazon or internationally trusted e-commerce websites over local e-commerce platforms due to a lack of trust (ITA, 2022b).

Finally, regarding cultural characteristics, there are also several differences between Hungarian and Vietnamese national cultural values. According to Hofstede (2022), Hungary presents a higher rate than Vietnam regarding uncertainty avoidance, individualism, and masculinity (Figure 14). However, in the power distance index, Vietnam gains a higher value. Hungary scores 46 points in power distance, which means that the Hungarian style is more independent. They expect to be consulted. And control is disliked. By contrast, Hungary has a high score in uncertainty avoidance, which means Hungarian people tend to have a preference for uncertainty avoidance. People in Hungary exhibit heightened emotionality and are driven by anxious energy. Whereas, Vietnam exhibits a higher tolerance for new and diverse ideas due to its low uncertainty avoidance. Hungary, with 80 and 88 points in individualism and masculinity, is an individualist and masculine society. This indicates a strong inclination towards a loosely structured social framework where individuals prioritise the well-being of themselves and their immediate families exclusively. Further, they are also decisive, assertive, and competitive. Hungarian people focus on “living to work”. By contrast, Vietnam is a collectivist society. This is evident in a sustained, long-term dedication to the member group as a familial unit. In collectivistic societies, offence

leads to shame and loss of face. Moreover, a feminine society, such as Vietnamese, focuses on “working to live”. People value equality, solidarity, and quality in their working lives.

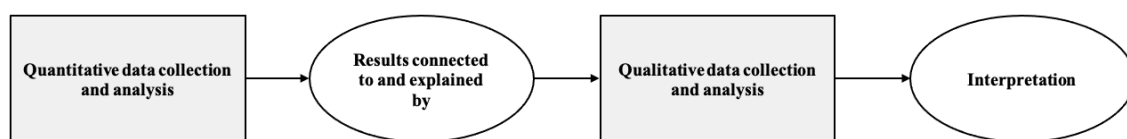


**Figure 14: The cultural profiles of Hungary and Vietnam – Source Hofstede, (2022)**

Therefore, these two nations are appropriate for a comparison in this study due to several common and different features.

### 4.3. Research design

As mentioned previously, the mixed method of quantitative and qualitative approach was used in this study (Figure 15). Accordingly, the author conducted an explanatory sequential design starting with a quantitative strand and followed up quantitative results with a qualitative strand to shed light on the reasons why quantitative results occurred and how they might be explained. Notably, integration in the explanatory sequential design occurs at two points, including (1) between the quantitative analysis and the qualitative data collection and (2) once the qualitative analysis is complete. In other words, the author commences a qualitative phase to further explore the findings, informed by the results and analysis of the quantitative phase, involving a select group of individuals. Consequently, the integration operates by the linkage of the quantitative findings with the qualitative data gathering. The quantitative findings indicate the need for additional elucidation via qualitative inquiry and also indicate which individuals are most suitable for providing explanations of the results. Further, once the qualitative phase is complete, the author integrates two sets of results and synthesises integrating conclusions.



**Figure 15: The explanatory sequential design adapted from Creswell and Clark (2017)**

#### 4.3.1. Phase I (Quantitative study)

The purposes of the quantitative study are to obtain the following research objectives:

- To assess perceived risk as a higher-order composite in CBEC
- To investigate roles of affective risk towards perceived risk and purchase intention in CBEC
- To investigate moderating effects of the individual-level culture in the relationships between perceived risk, affective risk, and purchase intention in CBEC.

Survey research encompasses the use of quantitative methods to analyse and depict trends, attitudes, and views within a given community. According to Creswell and Creswell (2009), survey design supports researchers answering three types of research questions: (1) descriptive questions, (2) Enquiries regarding the relationships among variables, and (3) enquiries concerning predictive relationships among variables over time. Therefore, in this study, surveys were adopted to achieve the research objectives. Creswell and Creswell (2009) also introduced two types of surveys, including cross-sectional and longitudinal surveys. A cross-sectional survey refers to surveys completed by a single respondent simultaneously, while a longitudinal survey refers to surveys collecting data over multiple periods (Rindfleisch *et al.*, 2008). This study aimed to investigate how individual cultural values influence the relationship between risk and purchase intention in CBEC. The study utilises a cross-sectional survey to analyse the relationships among the variables.

The survey has three (3) main tasks. Task 1 aimed to gather demographic data on the respondents and ascertain their cultural beliefs. Task 1 has two subsections. In sub-section 1, participants were instructed to respond to enquiries on their demographic information, including nationality, age, gender, employment status, experience with e-commerce shopping, and monthly spending on online shopping. Sub-section 2 delineates the cultural values to which the participant adheres. The participants were instructed to express their agreement or disagreement with each statement using a 5-point Likert scale, where 1 represents "strongly disagree" and 5 signifies "strongly agree".

In Task 2, participants were instructed to envision purchasing a pair of shoes as a birthday present for their spouses. They were mandated to access the following website: <https://knight.mysapo.net/> (see to Appendix B). Upon exploring the website, participants would choose goods for purchase, add them to their basket, and begin the ordering process. In Task 3, respondents were instructed to express their degree of agreement or disagreement with topics using a 5-point Likert Scale, where 1 signifies "strongly disagree" and 5 denotes



"strongly agree". These items served as indicators for the constructs in the proposed model (See Appendix A).

#### **4.3.2. Phase II (Qualitative study)**

After obtaining the results from phase I (Quantitative study), the author conducted phase II (Qualitative study). The purposes of the qualitative study are to obtain the following objectives:

- To re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC
- To re-investigate whether perceived risk is different from affective risk, and whether perceived risk (cognitive stage) precedes affective risk (affective stage) in the decision-making journey in CBEC
- To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture.

Since the purpose of phase II (Qualitative study) is to seek the understanding and experience of the individuals towards CBEC in the context of the individual-level culture, selecting an in-depth interview is appropriate. The interview is frequently regarded as a fundamental methodology in qualitative research, where the focus is on the nature of experience (Heigham and Croker, 2009). Open-ended, semi-structured interviews are utilised in this study, as they allow participants to have a considerable level of autonomy over their choice of words, the extent of their statements, and the manner in which they articulate them (Rowley, 2012). Further, semi-structured interviews provide flexibility and allow the researcher to approach different respondents in various ways, while still addressing the same set of questions.

The author developed an interview guide for consumers in Vietnam and Hungary. Accordingly, the in-depth interview includes 2 stages. Stage 1 is to invite the relevant respondents for the interview. Further, the author also assessed and categorised the cultural profiles of participants in the initial survey to identify the possible combinations of four cultural dimensions. This was also utilised as the foundation for selecting participants for the in-depth interview. Consequently, 5 factors and 2 levels were presented for the combinations of cultural and national factors, including:

- Hungary (HU) vs Vietnam (VN)
- Power distance (PD) high vs low
- Uncertainty avoidance (UA) high vs low

- Collectivism (CO) high vs low
- Masculinity (MA) high vs low

Therefore, total scenarios are equal  $2^5 = 32$  where: 2 is the number of levels and 5 is the number of factors.

However, the initial survey only covered 29 scenarios for cultural and national combinations. Based on this evaluation, an invitation letter was sent to the participants and invited them to re-join the in-depth interviews.

In stage 2, the participants who agreed to join the interviews were scheduled at mutually convenient times. Interviews were conducted in Vietnamese/English and lasted approximately 30-45 minutes. It also took the form of face-to-face interactions in which the author poses questions that respondents answer.

According to De Massis and Kotlar (2014), interview participants may exhibit inaccurate recollections of prior events owing to memory deficiencies, resulting in distortions. Therefore, it is suggested that making participants experience a single phenomenon helps to distil the different experiences of a phenomenon into a clear explanation of its core (Heigham and Croker, 2009). In this study, the participant was required to re-experience the simulating website. The author then asked each participant semi-structured interview questions about their experiences with cross-border e-commerce experienced on this particular website (see Appendix C).

#### **4.4. Sampling techniques and data collections**

##### **4.4.1. Phase I (Quantitative study)**

According to Berndt (2020), a thorough understanding of sampling techniques is crucial for the creation of high-quality research. Accordingly, two predominant sampling methodologies exist: probability sampling and non-probability sampling techniques. Probability sampling methods use random selection, ensuring that each element in the population has an equal chance of being chosen. By contrast, non-probability sampling techniques use a technique where the researcher selects the sample based on their subjective assessment. There are two huge challenges for the author to conduct this research. First, the target population of this study is online shoppers from Vietnam and Hungary. Therefore, to conduct a probability sampling technique, the author has to obtain permission to access a list of the population in Vietnam and Hungary. Second, the study focuses on the cultural values at the individual level in Vietnam and Hungary. Consequently, the target population becomes hidden and hard to reach. Probability sampling techniques do not apply to these populations due to a lack of knowledge about the members of the population and the absence

of a sample frame (Berndt, 2020). Due to these reasons, non-probability sampling techniques were applied in this research as an alternative. Relying on the study's purpose mentioned previously, the study concentrates on consumers who have had personal experiences on an e-commerce platform. Consequently, the author adopted a combination of purposive and snowball sampling techniques to collect the sample.

Further, the study also investigated the relationships between risk, purchase intention, and cultural differences using a structural equation model (SEM). Therefore, a calculation of the sample size required for the SEM analysis is also essential. The study applied the A-priori sample size calculator by Soper (2023) to compute the minimum sample size required given the number of observed and latent variables in the model, the anticipated effect size, and the desired probability and statistical power levels. Accordingly, the author set the following criteria:

- Anticipated effect size = 0.3
- Desired statistical power level = 0.8
- Number of latent variables = 14
- Number of observed indicators = 51
- Probability level = 0.05

Consequently, the calculator returned that the minimum sample size to detect the effect was 208. The minimum sample size for the model structure was 125.

Regarding the data collection, Fowler (2009) identified several data collection forms, such as mail, telephone, the Internet, personal interviews, etc. Due to the convenience of the Internet nowadays, the study applied online data collection for primary data. A drop-off survey was conducted, in which the questionnaire was assigned to respondents to complete independently. The survey was created using the Google Forms and Survey Monkey platforms. Upon finalisation and activation of the survey questions online, the link was sent to respondents using email, Facebook, Instagram, WhatsApp, and LinkedIn. The respondents' selection criteria were:

- (1) They must be adults of Vietnamese or Hungarian nationality.
- (2) Candidates should have firsthand experience making e-commerce transactions.

There were 1926 random contacts from Hungary and Vietnam invited to join the survey. However, the survey ended with those who had not ever bought a product on an e-commerce website. The sample of the survey is shown in Appendix A. The completed and eligible forms were returned when the respondents clicked the "Submit" button.

The survey was pre-tested so that the questions may be refined as required and their relevance and accuracy assessed. As a result, the author ran a pre-test with 10 responses. The findings demonstrated that the items were comprehended and mirrored the study's aims. The primary data collection took place from June 15<sup>th</sup>, 2023, to October 1<sup>st</sup>, 2023. In all, 1926 respondents were invited to participate in the survey. Out of this, 800 valid replies, which refer to the completed and eligible forms, were chosen for the analysis. The response rate achieved is 40%. The significance of the number of responders lies in its surpassing of the required minimum sample size.

#### **4.4.2. Phase II (Qualitative study)**

In phase II (Qualitative study), the author conducted a process of screening and selecting appropriate interviewees, based on two (2) basic criteria, including:

- (1) Participants joined the initial survey
- (2) Participants are ready to spend time on the interview lasting above 30 minutes.

The invitation process started from February to April 2024. However, only 29 respondents agreed to be interviewed with a low response rate of around 4%. Three (3) respondents refused to participate in the interview due to the failure to arrange the interview schedule. Therefore, the final sample size was N=26. Respondents came from 3 cities in Vietnam and Hungary (i.e., Hanoi, Budapest, and Pécs).

Regarding ethical issues, codes or pseudonyms were used for participants based on their requirements of identity and privacy security. To enhance the interactive aspect of the research and help participants feel candid and comfortable with the interviewer, recording of conversations was not utilised during the interview. Instead, the author took detailed notes of participants' responses participants with a request for them to evaluate and confirm the correctness of their replies. After verification, the content of Vietnamese participants' responses was translated into English using Cambridge dictionary.

### **4.5. Data analysis methods in this current research**

#### **4.5.1. Study I (Quantitative study)**

Quantitative study applied Structural Equation Modelling (SEM) to analyse the primary data. As a branch of statistics, SEM has gained widespread adoption in business and social research. Its flexibility in modelling latent variables, accommodating different types of measurement error, and theory testing make it applicable to a wide range of investigations (Henseler *et al.*, 2015). Especially, SEM is also one of the most preferred tools for marketing academics (Martinez-Lopez *et al.*, 2013). According to Henseler *et al.* (2015), SEM is classified into eight (8) different techniques, based on covariance versus variance, full

information versus limited information, and the type of estimated outer model. Therefore, selecting an appropriate SEM technique is also critical for the study. Two prevalent SEM methodologies referenced in the literature are variance-based SEM (known as PLS-SEM) and covariance-based SEM (referred to as CB-SEM). The research used variance-based structural equation modelling (PLS-SEM), leveraging its fundamental benefits. PLS-SEM may provide considerable statistical power even with small sample sizes. It is capable of managing non-normally distributed data. The data gathered for this investigation exhibits a non-normal distribution, which is notable. Model conceptualisation in PLS-SEM allows for the investigation of complicated models that include both formative and reflecting constructs simultaneously (Afthanorhan *et al.*, 2020).

Further, the study also applied ADANCO, or “advanced analysis of composites,” as the major software to analyse the data. SmartPLS and SPSS were used as supporting tools. The reason for the combination between ADANCO and SmartPLS is based on their advantages in data analysis. First, the study focused on two groups of samples, including Hungary and Vietnam. Consequently, the SmartPLS software was utilised to test the measurement invariance of the model. By contrast, ADANCO is able to adopt a composite-based SEM technique, a critical technique for this study. A composite-based SEM running in ADANCO provides a correction for attenuation when modelling higher-order constructs (i.e., perceived risk). Additionally, it suggests new approaches to estimating and assessing perceived risk as a second-order construct. Further, it also suggests new criteria to assess discriminant validity, including HTMT and HTMT2 (Henseler *et al.*, 2015).

First, the demographic profile of the respondents was assessed. Second, the study applied the measurement invariance of composite models (MICOM) introduced by Henseler *et al.* (2016) to assess the likelihood of cultural response bias. Measurement invariance is a significant concern for academics engaging in multigroup SEM study. Researchers establish measurement invariance by confirming the absence of different group-specific model estimates resulting from diverse content and interpretations of latent variables across groups (Henseler *et al.*, 2016). Measurement invariance test is essential for cross-cultural studies because cross-cultural differences can emerge from the response style. “Failure to establish data equivalence is a potential source of measurement error (i.e., discrepancies of what is intended to be measured and what is actually measured), which accentuates the precision of estimators, reduces the power of statistical tests of hypotheses and provides misleading results” (Hult *et al.*, 2008, p. 1028). MICOM is constructed on non-parametric tests. This examination consists of three stages: (1) assessing the configural invariance, (2) evaluating

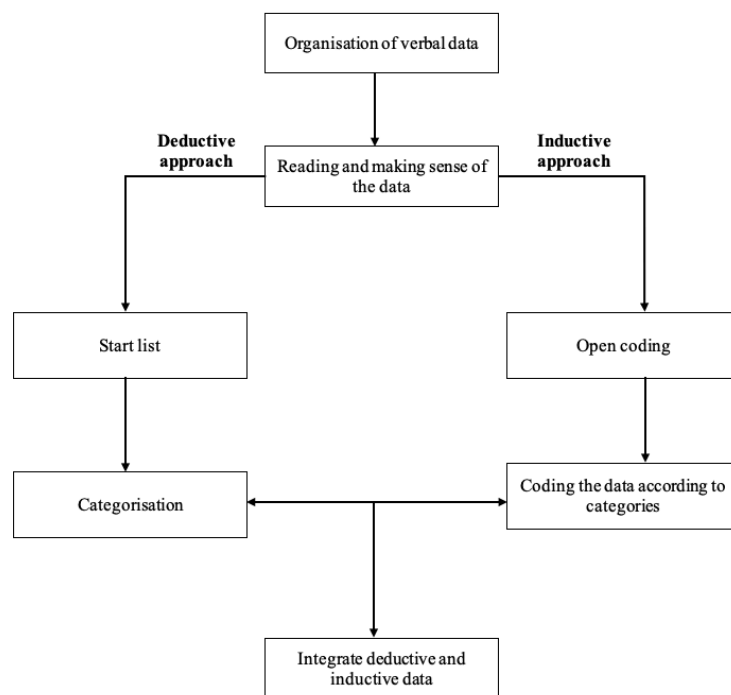
the compositional invariance, and (3) verifying the equality of composite mean values and variances (Hair *et al.*, 2018). These three steps are hierarchically interrelated. Thus, the continuation of research should be contingent upon the confirmation of measurement invariance via the analyses of the preceding steps. The configural invariance (Step 1) is a necessary condition for compositional invariance, which in turn is a necessary condition for meaningfully evaluating the equality of composite mean values and variances. In order to effectively compare the standardised path coefficient estimates of the structural links between the composites across different groups, researchers are required to demonstrate both configural (Step 1) and compositional (Step 2) invariance. Partial measurement invariance may be spoken of only if configural and compositional invariance have been proven; otherwise, the absence of measurement invariance is shown. Full measurement invariance may be achieved when partial measurement invariance is established and the composites exhibit similar mean values and variances across the groups, as shown in Step 3. In this scenario, researchers have the opportunity to aggregate data from many groups; nonetheless, it is essential for them to consider potential disparities in structural models (Henseler *et al.*, 2016). Pooling the data into a unified dataset presents a compelling proposition, as it has the potential to enhance the statistical strength and generalizability of the model under consideration. Accordingly, a partial measurement invariance of the groups must be at least achieved to pool the data for the subsequent analyses (Henseler *et al.*, 2016).

Further, to estimate and assess the second-order composite formed by first-order reflective constructs, the study employed confirmatory composite analysis (CCA) through a three-stage approach by Van et al. (2017). The three-stage approach is preferred because it can overcome two significant shortcomings in estimating models that consist of higher-order constructs (i.e., using the “mode A or B” outer weighting scheme and testing the fit of the model that contains the hierarchical construct (Van *et al.*, 2017). Initially, the author developed a structural model that included all first-order constructs. All constructs were permitted to correlate. The author utilised consistent Partial Least Squares (PLSs) to achieve reliable estimates. In the second stage, the author utilised the standard scores of the first-order constructs to estimate the model that includes the second-order construct (i.e., perceived risk). The design was structured as a second-order composite. The weights for this purpose were acquired through mode A. In the third stage, the author adjusted for attenuation to achieve consistent path coefficient and weight estimates for the model derived from the second stage.

A two-stage approach is utilised to examine the moderating effect (Henseler and Fassott, 2010). At stage 1, the author executed the primary effect of the PLS path model to derive construct scores for the independent and moderator variables. In stage 2, the author developed interaction terms by combining the construct scores of the following variable pairs (Uncertainty avoidance \* Perceived risk, Uncertainty avoidance \* Affective risk, Power distance \* Perceived risk, Power distance \* Affective risk, Collectivism \* Perceived risk, Collectivism \* Affective risk, Masculinity \* Perceived risk, and Masculinity \* Affective risk) through the construct scores of these two variables. Interaction terms served as independent variables in a multiple regression analysis of the latent variable scores for Purchase intention and Affective risk (Fassott *et al.*, 2016).

#### 4.5.2. Study II (Qualitative study)

Once the verbal data were collected, the author applied the content-analysis technique to code themes among the experiences of participants. A systematic deductive and inductive methodology was used for data coding. The deductive technique entails generating initial codes from the available literature on the research issue, supported by the theoretical framework and quantitative analysis (Phase I). This approach proposes that the data contains certain fundamental ideas, relying on the understanding gained from existing literature on the subject (Bradley *et al.*, 2007). Subsequently, the inductive approach was used to derive major themes from the data (Figure 16). This process was conducted in NVivo software version 14.



**Figure 16. Organising and Coding process – Author’s contribution**

In the first stage, a priori start list was generated in line with the existing theories, research questions, and quantitative results. The start lists served as a means to first identify certain essential elements of the data that directly pertain to the research questions. The data were examined using deductive methods to identify potential clusters (Table 13).

**Table 13. Start list – Source: Author’s contribution**

<b>Interview questions</b>	<b>Related to research objectives (RO)</b>	<b>Categories (Start list)</b>
What types of risks do you associate with this e-commerce website?		
In your opinion, what does "perceived risk" mean in the context of cross-border e-commerce?		Perceived risk
How do you perceive the fraud risk on this website?		Fraud risk
How do you perceive the delivery risk on this website?		Delivery risk
How do you perceive the financial risk on this website?	RO1. To re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC	Financial risk
Do you experience any issues related the process and time loss risk when experiencing this website?		Process and time loss risk
How do you think about the product risk on this website?		Product risk
How do you perceive the privacy risk when ordering on this website?		Privacy risk
How do you perceive the risk relating to the information of the seller and products presented on this website? Are they sufficient?		Information risk
How do you feel when experiencing this cross-border purchase on this website? If so, could you describe the specific circumstances?	RO2. To re-investigate whether perceived risk is different from affective risk, and whether perceived risk (cognitive stage) precedes affective risk (affective stage) in the decision-making journey in CBEC	Emotions
In your opinion, what triggered these emotions?		Antecedents of emotions
In your opinion, how do your feelings impact your willingness to engage in a purchase on this website?	RO3. To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture	Behaviours
In your opinion, how do these risks impact your willingness to purchase on this website?		
What strategies do you employ to reduce or manage perceived risks when shopping from that website?		
From your perspective, do you think there are strategies or interventions that cross-border e-commerce platforms could implement to alleviate negative emotions		Strategies



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and enhance consumers' purchase intentions?

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In the next stage, an inductive analysis was performed by closely examining the data, to obtain a comprehensive understanding of the information and ensure that all significant elements of the data were included (Gale *et al.*, 2013). The author meticulously examined each line of the texts and allocated codes to paragraphs or segments of material that were pertinent to the study questions.

In the final stage, the author integrated deductive and inductive data by reducing overlapping categories and collapsing similar categories into higher categories. In other words, having established first-order descriptive codes from the inductive data analysis, the author grouped them into second-order themes by identifying the connections among them (Lawrence and Dover, 2015).

Further, to obtain research objective 3 “To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture”, the author also ran a fuzzy-set Qualitative Comparative Analysis (fsQCA). The purpose is to identify combinations of conditions (configurations) that result in specific outcomes (behavioural intention or unwillingness to purchase). It is also to determine necessary or sufficient conditions for the outcome (unwillingness to purchase in CBEC). In this case, the author posits that behavioural intention (i.e., consumers' unwillingness to purchase in CBEC) is a function of six independent variables, including perceived risk, affective risk, uncertainty avoidance, masculinity, power distance, and collectivism (Equation 1).

#### **Equation 1: Fuzzy-set model**

$$BI = f (PR, AR, UA, PD, CO, MA )$$

Where BI is Behavioural intention, PR is Perceived risk, AR is Affective risk, UA is Uncertainty avoidance, PD is Power distance, CO is Collectivism, and MA is Masculinity. Different from the correlation methods, fsQCA applies the set theory, in which independent and dependent variables are considered the “conditions/factors” and “outcome”. Accordingly, a condition indicates the inclusion of a variable that explains the result and an outcome that is included in a variable described by the conditions (Ragin, 2014). In this study, Behavioural intention (or consumers' unwillingness to purchase in CBEC) was considered the “outcome” which would be explained by the combinations of conditions (i.e., consumers' perceived risk, affective risk, uncertainty avoidance, masculinity, power distance, and collectivism).

The fsQCA involves 2 stages (i.e., data calibration and truth table construction). First, variables were calibrated to form fuzzy sets (Pappas and Woodside, 2021). The author selected the values min, max, and average as the three thresholds to convert the data into the log-odds measure, ensuring that all values fall within the range of 0 to 1. Especially, in cases of variables using 5-point Likert scales, the thresholds of 4, 3, and 2 were utilised (Pappas and Woodside, 2021) (Table 14).

**Table 14: Calibration anchor points – Source: Author’s contribution**

Variables	Anchor points		
	Full non-membership	Crossover point	Full membership
Behavioural intention	1	2.5385	6
Perceived risk	1	6.5769	13
Affective risk	0	1.6923	3
Uncertainty avoidance	2	3	4
Power distance	2	3	4
Collectivism	2	3	4
Masculinity	2	3	4

Next, truth tables were contributed to compute all possible configurations that produce behavioural intention, with the values of 1 (i.e., indicating a low behavioural intention), or 0 (i.e., indicating a high behavioural intention). For the dependent variable of behavioural intention, the study included 64 latent configurations with 64 rows. The truth tables were then sorted by frequency threshold at 1 and consistency threshold at 0.8 to remove the configurations with low frequency and consistency (Pappas and Woodside, 2021). According to Cangialosi (2023), consistency refers to the extent to which a configuration is linked to the study's findings, specifically the incidence of the combination with high values of the outcome variable. Therefore, the truth table should be refined to increase the reliability of the results. The fsQCA includes two analyses, such as (1) necessity conditions analysis and (2) sufficient analysis. Notably, sufficient analysis was applied to obtain the intermediate solution, parsimonious solution and complex solution. Whereas, analysing the intermediate solution and the parsimonious solution allows for the identification of both the core conditions and peripheral conditions.

#### **4.6. Summary**

This chapter began with a discussion of the philosophical assumption that the author brought to the study. Accordingly, pragmatism was used as the philosophical worldview of this study. The author also discussed the regional scope of the study. As a result, Hungary and

Vietnam were selected as research sites due to their congruence and discrepancy. The study adopted a mixed method approach to address the research questions. Consequently, an explanatory sequential design with quantitative and qualitative (QUAN→qual) methodologies was applied in this study (see Figure 17).

In terms of quantitative study, cross-sectional surveys were used with non-probability sampling techniques (i.e., a combination of purposive and snowball sampling techniques) due to their appropriateness. Next, the survey design was presented, and the sample size and criteria for survey participants were also explained. Based on calculations, a minimum sample size of 208 was seen as appropriate to obtain the representativeness of the population and enable the application of SEM. Consequently, 800 responses were selected for the analysis. Further, the author also presented the statistical methods and techniques used to analyse the primary data, including variance-based SEM (PLS-SEM) with the support of ADANCO, SPSS, and SmartPLS.

In terms of qualitative study, in-depth interviews (IDIs) were used with a sample of 26 participants. The participants were selected relying on the quantitative results and cultural profile assessment of the initial survey. The interview data was analysed using a sequential coding process of deductive and inductive approaches with the support of NVivo 14. Further, a fuzzy-set qualitative comparative analysis (fsQCA) was applied to identify possible configurations and core/peripheral conditions that lead to consumers' low behavioural intentions in CBEC.

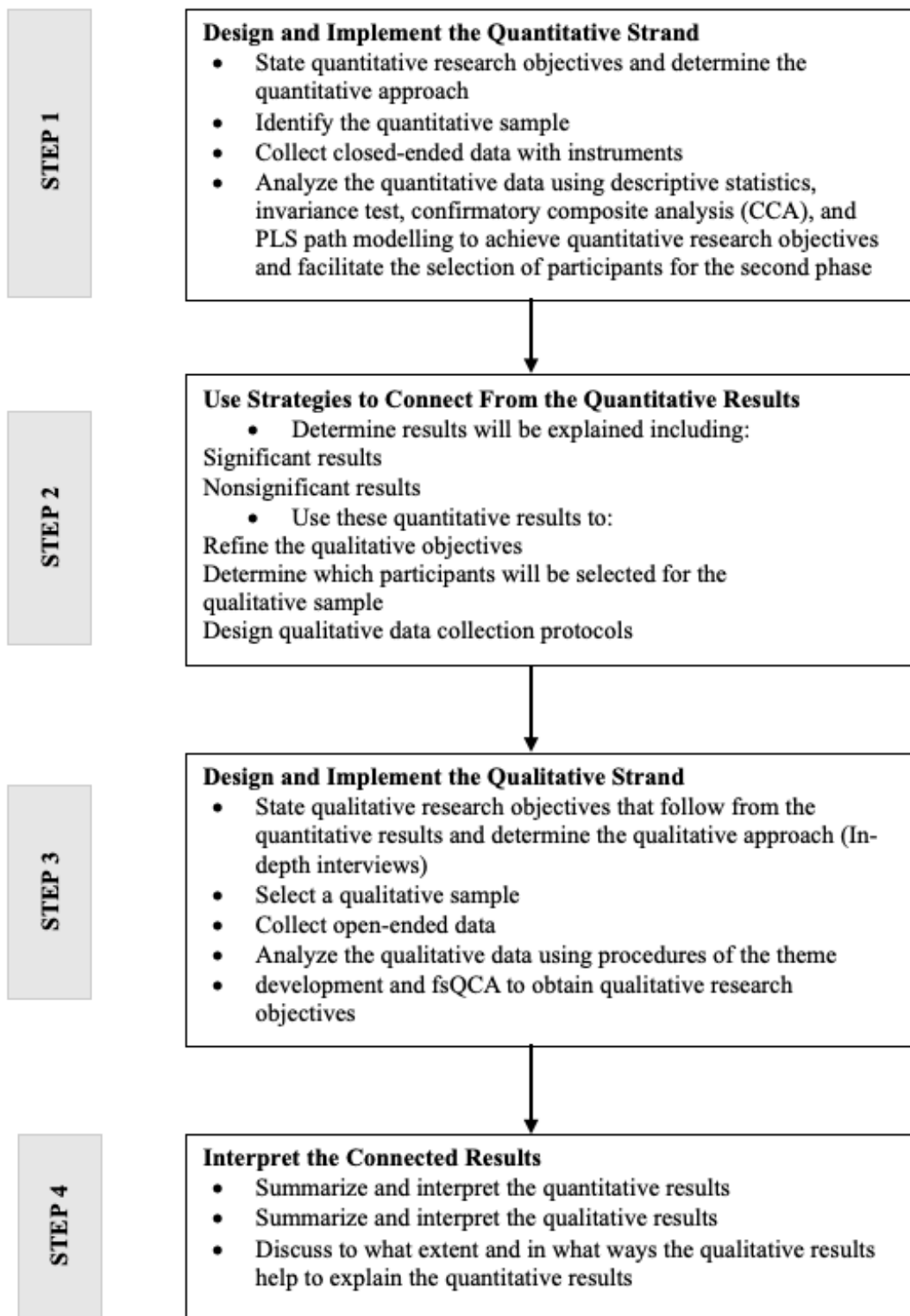


Figure 17. Flowchart of the basic procedure in implementing an explanatory sequential mixed methods design. Adapted from Creswell and Clark (2017)

## CHAPTER FIVE

### 5. HYPOTHESIS DEVELOPMENT AND MODEL DESIGN

#### 5.1. Perceived risk modelled as a second-order composite

In the last several decades, the discussion and use of high-order constructs (i.e., multidimensional constructs) have been increasing in academic research, such as management and psychology literature (Johnson *et al.*, 2012). Accordingly, a multidimensional construct refers to the notion that includes multiple latent constructs and establishes meaningful relationships between them in a theoretical framework. Indicators in a multidimensional construct are referred to as dimensions. Each dimension reflects a distinct and well-defined feature of the content domain (Polites *et al.*, 2012). Dimensions in the higher-order construct can be operationalized as reflective or formative. Reflective/formative dimensions are not analogous to reflective/formative (i.e., reflectively/formatively measured) constructs (Diamantopoulos and Siguaw, 2006). In other words, the terms “reflective or formative” describe the flows in the relationships between lower-order dimensions and higher-order constructs. There are two possibilities existing. In the former case, the lower-level dimensions are manifestations of the higher-order constructs (labelled superordinate constructs). In the latter case, the lower-level dimensions combine to create the higher-order constructs (labelled aggregate constructs) (Johnson *et al.*, 2012). The efficacy of high-order construct is predicated upon a combination of theoretical and empirical factors. For instance, according to Gerbing *et al.* (1994), in the pursuit of addressing difficulties related to the uni-dimensionality of many indicators, researchers often generate manifest variables that essentially serve as redundant expressions of one another. It is referred to an issue as “bloated specific” factors. Therefore, modelling higher-order constructs can address this problem. These first-order factors can be considered building blocks of the second-order constructs. Each facet may be characterised as a uni-dimensional collection of elements, and facets can be regarded as the indicators of second-order components. Newman and Harrison (2008) indicated that the lower-level constructs are often well-understood. However, each of them is backed by an extensive history of research. As a result, merging multiple constructs into single higher-order constructs is becoming more common. According to Wetzels *et al.* (2009), using higher-order constructs enables greater theoretical simplicity and decreases the complexity of model. Koufteros *et al.* (2009) revealed two reasons for the application of higher-order constructs. First, a higher-order construct modelling is the most suitable technique to present constructs that are meaningfully

conceptualized at higher orders of abstraction. Second, the use of higher-order constructs may efficiently resolve certain methodological problems that present difficulties to empirical research. The researchers showed that constructs exhibiting a strong association could lack a well-defined component structure when analysed using factor analysis. This might be difficult to express and use in hypothesis testing. By contrast, second-order models acknowledge the significance and preserve the unique characteristics of individual first-order constructs, seeing them as different aspects of the overarching higher-order construct. Additionally, path coefficients establish the relationship between first-order variables and their corresponding second-order variable, allowing for the estimation and evaluation of both the substantive and statistical impact of each first-order construct. Other scholars showed that in some cases, multidimensional constructs predict other phenomena better than their individual dimensions (Johnson *et al.*, 2012). In another research, Credé and Harms (2015) revealed that higher-order constructs are posited as explanatory factors for the substantial levels of observed covariation across constructs that are conceptually interconnected. This is due to the consistent discovery that broader constructs tend to possess superior predictive validity compared to their narrower facets, especially when it comes to broader outcomes. The scholars showed that the higher-order constructs play two essential roles, including explaining substantial variation in lower-order factors and explaining substantial variation in manifest variables.

The deductive approach recommends that a multidimensional construct should rely on a theory that guides determining which indicators should serve as its dimensions (Trochim, 2005). Accordingly, modelling perceived risk as a higher-order construct is fundamentally grounded in the multidimensional theory of perceived risk. As presented in the theoretical background, perceived risk can be fairly well predicted by their multiple dimensions corresponding with their possible consequences of a failed purchase. The research conducted by Jacoby and Jacoby and Kaplan (1972); Roselius (1971) indicates that customers exhibit several forms of risk perception in purchase scenarios. These aspects may be regarded as functionally independent at a conceptual level. Hence, every category of risk might indicate a distinct manifestation of perceived risk. The literature review also reports several studies applying this theory. For instance, Alrawad *et al.* (2023) investigated the effects of 7 types of risk factors on purchase intention in e-commerce. Lho *et al.* (2022) examined two aspects of perceived risk, including social and performance risks, on consumers' satisfaction. However, these researchers mostly regarded these dimensions as variables at a lower level, where they examined the specific connections between sub-dimensions of perceived risk

separately. Insufficient consideration of these aspects as indicators has prompted enquiries on the clarity of the perceived risk construct in e-commerce. Therefore, it may be suitable to represent perceived risk as a higher-order concept.

Apart from discussing the need for theory to justify combining several risk dimensions into a single higher-order one, it is also important to specify the nature of the higher-order constructs. In other words, the flow of relationships between lower-order indicators and higher-order constructs should be identified. Previously, researchers have represented the concept of perceived risk in e-commerce as a second-order superordinate construct, such as studies by Berteau and Zait (2013); Pillai *et al.* (2022); Qalati *et al.* (2021); Rosillo-Díaz *et al.* (2019); Zhou *et al.* (2018). Nevertheless, as pointed out by Johnson *et al.* (2011), the indicators of superordinate constructs have a greater level of overlap in comparison to those of aggregate constructs, therefore impacting the internal consistency among the indicators. Other scholars agree that sub-risk dimensions can be good predictors of online shoppers' overall risk in e-commerce. Accordingly, overall perceived risk derives from the potential sources (Glover and Benbasat, 2010; Yang *et al.*, 2016). In other words, perceived risk can be modelled as the higher-order aggregate construct, in which causal indicators combine to create the higher-order constructs (i.e., perceived risk). This study synthesises seven potential sources, corresponding to 7 (seven) potential indicators of perceived risk in e-commerce, including fraud risk, delivery risk, financial risk, product risk, process & time loss risk, privacy risk, and information risk. These dimensions represent different aspects of perceived risk in e-commerce. Therefore, the perceived risk is modelled as a second-order composite that is formed by its seven reflectively measured dimensions.

## **5.2. Perceived risk and purchase intention**

Intention refers to the intensity of an individual's deliberate plan to execute the desired behaviour (Wu *et al.*, 2011). The Theory of Planned Behaviour (TPB) posits that behavioural intention describes an individual's subjective likelihood of engaging in certain future conduct, given that they have control over their actions. Thus, Purchase intention is referred to as the customers' readiness to acquire the goods (Ajzen, 1991). According to previous literature, online purchase intention or willingness to purchase refers to “the extent to which an individual will purchase products or services from an online merchant” (Jadil *et al.*, 2022, p. 5). Purchase intention is essential to the pre-purchase process as it reflects a consumer's probability of making a purchase. Individuals exhibiting heightened purchase intentions demonstrate a greater likelihood of engaging in the desired behaviour. Therefore, Purchase intention is extensively documented in the literature as a predictor of actual purchase

behaviour (Ajzen, 2011; Sadiq *et al.*, 2022). In current research, purchase intention has been used to measure consumer response to e-commerce risks instead of actual purchase behaviour (Sadiq *et al.*, 2022; Wu *et al.*, 2011).

In the multidimensions theory of perceived risk, Roselius (1971) reveals that a buyer often has four options when identifying risk in a purchase, such as (1) decrease the likelihood of the purchase failing or minimise the potential loss if it does fail; (2) switch to a different type of loss that the buyer is more comfortable with; (3) delay the purchase intention, thereby shifting from one general risk category to another; or (4) proceed with the purchase and accept the unresolved risk. In other words, the scholar justifies a negative causal relationship between perceived risk and purchase intention. Consequently, consumers might delay their purchase intention in case they perceive risks. In other aspects, the basic paradigm of TPB model shows that individuals are more inclined to engage in a certain behaviour if they have the belief that the behaviour will result in a desirable outcome (Ajzen, 1991). Therefore, if there is an undesirable consequence, consumers may refuse to engage in that behaviour.

Previous literature shows a negative effect of perceived risk on purchase intention, in which online consumers will not intend to purchase products if they perceive different risks on an e-commerce platform (Rahmi *et al.*, 2022; Vo *et al.*, 2022). According to Pillai *et al.* (2022), perceived risk, including psychological, financial, and product risks, was identified as factors that diminish consumers' purchase intentions in online shopping. Regarding e-commerce in Taiwan, perceived risk is also explored as being harmful to online purchase intention (Liao *et al.*, 2021). Further, several research indicate that perceived risks serve as a barrier, diminishing online buying intentions (Amaro and Duarte, 2015; Belanche *et al.*, 2012; Chafidon *et al.*, 2022; Chiu *et al.*, 2014; Mezger *et al.*, 2020; Pappas, 2016; Rahmi *et al.*, 2022; Wang *et al.*, 2017). For instance, Amaro and Duarte (2015) show that perceived risk correlates with customers' tendency to buy trips online. Accordingly, perceived risk may deter consumers from buying travel online since it harms their intentions. According to Chiu *et al.* (2014), inadequate supervision of the seller's behaviour and online security vulnerabilities raise the perceived danger of online shopping. Upon discovering the potential drawbacks of online shopping, individuals may cease purchasing items over the internet. Therefore, the research postulates that:

*H<sub>1</sub>. Perceived risk is negatively related to purchase intention in CBEC.*

### **5.3. Perceived risk and affective risk**

Conventional risk assessment in marketing and consumer behaviour focusses on evaluating the likelihood of negative consequences. However, it contrasts with a typical individual's



assessment of risk. The theory of two models of thinking reveals two distinct aspects of risk including perceived risk (based on risk-as-analysis) and affective risk (based on risk-as-feelings). Consequently, individuals may experience perceived (cognitive) and affective (emotional) evaluations in a risky decision task. Theories based on risk-as-feelings model revealed the disparity between the perceived risk and affective risk. For instance, Loewenstein et al. (2001) who propose the “risk-as-feelings” hypothesis argue that affective risk is different from perceived risk based on its antecedents. Apart from anticipated outcomes and subjective probability which is similar to perceived risk's antecedents, negative feelings (affective risk) are also determined by other factors, such as vividness, immediacy, and background moods. According to Sha (2018), Perceived risk encompasses the cognitive assessments or evaluations associated with a risky situation, whereas affective risk pertains to an individual's emotional responses. Affective risk does not require extended brain processing, suggesting less involvement in cognitive calculations, and hence may be promptly activated. These emotions refer to an individual's experience of apprehension, distress, or unease over the potential adverse consequences of their actions. As a result, in the current study, the author models and measures perceived risk and affective risk as two distinct variables.

The causal pathway between perceived risk and affective risk has been revealed in neurological theories and decision-making. The HOE model presents the sequential reaction of a consumer including ranging from cognition to affect before arriving at an action. The two-factor theory of emotions demonstrated that cognitive processes involving interpretation and evaluation significantly influence emotional experiences. Additionally, the cognitive–mediational theory of emotion confirmed that emotions result from cognitive processes. The theory assumes that one's interpretation or assessment of a situation or event can contribute to the experience of different emotional states (Šimić *et al.*, 2021).

Also, empirical studies also verify this relationship. Relying on a study about military sailors during an international operation, Kobbeltved et al. (2005) explored the relationship between perceived risk and related feelings. The results show that perceived risk influences risk-related feelings, such as worry. Other studies also present aspects of the appraisal-emotion relationship. For instance, Éthier et al. (2006) showed that as customers engage in online buying, their sense of risk might elicit emotions such as dread or dissatisfaction. Moreover, the perceived risks, such as financial detriment and violation of privacy, would create an affective risk and deter customers from engaging in more commercial transactions

(Sha, 2018). According to Kim and Lennon (2013), consumers experience positive emotions when the perceived risk is low. This result is also consistent with the observation of Hajiheydari et al. (2017), who found that perceived risk can lower consumers' positive feelings. Therefore, the research postulates that:

*H<sub>2</sub>. Perceived risk positively influences affective risk in CBEC.*

#### **5.4. Affective risk and purchase intention**

The causal pathway between affective risk and purchase intention is well justified by the theoretical explanation. For instance, Ajzen (2020) explains that in the TPB model, the attitude towards the behaviour is determined by easily available ideas about the anticipated outcomes of the action, also known as behavioural beliefs. Behavioural beliefs, when considered as a whole, are believed to generate either a favourable or unfavourable attitude towards the activity. As a result, a negative belief of consumers contributes to the overall negative attitude and weakens the behavioural intention. In other words, negative feelings may decline consumers' behavioural intentions. In addition, the risk-as-feelings (RaF) hypothesis interprets the essential role of negative feelings in the relationship between cognitive appraisal and decision-making. Accordingly, it postulates that “responses to risky situations (including decision-making) result in part from direct (i.e., not cortically mediated) emotional influences, including feelings such as worry, fear, dread, or anxiety” (Loewenstein *et al.*, 2001, p. 207). Therefore, emotional responses to risk (affective risk) may differ from cognitive risk evaluations, and influence behavioural decisions. In other words, Loewenstein et al. (2001) reveal that negative emotions (affective risk) negatively impact an individual's behaviour.

Prior literature also confirmed the effect of emotions on individuals' behaviours. For instance, Escadas et al. (2019) indicated that emotions account for up to 59% of the variance in consumer decisions. Hereby, negative emotions were the most influential factor in consumer decision-making. Further, negative emotions (i.e., anxiety, depression, and loneliness) were discovered to directly affect customers' purchasing behaviour in e-commerce (Luo et al., 2018). Additionally, based on the research by Sha (2017, 2018); Verhagen and Dolen (2011), the affective risk is also presented to influence consumer behaviour negatively. Consequently, it inhibits customers from finalising their purchases or compels them to alter their objectives. Also, Kim and Lennon (2013) reveal that consumers' emotional states relate to their willingness to buy. Especially positive emotions encourage consumers' purchase intentions. Based on the findings of Li et al. (2011), the emotions experienced by customers shape their general perception of a new e-commerce business and

impact their actions in terms of revealing online information. Specifically, the presence of first negative emotions, such as dread, might serve as an alarm to customers about possible problems. Therefore, the study hypothesises that:

*H<sub>3</sub>. Affective risk is negatively related to purchase intention.*

## **5.5. Role of cultural dimensions**

Prior research investigated the different effects of culture in the e-commerce context. For instance, the studies by Brosdahl and Almousa (2013); Lee and Choi (2019); Wen et al. (2018) mainly investigated the direct effect of culture or cultural dimensions in e-commerce. Five cultural dimensions (i.e., power distance, collectivism, masculinity, uncertainty avoidance, and long-term orientation) have been examined for their effects on e-WOM (Lee and Choi, 2019). By contrast, Rosillo-Díaz et al. (2019) investigated the effects of two dimensions (uncertainty avoidance and collectivism). These scholars focused on the direct effects of cultural dimensions on perceived risk, purchase intention, and perceived product quality. Also, Pratesi et al. (2021) agreed that cultural dimensions directly impact consumers' perceived risk and trust in e-commerce, which influences consumers' behavioural intentions.

On the contrary, other scholars agree that culture and cultural dimensions operate as the environment that moderates the relationships among factors in e-commerce. For instance, cultural dimensions were considered moderators in the effect of consumers' trust and their purchase intention in e-commerce (Faqih, 2022). Zendehdel et al. (2016) found that collectivism moderates the link between subjective norms and consumer attitudes in the case of online buying. According to Ganguly et al. (2010), the degree of uncertainty avoidance moderates trust's effect on perceived risk. However, the degree of collectivism moderates trust's effect on purchase intention. Other studies by Hwang and Lee, (2012); Martín et al., (2011); Park et al., (2012) also provide significant studies presenting the moderating effects of culture in e-commerce.

### **5.5.1. Uncertainty avoidance**

Uncertainty avoidance refers to the degree to which people see uncertainty and ambiguity as a significant threat. The UA score quantifies the level of uncertainty avoidance, where individuals in a society with greater uncertainty avoidance values see hazards as much more threatening (Hofstede, 2022). The dimension of uncertainty avoidance is often employed in cross-cultural Web-based research because of its significant correlation with risks (Matzler et al., 2016). Consumers with a high uncertainty avoidance score in online purchasing are often risk-averse and reluctant to make online purchases. Users with lower uncertainty

avoidance exhibit more ease in completing online transactions and have a more favourable view of websites (Nath and Murthy, 2004). Moreover, Karahanna (2013) provides evidence that the phenomenon of uncertainty avoidance has an impact on the way individuals perceive the level of risk linked to online transactions. Specifically, those who have a high uncertainty avoidance score are able to undertake calculated risks. Yoon (2009) proposes that the avoidance of ambiguity might either increase or decrease consumers' level of risk perception. Furthermore, AlKailani and Kumar (2011) provide evidence that in societies that strongly promote the avoidance of uncertainty, the perceived level of risk linked to online purchasing is also increased, therefore negatively affecting internet shopping. Therefore, the study hypothesises that:

*H<sub>4a</sub>. Uncertainty Avoidance moderates the negative effect of perceived risk on purchase intention.*

*H<sub>4b</sub>. Uncertainty Avoidance moderates the positive effect of perceived risk on affective risk.*

*H<sub>4c</sub>. Uncertainty Avoidance moderates the negative effect of affective risk on purchase intention.*

### **5.5.2. Power distance**

Power distance (PD) denotes the extent to which members of a society are willing to acknowledge and accept the existence of an uneven distribution of power (Hofstede, 2003). In cultures characterised by low power distance, people tend to place more emphasis on factual sources throughout the decision-making process. They intentionally acquire knowledge rather than relying on external sources (Goodrich and Mooij, 2013). The function of power distance in establishing and growing online trust has been well acknowledged. Accordingly, power distance was identified as a moderating factor in the relationship between trust and online purchasing intention. Customers from higher-power-distance cultures perceived higher risk than those from cultures with lower power distance. Thus, they have less intention to buy (Dao, 2021). According to Alsaleh et al. (2019), cultures with high power distance use the calculative process as a means to establish trust in online settings. This trust is crucial to influencing individuals' intentions to buy online. Capece et al. (2013) demonstrated that power distance moderates the correlation between trust and behavioural intention. Accordingly, Thus, an increase in power distance correlates with a decrease in the intensity of the relationship. Therefore, the study hypothesises that:

*H<sub>5a</sub>. Power Distance moderates the negative effect of perceived risk on purchase intention.*

*H<sub>5b</sub>. Power Distance moderates the positive effect of perceived risk on affective risk.*

*H<sub>5c</sub>. Power Distance moderates the negative effect of affective risk on purchase intention.*

### **5.5.3. Collectivism**

Collectivism versus Individualism reflects the relationship that individuals have in each culture. Their relevance pertains to the perspective on whether individuals' self-image is characterised by a "I" or "We" orientation within their cultural context (Hofstede, 2003). Accordingly, a lower collectivism score is defined as an individualist culture in which society emphasises the role of the individual (Hofstede, 2022). Previous research shows that when facing a risky decision, users from collectivist cultures will perceive a higher level of risk than those from individualist cultures (De Mooij and Maas, 2010). Therefore, it may be inferred that individualistic cultures, such as British culture, exhibit a greater inclination towards using the Internet for information retrieval and online purchase intention than collectivist cultures, such as Spanish culture (Faqih, 2022). Ko et al. (2004) revealed that shoppers generally have risk perceptions when shopping online. However, Korean shoppers or Easterners tend to be more concerned about the opinions of their family or friends when shopping online compared to US shoppers (Westerners). It means that the individualism/collectivism dimension can also influence cultural differences in perceived risk. Additionally, Park and Jun (2003) revealed that while Americans are a typical example of an individual society, Korea tends to be a collectivistic nation. Accordingly, in comparison to Americans, Korean buyers tend to perceive more risks in internet buying. They are often worried about the situation of the goods if the privacy and security of information are good enough. According to Weber and Hsee (1998), most cultures are risk-averse. However, in their comparison, individuals from socially collectivist societies, such as the Chinese, demonstrate a lower propensity for risk-taking compared to those from individualist cultures, like the Americans. Therefore, the study postulates that:

*H<sub>6a</sub>. Collectivism moderates the negative effect of perceived risk on purchase intention.*

*H<sub>6b</sub>. Collectivism moderates the positive effect of perceived risk on affective risk.*

*H<sub>6c</sub>. Collectivism moderates the negative effect of affective risk on purchase intention.*

### **5.5.4. Masculinity**

Masculinity and Femininity refer to the degree to which a culture places importance on traits such as accomplishment, assertiveness, competition, materialism, ambition, and success

(masculinity), as opposed to qualities such as caring, nurturing, modesty, relationships, and equality (femininity) (Hofstede, 2003). Individuals who are part of cultural contexts that prioritise strong masculinity tend to exhibit goal-oriented behaviour. Consequently, they often have favourable attitudes towards the adoption of new technology as a means to improve work processes and increase the quality of their job (Lin, 2015). According to Hallikainen and Laukkanen (2018), there is a greater emphasis on promoting values and fostering harmonious relationships in feminine cultures compared to masculine cultures. Additionally, the authors suggest that in male cultures, there is a general lack of trust among people.

The moderating role of the masculinity dimension in the context of Internet purchasing has not received significant attention. Specifically, the influence of the masculinity dimension on the relationship between perceived risk and online purchase intention remains under-researched. Although Faqih (2022) assumed that the masculinity dimension may moderate the relationship between online trust and purchase intention in e-commerce, their result showed an insignificant moderating relationship. Therefore, the study postulate that:

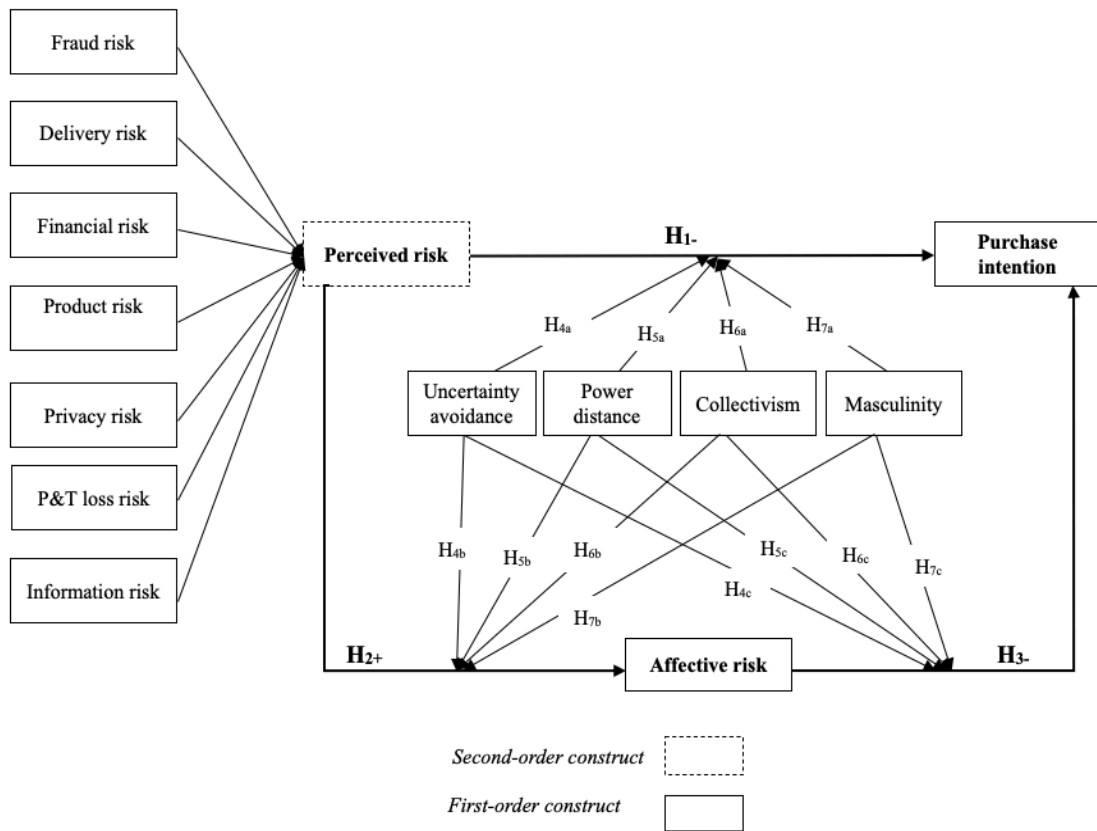
*H<sub>7a</sub>. Masculinity moderates the negative effect of perceived risk on purchase intention.*

*H<sub>7b</sub>. Masculinity moderates the positive effect of perceived risk on affective risk.*

*H<sub>7c</sub>. Masculinity moderates the negative effect of affective risk on purchase intention.*

## **5.6. Hypothetical model design**

The quantitative study (Phase I) entailed the use of scaled items from previous literature to measure thirteen (13) constructs in the hypothetical research model (Figure 18).



**Figure 18: Hypothetical research model – Source: Author’s contribution**

Operational definitions for constructs are presented in Table 14. Independent variables consist of eight (8) variables (i.e., perceived risk, fraud risk, delivery risk, financial risk, product risk, privacy risk, process and time loss risk, and information risk). Notably, perceived risk is modelled as a second-order composite. The author measures perceived risk based on 7 sub-risk dimensions. The measurement scale is adapted by the instrumentation of Naiyi (2004) (with 24 items). Affective risk works as a mediating variable. It is measured by the scale adapted from Petrova et al. (2023) and Sha (2018) (with 4 items). Purchase intention working as a dependent variable is measured by the scale from Zhang et al. (2012) (with 3 items). Moderating variables in this study consist of 4 dimensions of culture, such as uncertainty avoidance, power distance, collectivism, and masculinity. The author uses the CVSCALE measurement (Cultural Values at the Individual Level) developed by Yoo et al. (2011) as the instrumentation of these variables (with 20 items).

**Table 15. Operational definitions and instrumentations for constructs – Source: Author’s contribution**

Constructs	Definitions	Types of variables	Instrumentation
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Fraud risk	the potential unreliability of a vendor in e-commerce	Independent variable First-order variable	5 items Naiyi (2004)
Delivery risk	the likelihood of delayed product delivery or extended shipment duration	Independent variable First-order variable	3 items Naiyi (2004)
Financial risk	the likelihood of financial loss or paying supplementary fees while participating in e-commerce transactions	Independent variable First-order variable	4 items Naiyi (2004)
Product risk	the prospective loss sustained when products fail to meet expectations	Independent variable First-order variable	3 items Naiyi (2004)
Privacy risk	the possible relinquishment of control over personal data when used without consent	Independent variable First-order variable	4 items Naiyi (2004)
Process and Time loss risk (P&T risk)	the potential for a consumer's complexity and aggravation to surpass the anticipated online purchasing experience	Independent variable First-order variable	3 items Naiyi (2004)
Information risk	the potential for asymmetric knowledge about sellers and items	Independent variable First-order variable	2 items Naiyi (2004)
Perceived risk	consumer perceptions regarding outcomes that deviate from initial expectations, encompassing the potential for unfavourable results and the occurrence of losses in online purchasing transactions.	Independent variable Second-order variable	7 first-order casual indicators
Affective risk	Immediate anticipatory emotions, such as fear, worry, and threat, arise in response to risk or uncertainty during decision-making or action engagement.	Mediating variable	4 items Petrova et al. (2023) and Sha (2018)
Purchase intention	the readiness to participate in a purchasing transaction	Dependent variable	3 items Zhang et al. (2012)
Uncertainty avoidance	The degree of concern individuals experience regarding uncertainty	Moderating variable	5 items Yoo et al. (2011)
Collectivism	the degree to which individuals are integrated into groups	Moderating variable	6 items Yoo et al. (2011)
Power distance	the acceptance of power between individuals with more power and those with less power	Moderating variable	5 items Yoo et al. (2011)
Masculinity	the degree to which a culture emphasises success or nurturing	Moderating variable	4 items Yoo et al. (2011)



## CHAPTER SIX

### 6. DATA ANALYSIS

This chapter presents the findings of the mixed method study and provides analyses of the data collected. The chapter aims at the following purposes:

#### Phase I – Quantitative study

- Describing the demographic profile of the respondents
- Testing the invariance of the sample
- Analysing the measurement model by assessing the internal consistency of the constructs, the reliability of the second-order construct, and the convergent validity and discriminant validity
- Analysing the Goodness of fit (Gof) of the model with the second-order composite
- Analysing the structural model by evaluating the explanatory power, effect size, and significance of the hypotheses

#### Phase II – Qualitative study

- Describing the demographic profile of the participants
- Conducting the thematic analysis
- Conducting the fuzzy-set qualitative comparative analysis (fsQCA)

### 6.1. Phase I – Quantitative study

#### 6.1.1. Demographic profile

Table 16 presents the demographic characteristics of the respondents. The sample comprises 50% Vietnamese (400) and 50% Hungarian (400) respondents. Regarding gender distribution, the ratio of males and females in the pooled data is 50%:50%. This collection is based on the reality that there is no gender difference between online shoppers in Vietnam and Hungary (Statista, 2021b, 2023g). As a result, this may ensure that the sample subjects of the study are an accurate representation of the overall population. The author concentrated on gathering data across three age categories: (1) 18-25, (2) 26-35, and (3) 36 and older. The selected age groups are suitable for this study as individuals aged 18 to 40 in Vietnam and Hungary predominantly favour online shopping due to its convenience. In both Vietnam and Hungary, the legal age is established at 18 years. The study aims to examine the risk perception and purchase intention of online adult consumers in Hungary and Vietnam; therefore, it was necessary to sample individuals aged 18 and older. Consequently, the ratio of total respondents aged 18–25 accounts for 34.25%. The proportion of total respondents

aged 26–35 accounts for 38.75%. The rest is 27%. The ratio of students represents 43.75% in pooled data, while that of full-time employment represents 56.25% in pooled data. The employment status was chosen as a demographic characteristic, as it is posited that financial independence may motivate individuals to engage in online purchasing. Approximately 53% of the total sample allocates less than \$100 per month for online shopping expenditures. Approximately 25.88% of individuals allocate between \$100 and \$500 monthly for online shopping, while 21.75% exceed \$500 in their monthly expenditures. As Vietnam and Hungary are using their national currencies, the study uses the US dollar (\$) as the intermediary currency to compare. Regarding our results, there is a huge distinction in online consumption between Vietnam and Hungary. In the context of Vietnam, it was observed that a very equitable distribution was evident among respondents in terms of their monthly expenditure on online shopping. Specifically, 162 individuals reported spending less than \$100 per month, while 128 respondents indicated a monthly expenditure ranging from \$100 to \$500. The data collected from a sample of 110 participants indicated that their expenditure on internet shopping exceeded \$500. It is meaningful because the average online shopping spending of Vietnamese consumers is around 2-6 million Vietnam Dong, equivalent to \$90-\$300 (Statista, 2022a). By contrast, half of Hungarian respondents reported spending less than \$100 per month. It shows that the degree of online shopping consumption in Hungary is comparatively lower than that seen in Vietnam.

**Table 16: Demographic characteristics of respondents – Source: Author’s contribution**

		<b>VN (No)</b>	<b>VN (%)</b>	<b>HU (No)</b>	<b>HU (%)</b>	<b>Pooled (No)</b>	<b>Pooled (%)</b>
Size		400	50.00	400	50.00	800	100.00
Gender	Male	200	25.00	200	25.00	400	50.00
	Female	200	25.00	200	25.00	400	50.00
Age groups	18-25	134	17.13	140	17.13	274	34.25
	26-35	156	19.38	154	19.38	310	38.75
	+36	110	13.50	106	13.50	216	27.00
Employment status	Student	150	18.75	200	25.00	350	43.75
	Working	250	31.25	200	25.00	450	56.25
Monthly expenditure on online shopping	<100 USD	162	20.25	257	32.13	419	52.38
	100-500 USD	128	16.00	79	9.88	207	25.88
	>500 USD	110	13.75	64	8.00	174	21.75

### 6.1.2. Invariance test

Table 17 shows the results of 5000 permutations. Accordingly, thirteen (13) variables were examined in MICOM. With a value of 0.993, which is very close to 1, affective risk has the lowest “c value” in the research model. The permutation test indicated that none of the “c values” are significantly different from 1. Therefore, the results conclude that compositional invariance has been established for all constructs in the model.

In step 3, the study assessed the constructs’ equality of mean values and variances across groups. The results showed that the mean value and the variance of constructs in Vietnam’s group did not significantly differ from the mean value and the variance of constructs in Hungary’s group. As a result, the study found that full measurement invariance is established.

All three steps of the MICOM procedure for two consumer groups (i.e., Vietnam and Hungarian e-consumers) support measurement invariance. The results therefore conclude that full measurement invariance has been established for the two groups of data. Consequently, the research model can be analysed using the pooled data (Henseler *et al.*, 2016).

**Table 17: Result of measurement invariance using permutation (MICOM) – Source: Author’s contribution**

VN & HU			
Construct	c value (=1)	95% confident interval	Compositional invariance?
Affective risk	0.993	[0.910;1.000]	Yes
Delivery risk	1.000	[1.000;1.000]	Yes
Financial risk	1.000	[1.000;1.000]	Yes
Fraud risk	1.000	[1.000;1.000]	Yes
Information risk	1.000	[1.000;1.000]	Yes
P&T risk	1.000	[1.000;1.000]	Yes
Purchase intention	1.000	[1.000;1.000]	Yes
Privacy risk	1.000	[1.000;1.000]	Yes
Product risk	1.000	[1.000;1.000]	Yes
Uncertainty avoidance	0.999	[0.992; 1.000]	Yes
Power distance	0.999	[0.979; 1.000]	Yes
Collectivism	0.998	[0.997; 1.000]	Yes
Masculinity	0.998	[0.960; 1.000]	Yes

Construct	Difference of the composite’s mean value (=0)	95% confident interval	Equal mean value?
Affective risk	0.001	[-0.113; 0.120]	Yes
Delivery risk	-0.003	[-0.123; 0.114]	Yes

Financial risk	0.001	[-0.127;0.124]	Yes
Fraud risk	0.002	[-0.115; 0.121]	Yes
Information risk	0.003	[-0.109; 0.126]	Yes
P&T risk	0.002	[-0.113; 0.127]	Yes
Purchase intention	-0.002	[-0.118; 0.111]	Yes
Privacy risk	0.002	[-0.118; 0.120]	Yes
Product risk	-0.002	[-0.118; 0.118]	Yes
Uncertainty avoidance	0.008	[-0.122; 0.113]	Yes
Power distance	-0.003	[-0.119; 0.115]	Yes
Collectivism	-0.026	[-0.118; 0.113]	Yes
Masculinity	0.003	[-0.115; 0.122]	Yes

Construct	Logarithm of the composite's variances ratio (=0)	95% confident interval	Equal variance?
Affective risk	0.003	[-0.156; 0.140]	Yes
Delivery risk	0.024	[-0.159; 0.151]	Yes
Financial risk	0.106	[-0.165; 0.162]	Yes
Fraud risk	-0.031	[-0.191; 0.196]	Yes
Information risk	0.001	[-0.151; 0.153]	Yes
P&T risk	-0.042	[-0.167; 0.163]	Yes
Purchase intention	0.001	[-0.180; 0.168]	Yes
Privacy risk	0.023	[-0.181; 0.177]	Yes
Product risk	0.138	[-0.143; 0.145]	Yes
Uncertainty avoidance	0.016	[-0.146; 0.160]	Yes
Power distance	-0.095	[-0.121; 0.122]	Yes
Collectivism	-0.093	[-0.134; 0.146]	Yes
Masculinity	0.014	[-0.103; 0.109]	Yes

### 6.1.3. Measurement model analysis

The measurement model analyses the connections between a construct and its observed indicators. Additionally, the study also assessed the second-order composite through the three-stage approach by Van et al. (2017).

The initial phase of the study evaluates the model utilising 13 reflectively measured constructs: affective risk, fraud risk, delivery risk, financial risk, process & time loss risk, product risk, privacy risk, information risk, purchase intention, uncertainty avoidance, power distance, collectivism, and masculinity. In doing so, the author conducted a confirmatory factor analysis (CFA), which involves estimating the model using a saturated structural model where all components are freely associated. The test for overall model fit is acceptable ( $d_{ULS}=0.778$ ,  $p>0.01$ ). Further, the Standardized Root Mean Square Residual (SRMR) is

0.0263, below the recommended threshold of 0.08 (Hu and Bentler, 1999), indicating a good model fit.

Furthermore, the study also assesses the indicator and construct reliability, convergent validity, and discriminant validity of the lower-order constructs (Müller *et al.*, 2018). To achieve indicator reliability, the loading of each item on its associated construct should be greater than 0.7 (Henseler, 2021). To establish construct reliability, Dijkstra-Henseler's rho ( $\rho_A$ ) and Cronbach's alpha ( $\alpha$ ) should be greater than 0.7 (Hair *et al.*, 2017; Henseler, 2021). To establish convergent validity, the Average variance extracted (AVE) for each construct should be larger than 0.5 (Fornell and Larcker, 1981; Hair *et al.*, 2017). Furthermore, the author also assesses the indicator multicollinearity via Variance Inflation Factors (VIF).

**Table 18: Results for the assessment of reflective measurement – Source: Author's contribution**

Construct	Items	Types	Loading s/ Weights	Cronbach' s Alpha	rho A	AVE	VIF
Fraud risk		Reflective		0.8823	0.885	0.6013	
	Fraud risk 1		0.8139				2.2954
	Fraud risk 2		0.7022				1.792
	Fraud risk 3		0.8018				2.177
	Fraud risk 4		0.739				2.159
	Fraud risk 5		0.8135				2.1423
Delivery risk		Reflective		0.8775	0.8852	0.7085	
	Delivery risk 1		0.887				2.3888
	Delivery risk 2		0.7476				2.2151
	Delivery risk 3		0.883				2.8033
Financial risk		Reflective		0.873	0.875	0.6337	
	Financial risk 1		0.8114				2.4192
	Financial risk 2		0.7424				1.877
	Financial risk 3		0.8297				2.1828
	Financial risk 4		0.7979				2.3294
P&T Loss risk		Reflective		0.8242	0.8291	0.6136	
	P&T loss risk1		0.7975				2.1264
	P&T loss risk2		0.7238				1.6274
	P&T loss risk3		0.8251				2.0566
Product risk		Reflective		0.8722	0.8752	0.6328	
	Product risk 1		0.784				2.2267
	Product risk 2		0.7503				1.8451
	Product risk 3		0.8573				2.5236
	Product risk 4		0.7865				2.1075

Privacy risk		Reflective	0.838	0.8455	0.6367	
	Privacy risk 1		0.8756			2.1194
	Privacy risk 2		0.7348			1.837
	Privacy risk 3		0.7769			1.9971
Information risk		Reflective	0.8304	0.8378	0.7144	
	Information risk 1		0.8914			2.0161
	Information risk 2		0.7964			2.0161
Affective risk		Reflective	0.8981	0.8983	0.688	
	AF1		0.8458			2.5356
	AF2		0.8212			2.4324
	AF3		0.813			2.3023
	AF4		0.8377			2.7918
Purchase intention		Reflective	0.8837	0.8865	0.7184	
	PI1		0.887			2.6397
	PI2		0.8574			2.5856
	PI3		0.7959			2.3158
Uncertainty avoidance		Reflective	0.8899	0.8965	0.6683	
	UA2		0.8705			2.0953
	UA3		0.8545			2.3812
	UA4		0.8154			2.7685
	UA5		0.7173			2.5552
Power distance		Reflective	0.9122	0.9124	0.7218	
	PD1		0.8782			3.3244
	PD2		0.8574			2.5271
	PD4		0.8495			2.7268
	PD5		0.8123			3.1814
Collectivism		Reflective	0.9145	0.917	0.6817	
	CO2		0.7939			2.345
	CO3		0.8206			2.7863
	CO4		0.8831			3.3614
	CO5		0.8716			2.5273
	CO6		0.7541			2.3635
Masculinity		Reflective	0.9101	0.9114	0.772	
	MA1		0.8561			2.935
	MA2		0.8742			2.9511
	MA4		0.9048			3.35

According to Hair et al. (2019), reliability values should range from 0.7 to 0.9, indicating satisfactory to good reliability. However, values of 0.95 and higher are problematic as they indicate redundancy, reduce construct validity, and increase undesirable response patterns.

As a result, the study removes the indicators UA1, PD3, CO1, and MA3. The results show that all indicator loadings of reflective lower-order constructs are higher than 0.7 (Table 18). Additionally, Cronbach's alpha( $\alpha$ ) is another index of internal consistency reliability. However, Dijkstra and Henseler (2015) argued that Cronbach's alpha may be too conservative while the composite reliability may be too liberal. These scholars suggested Dijkstra-Henseler's rho ( $\rho_A$ ) as a nearly precise metric for construct reliability, often situated between Cronbach's alpha and composite reliability. From Table 18, Dijkstra-Henseler's rho ( $\rho_A$ ) and Cronbach's alpha( $\alpha$ ) also exceed 0.7. Therefore, the study concludes that all reflective constructs achieved indicator and construct reliability in the first stage.

Furthermore, the AVEs exceed 0.5 for all reflective constructs, indicating acceptable convergent validity. All indicators exhibit VIF values below the acceptable threshold of 5 (Hair *et al.*, 2017).

The study evaluates discriminant validity using the Fornell-Larcker criterion, the Heterotrait-monotrait ratio of correlation (HTMT), and HTMT2 (Fornell and Larcker, 1981; Henseler, Ringle, *et al.*, 2015). The Fornell-Larcker criterion stipulates that the average variance extracted (AVE) for a construct must exceed its squared correlation with all other constructs to establish discriminant validity. Table 19 in Appendix D displays the outcomes of the Fornell-Larcker criterion for the study. The squared inter-construct correlations of fraud risk and financial risk, fraud risk and privacy risk, financial risk and product risk were larger than their AVEs. Current studies indicate that this metric is inadequate for assessing discriminant validity. The Fornell-Larcker criteria demonstrate inadequate performance, particularly in scenarios where the indicator loadings on a construct show minimal variation (e.g., all indicator loadings range from 0.65 to 0.85) (Henseler *et al.*, 2015; Voorhees *et al.*, 2016). The study evaluates discriminant validity using the Heterotrait-monotrait ratio of correlation (HTMT) and HTMT2, as proposed by Henseler *et al.* (2015).

Tables 20 and 21 in Appendix D show the results of the HTMT and the HTMT2. All values are below the threshold of 0.85 and are statistically significantly less than 1, as indicated by the 95% percentile bootstrap confidence intervals. Consequently, the findings confirm that discriminant validity is established.

In the second stage, the study evaluates the Goodness of fit (Gof) of the model containing the second-order composite. In the saturated model, the overall model fit is acceptable ( $d_{ULS}=0.4863$ ,  $p>0.01$ ) and SRMR is 0.025 (less than 0.05), indicating a good model fit. Additionally, the estimated model also achieves a good model fit ( $d_{ULS}=0.6741$ ,  $p>0.01$ ; SRMR=0.0302) (Table 22).

**Table 22: Comparison GoF between 2nd-order composite model and 2nd-order reflective model – Source: Author’s contribution**

Model with 2nd order composite			Model with 2nd order reflective		
Goodness of model fit (saturated model)					
	<b>Value</b>	<b>HI99</b>		<b>Value</b>	<b>HI99</b>
<b>SRMR</b>	0.0256	0.033	<b>SRMR</b>	0.0273	0.0339
<b>dULS</b>	0.4863	0.8078	<b>dULS</b>	0.5509	0.8507
<b>dG</b>	0.2899	1.1296	<b>dG</b>	0.338	1.1965
Goodness of model fit (estimated model)					
	<b>Value</b>	<b>HI99</b>		<b>Value</b>	<b>HI99</b>
<b>SRMR</b>	0.0302	0.0337	<b>SRMR</b>	0.0315	0.0347
<b>dULS</b>	0.6741	0.8396	<b>dULS</b>	0.7354	0.8944
<b>dG</b>	0.3105	1.0866	<b>dG</b>	0.3584	1.1016

To obtain further empirical evidence for the second-order composite, the study additionally examines the model fit of the same model but with the second-order construct modelled reflectively (the second-order superordinate construct). Although the Gof is still acceptable, the model fit of the estimated model significantly decreases compared to the model of second-order composite ( $d_{ULS}=0.7354$ ,  $p>0.01$ ; the  $SRMR=0.0315$ ) (see Table 22). Therefore, the results conclude that the second-order construct (perceived risk) is appropriately modelled by a composite.

In the third stage, the study assesses the second-order composite (i.e., perceived risk) via three criteria including nomological validity, reliability, and weights (Henseler, 2021; Müller *et al.*, 2018; Van *et al.*, 2017). The nomological validity is achieved by the test for overall model fit. The second-order composite is formed by the factor scores of the first-order constructs. Therefore, its reliability has to be adjusted (Van *et al.*, 2017). The author computes the reliability of a weighted composite ( $\rho_S$ ) by applying the simplified equation of (Mosier, 1943) (Equation 2).

**Equation 2: Composite's Reliability**

$$\rho_S = w'S*w$$

Where  $w$  is a column vector containing the indicator weights of the second-order composite,  $S^*$  is the consistent correlation matrix of the second-order composite’s indicators with the respective reliability ( $\rho_A$ ) on the diagonal. In the model, the reliability of the second-order composite is 0.9477.



The consistent weights of the second-order composite are also computed by dividing the unstandardized weights by the standard deviation that the linear combination of first-order constructs yielded (Equation 3):

**Equation 3: Consistent Weights**

$$w = \left(1/\sqrt{v'Rv}\right)v$$

Table 23 shows the validation of the higher-order construct (i.e., perceived risk). The loadings of the 1<sup>st</sup>-order constructs are over 0.7, indicating good reliability. Weights of all indicators are significantly different from 0 on a 1% significance level. Additionally, the VIF values of each type of risk are also below the threshold of 5, which is acceptable (Hair *et al.*, 2017). Therefore, the results conclude that nomological validity, reliability, and weights of the second-order composite (i.e., perceived risk) are achieved.

**Table 23: Higher-order construct validation – Source: Author’s contribution**

2nd order composite	1st order constructs	Loadings	Weights	VIF	Weight T-values
Perceived risk	Fraud risk	0.8192	0.1634	2.7355	41.3875
	Delivery risk	0.7586	0.1545	2.019	30.0183
	Financial risk	0.8432	0.1662	3.0226	36.3257
	P&T risk	0.7592	0.172	2.0856	29.6848
	Product risk	0.7997	0.1599	2.4124	31.1587
	Privacy risk	0.7949	0.1591	2.3577	34.755
	Information risk	0.7722	0.1825	2.2242	29.2806

Note. The weights differ from those displayed in Figure 19 as they were corrected for attenuation.

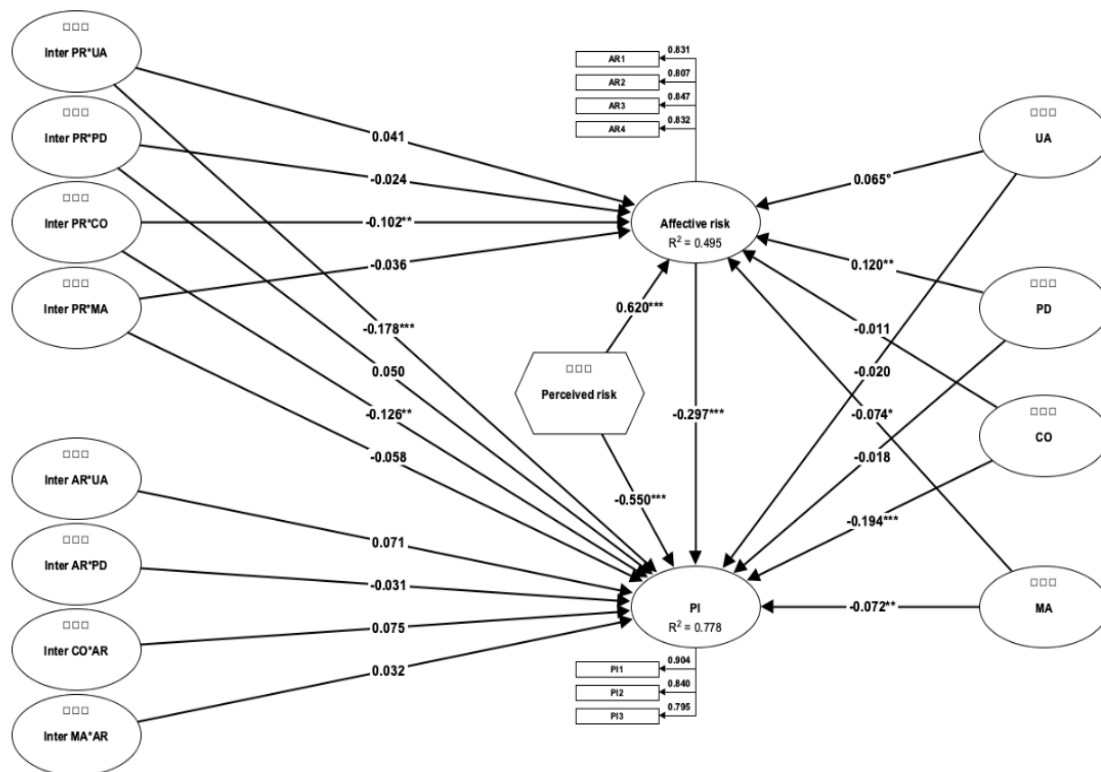
**6.1.4. Structural model analysis**

The structural model evaluates the interrelations among various constructs. In doing so, the study applies the bootstrap re-sampling sizes method of Cotterman and Senn (1992) to test the significance of the paths.

**Table 24: R-Squared – Source: Author’s contribution**

Construct	Coefficient of determination (R <sup>2</sup> )	Adjusted R <sup>2</sup>
Affective risk	0.495	0.4893
PI	0.7782	0.7742

Table 24 presents the R-squared of the study.  $R^2$  refers to in-sample explanatory power. Accordingly,  $R^2$  varies between 0 and 1, where higher values signify increased explanatory power (Hair *et al.*, 2019).  $R^2$  values of 0.495 and 0.7782 are regarded as high in the field of behavioural science. Furthermore, the analysis elucidates the explanatory capacity of endogenous variables through the Adjusted R-squared, as it offers a more accurate perspective on the relationship between the dependent and independent variables (Long and Freese, 2001). The Adjusted  $R^2$  of two endogenous constructs (i.e., Affective risk and Purchase intention) are 0.4893 and 0.7742, respectively, which indicates that the degrees of explanatory power are 48.93% and 77.42%, respectively. Figure 19 presents the model containing the second-order composite.



**Figure 19: Model containing the second-order composite (ADANCO output)**

Furthermore, the estimates of the path coefficients must be significant according to the percentile bootstrap confidence interval, and their signs should align with the corresponding hypotheses. Significant path coefficients indicate that an effect size ( $f^2$ ) greater than 0.02, 0.15, and 0.35 corresponds to small, medium, and large effect sizes, respectively (Cohen, 1988).

Table 25 displays the findings of the structural model. The findings indicate that perceived risk and affective risk have negative and significant impacts on purchase intention ( $\beta=-$

0.5502,  $p < 0.01$ ;  $\beta = -0.2967$ ,  $p < 0.01$ , respectively). Therefore, the study supports  $H_1$  and  $H_2$ . Furthermore, the effect size report indicates that the influence of perceived risk on purchase intention is substantial ( $f^2 = 0.6699$ ). The influence of affective risk on purchase intention is moderate ( $f^2 = 0.1765$ ).

The findings indicate a significant and positive relationship between perceived risk and affective risk ( $\beta = 0.697$ ,  $p < 0.01$ ). This effect is also significant ( $f^2 = 0.6342$ ). Hence,  $H_3$  is supported. The findings further validate the substantial partial mediating effect of affective risk on the relationship between perceived risk and purchase intention in e-commerce ( $\beta = -0.1839$ ,  $p < 0.01$ ).

Regarding moderating effects, the results indicate the significant negative moderating effects of uncertainty avoidance and collectivism on the relationship between perceived risk and purchase intention ( $\beta = -0.1781$ ,  $p < 0.01$ ;  $\beta = -0.1261$ ,  $p < 0.01$ , respectively). Therefore,  $H_{4a}$  and  $H_{6a}$  are supported. However, the results of the study also indicate that these effects are weak due to the low effect size, given the truth that uncertainty avoidance shows a higher effect rather than collectivism.

The study shows that collectivism can also moderate the effect of perceived risk and affective risk ( $\beta = -0.1021$ ,  $p < 0.01$ ). Therefore,  $H_{6b}$  is also supported. However, the effect size of this relationship is lower than 0.02, indicating a partially significant effect.

On the other hand, the study showed that uncertainty avoidance insignificantly moderates the relationship between perceived risk and affective risk, affective risk and purchase intention ( $\beta = 0.0411$ ,  $p > 0.10$ ;  $\beta = 0.0711$ ,  $p > 0.10$ , respectively). Therefore, the study fails to support  $H_{4b}$ ,  $H_{4c}$ .

Power distance insignificantly moderates any relationship among perceived risk, affective risk, and purchase intention ( $\beta = 0.0503$ ,  $p > 0.10$ ;  $\beta = -0.0239$ ,  $p > 0.10$ ;  $\beta = -0.0308$ ,  $p > 0.10$ , respectively). Therefore, the study fails to support  $H_{5a}$ ,  $H_{5b}$ , and  $H_{5c}$ .

Collectivism insignificantly moderates the effect of affective risk on purchase intention ( $\beta = 0.0749$ ,  $p > 0.10$ ). Therefore,  $H_{6c}$  is not supported.

Masculinity also insignificantly moderates any relationship among perceived risk, affective risk, and purchase intention ( $\beta = -0.0577$ ,  $p > 0.10$ ;  $\beta = -0.0362$ ,  $p > 0.10$ ;  $\beta = 0.0325$ ,  $p > 0.10$  respectively). Therefore, the study fails to support  $H_{7a}$ ,  $H_{7b}$ , and  $H_{7c}$ .

**Table 25: Results of the structural model – Source: Author’s contribution**

	Hypothesis	Direct/ Indirect/ Moderating Effect	T-value	P-value (2- sided)	Effect size (f <sup>2</sup> )	Support
H1	Perceived risk -> Purchase intention	-0.5502	-12.9275	0.0000	0.6699	YES
H2	Perceived risk -> Affective risk	0.6197	17.1404	0.0000	0.6342	YES
H3	Affective risk -> Purchase intention	-0.2967	-6.9000	0.0000	0.1765	YES
ME	Perceived risk -> Affective risk -> Purchase intention	-0.1839	-6.3506	0.0000	NA	YES
H4a	Perceived risk * Uncertainty avoidance -> Purchase intention	-0.1781	-3.7071	0.0002	0.0596	YES
H4b	Perceived risk * Uncertainty avoidance -> Affective risk	0.0411	1.1689	0.2426	0.0025	NO
H4c	Affective risk * Uncertainty avoidance -> Purchase intention	0.0711	1.4743	0.1406	0.0085	NO
H5a	Perceived risk * Power distance -> Purchase intention	0.0503	1.3389	0.1808	0.0052	NO
H5b	Perceived risk * Power distance -> Affective risk	-0.0239	-0.6958	0.4866	0.0008	NO
H5c	Affective risk * Power distance -> Purchase intention	-0.0308	-0.7867	0.4316	0.0017	NO
H6a	Perceived risk * Collectivism -> Purchase intention	-0.1261	-2.6441	0.0083	0.0287	YES
H6b	Perceived risk * Collectivism -> Affective risk	-0.1021	-2.9716	0.0030	0.0145	YES
H6c	Affective risk * Collectivism -> Purchase intention	0.0749	1.5304	0.1261	0.008	NO
H7a	Perceived risk * Masculinity -> Purchase intention	-0.0577	-1.5114	0.1308	0.008	NO
H7b	Perceived risk * Masculinity -> Affective risk	-0.0362	-0.9757	0.3293	0.0022	NO
H7c	Affective risk * Masculinity -> Purchase intention	0.0325	0.8290	0.4072	0.0023	NO

### 6.1.5. The structural model by nations

To gather further empirical evidence supporting the notion that culture may be effectively evaluated on an individual level, the author also investigates the practice of using a country as a surrogate for culture.

First, relying on the results of the invariance test (section 6.1.2), the author concludes that there are no substantial disparities regarding cultural values (i.e., uncertainty avoidance,

power distance, collectivism, and masculinity) between the Vietnamese and the Hungarian samples. In other words, the differences in the mean value and the variance between the Vietnamese and the Hungarian groups are insignificant. For instance, the mean and variance differences in Uncertainty avoidance are equal to 0.008 and 0.016, respectively (permutation  $p$ -value $>0.05$ ). These figures in Power distance are -0.003 and -0.095, respectively (permutation  $p$ -value $>0.05$ ). These figures in Collectivism are -0.026 and -0.093, respectively (permutation  $p$ -value $>0.05$ ). The mean and variance differences in Masculinity are 0.003 and 0.014, respectively (permutation  $p$ -value $>0.05$ ). This indicates that cultural differences manifest at the individual level rather than the national level.

Second, using the nation as the proxy of culture, the author validates higher-order constructs and carries out path analysis for each sample separately. Table 26 in Appendix D depicts the higher-order construct (i.e., Perceived risk) validation for each sample. The results show that modelling perceived risk as the second-order composite achieved good validity and reliability in the Hungarian and Vietnamese samples. The loadings of the 1<sup>st</sup>-order constructs are over 0.7, and the weights of all indicators are significantly different from 0 on a 1% significance level. Additionally, the VIF values of each type of risk are also below the threshold of 5, which is acceptable (Hair *et al.*, 2017). Therefore, the study concludes that modelling perceived risk as the second-order composite is appropriate in both samples.

Table 27 in Appendix D presents the direct and indirect relationships of each sample. The results show that Hungarian consumers were more affected by affective risk to reduce purchase intention ( $\beta=-0.3629$ ,  $p<0.01$ ) compared to Vietnamese consumers ( $\beta=-0.3450$ ,  $p<0.01$ ). Hungarian consumers were also more affected by perceived risk to reduce purchase intention ( $\beta=-0.5691$ ,  $p<0.01$ ) compared to Vietnamese consumers ( $\beta=-0.5477$ ,  $p<0.01$ ). Similarly, the study found that Hungarian consumers give more importance to perceived risk to generate affective risk ( $\beta=0.7168$ ,  $p<0.01$ ) compared to Vietnamese consumers ( $\beta=0.6342$ ,  $p<0.01$ ). Further, Hungarian consumers also give more importance to affective risk as a mediator between perceived risk and purchase intention ( $\beta=-0.2602$ ,  $p<0.01$ ) compared to Vietnamese consumers ( $\beta=-0.2188$ ,  $p<0.01$ ). However, in an overview, these differences are insignificant between the two samples. Therefore, the study concludes that the country should not be used as the surrogate of culture as a usual research tradition in international marketing.

#### **6.1.6. Summary of Phase I (quantitative study)**

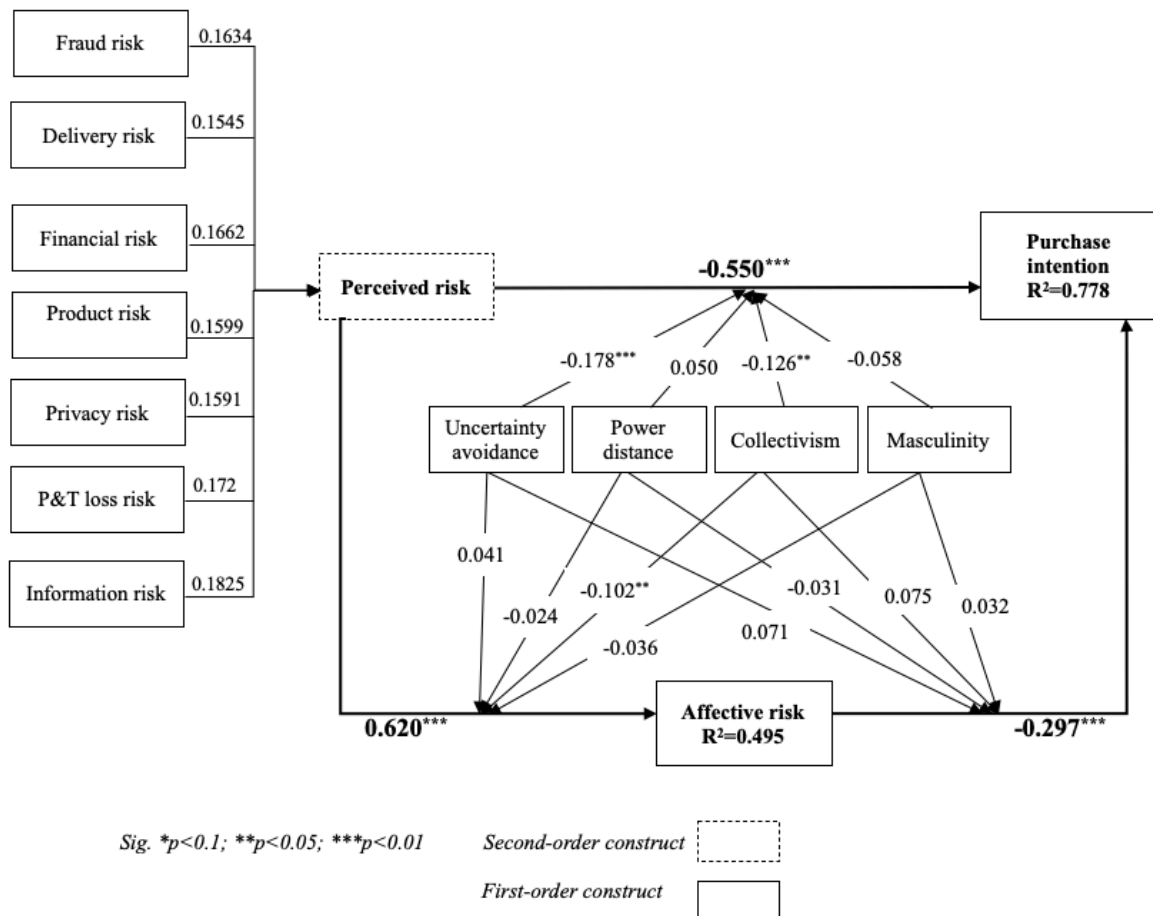
The chapter commenced with an overview of the demographic characteristics of the participants. The results showed the ratio of respondents according to nation, gender, and age distributions. Further, the employment status of the respondents and their monthly expenditure for online shopping were also presented. The results revealed that the sample was appropriate for the research objectives.

As the study collected samples from two different nations (i.e., Vietnam and Hungary), the sample needed to achieve measurement invariance so that the data could be pooled for further analysis. The invariance test results indicated that the total sample exhibited invariance. The constructs' internal consistency and reliability were assessed through factor loadings, Cronbach Alpha ( $\alpha$ ), and Dijkstra-Henseler's rho ( $\rho_A$ ). The assessment of convergent validity was conducted utilising average variance extracted (AVE) indices. The assessment of discriminant validity was conducted utilising the Fornell-Larcker criterion, the Heterotrait-monotrait ratio of correlation (HTMT), and HTMT2. The findings indicate that the measurement model demonstrated reliability, convergent validity, and discriminant validity. The second-order composite, identified as perceived risk, was evaluated through nomological validity, reliability, and consistent weights. The findings validated the conceptualisation of perceived risk as a higher-order construct.

The research evaluated the goodness of fit (Gof) of the conceptual model. The findings indicate that the goodness of fit of the conceptual model is satisfactory. The study compared the model fit between the second-order composite and the second-order superordinate construct to provide empirical evidence for the appropriateness of the second-order composite. The results indicated that while the model incorporating the second-order superordinate construct remained acceptable, its goodness of fit was inferior to that of the model utilising the second-order composite.

The model's explanatory power was assessed with  $R^2$  and adjusted  $R^2$ . The results indicated that endogenous variables obtained high  $R^2$  values. This implies that perceived risk is able to highly explain the affective risk and purchase intention of the consumer in cross-border e-commerce. The structural model assessment showed that perceived risk and affective risk significantly affect purchase intention. The study also confirmed the mediating role of affective risk in the relationship between perceived risk and purchase intention. Regarding moderating effects, the study found that uncertainty avoidance and collectivism moderate the effect of perceived risk on purchase intention and the effect of perceived risk on affective risk. By contrast, power distance and masculinity insignificantly moderate the effect of perceived risk on purchase intention, the effect of affective risk on purchase intention, and

the effect of perceived risk on affective risk. The conclusion of all relationships is presented in Figure 20. Further, the study also validated higher-order constructs and carried out path analysis for each sample (i.e., Hungarian and Vietnamese samples separately). The results show that modelling perceived risk as a higher-order composite is appropriate in each sample. Additionally, Hungarian consumers are more influenced by risk perception to reduce their purchase intention in cross-border e-commerce compared to Vietnamese consumers. However, these differences were insignificant across the samples. Therefore, the study concluded that the country should not be used as a surrogate for culture.



**Figure 20: The research model estimation – Source: Author’s contribution**

## 6.2. Phase II – Qualitative study

### 6.2.1. Demographic information of Interview participants

Table 28 presents demographic information of respondents from In-depth Interviews (IDIs). 13 Hungarian and 13 Vietnamese respondents agreed to participate in the interviews. The majority of participants are female (15 people). Participants range from 18 to 35 years old, especially the group of 20–29 years old (23 people) are the major respondents of interviews.

In terms of cultural profiles of respondents, the number of individuals exhibiting a high degree of uncertainty avoidance (UA) (n=15) is greater than the number of participants exhibiting a low degree of UA (n=11). In contrast, the number of participants in other cultural values such as power distance (PD), masculinity (MA), and collectivism (CO) is equally distributed (n=13). Out of 29 cultural and national combinations in the quantitative study, the number of combinations collected in this qualitative study is 19.

Further, by enquiring about the frequency of online purchasing, the proportion of shopping cart abandonment, and the underlying causes behind it, the author gained a more comprehensive picture of the respondents. When asked how often the respondents have shopped online, most of the respondents (13 people) stated that they only shop “when it is necessary”. 8 respondents’ responses are “in their free time”. This implies that most respondents interviewed are motivated by necessity-based shopping or leisure-based shopping. It might be explained that the data was gathered at a time of economic volatility or recession (e.g., high inflation in Vietnam and Hungary). Hence, the increased frequency of necessity-driven purchasing might be ascribed to customers giving priority to critical goods. In addition, the youthful demographic may be motivated to engage in leisure-based purchasing as a result of factors such as impulse buying or the exploration of new products. Most respondents (13) answered that they spend between 50-100 USD per month on online shopping. This amount is equivalent to VND 1-2.5 million or Forint (Ft) 17,000–40,000. These findings are consistent with the results of the quantitative study. Nine (9) people responded that they have “no average” for online shopping expenditure. It is meaningful, as they only shop when necessary. Therefore, it sounds difficult to compute the average amount of spending. Respondents state that they have abandoned their shopping carts due to reasons such as extra cost, long purchase process, no longer desires, or no desirable payment methods.

**Table 28. Demographic Information of Interview Participants – Source: Author’s contribution**

	Items	Frequency (N=26)
Nation	Hungary	13
	Vietnam	13
Gender	Female	15
	Male	11
Age	[18; 19] years old	1
	[20; 24] years old	14



	[25; 29] years old	9	
	[30; 34] years old	2	
Cultural values	Uncertainty avoidance (UA)	High	15
		Low	11
	Collectivism (CO)	High	13
		Low	13
	Masculinity (MA)	High	13
		Low	13
	Power distance (PD)	High	13
		Low	13
	Employment status	Student	14
		Working	12
Online shopping frequency	2 Times	1	
	2-3 times	2	
	Do not remember	3	
	In free time	7	
Online shopping expenditure/month	When it's necessary	13	
	<50 USD	4	
	50-100 USD	13	
	>100 USD	0	
Have you ever abandoned your shopping cart?	No average	9	
	Yes	26	
Reasons for cart abandonment	Extra cost	12	
	Found better offers	3	
	Long process	3	
	No desirable payment method	3	
	No longer desire	4	
	The website wants me to create account	1	

### 6.2.2. Thematic analysis

The thematic analysis was conducted to identify themes from the dataset. Relying on the start list and the inductive coding analysis, the author synthesised 5 major themes and 15 sub-themes (parent nodes). 5 major themes include (1) Perceived risk, (2) Emotions, (3) Behaviours, (4) Antecedents of emotions, and (5) Strategies. Additionally, the author categorised sub-themes and identified items describing each sub-theme (Figure 21).

**Figure 21: Thematic analysis – Source: Author’s contribution**

<b>Theme 1: Perceived risk</b>	Delivery risk	Loss and damage Late delivery No tracking feature No estimated delivery date Wrong address	<b>Theme 2: Emotions</b>	Negative emotions (Affective risk)	anxiety confuse insecure  nervous scare shaking shy uneasy worry	
	Financial risk	Fluctuating exchange rate Higher price Taxes and Duties charges Unclear prices Unexpected costs			clear	
	Fraud risk	Creating fake websites Disappear after a time No support Unclear policies Unreliable sellers		Positive emotions	curiosity excited friendly good	
	Information risk	fake information insufficient information unreliable information	<b>Theme 3: Behavioural intention</b>	Negative behavioural intention	avoid this website cart abandonment cautious and discerning customer think more  create fear and anxiety  heighten risk aversion increase total perceived risk negatively influence purchase decision negatively influence purchase intention  No trust	
	Privacy risk	collect information without permission data insecurity data stolen  misused sold information without permission			postpone to purchase prevent a purchase not buy Switch to other websites	
	Process and time loss risk	complicated process crashed system language barrier  limited options poor navigation time-consuming unfamiliar design			Positive behavioural intention	Buy More confidence with the purchase
	Product risk	counterfeit products low quality no guarantee Sizing and Fit				
<b>Theme 4: Antecedents of emotions</b>						
	Currency conversion website's interface security information fraud risks knowledge language barriers	Fit Psychology reputable website experience Familiarity account	Price fees hidden costs import taxes shipping fee Money losing	shipping delivery options delivery time strange website the return policy transparent information		

payment methods		emails	trust	Price comparison
		seller's legitimacy		product quality
Theme 5: Strategies				
Seller's strategies	consumers' strategies	Websites' strategies		
seller's reputation detailed seller profile diversify selling channels promotions sales volume verified store high-quality images high-quality video clear information transparent pricing transparent policies	buy cheaper products buy items sold directly by the platform compare prices delay shopping insecure account Learning self-experience read product information register as a guest retain invoices and documents set a budget read reviews ask friends	clean and clear interface clear tax and duties complete information convenience diverse choices estimated time of delivery good support system information security and privacy simple and secured checkout social reputation tracking code verified mark user-friendly website encourage reviews with pictures and videos		

- **Theme 1: Perceived risk**

The author asked two questions “What types of risks do you associate with this e-commerce website?” and “In your opinion, what does "perceived risk" mean in the context of cross-border e-commerce?” Consequently, the respondents provided their understandings in terms of perceived risk and types of risk, such as:

*“I think perceived risk is the risk that I can recognise like the product quality, secured payment, information privacy, etc.” ... types of risk include “price risk, performance risk, tax risk, delivery risk, risk related to refund and return, guarantee, privacy risk” – (P29)*

*“Perceived risk is risks related to product quality, fraud, financial, delivery, returning, and time” ... types of risk include “time consuming risk, quality risk, payment risk” – (P28)*

*“In my opinion, perceived risk ... can be negative consequences, for example being cheated, losing information, buying poor quality products, etc.” types of risk include “...for example, risk of fraud, risk of goods, risk of delivery, security risk, etc.” – (P17)*

*“...There are many types of risks that can occur, for example, the risk of poor-quality goods, the risk of fraudulent websites, the seller not maintaining credibility, the risk of personal information being leaked, etc.” – (P13)*

The research suggests that respondents observed "perceived risk" as a comprehensive notion that encompasses several elements of risk related to cross-border e-commerce. Furthermore, the participants consistently associate the concept of "perceived risk" with a range of particular issues, including pricing risk, performance risk, tax risk, delivery risk, refund and

return risk, and so on. Hence, it is evident that "perceived risk" is a comprehensive notion that encompasses several particular kinds of dangers, demonstrating a holistic comprehension of possible adverse outcomes in the realm of CBEC.

Further, the author also synthesised these mentioned risks into broader categories to mitigate the overlaps and provide a precise description for each type of risk. Consequently, perceived risk includes 7 lower-level categories such as "fraud risk", "delivery risk", "financial risk", "process and time lost risk", "product risk", "privacy risk", and "information risk". In particular, the category of "Fraud risk" includes 8 nodes, indicating the richness and breadth of the dataset. The node of "No support" emerged as the most concerning issue of the participants (13 occurrences). Accordingly, the lack of assistance from the sellers was identified as a risk in the context of CBEC. Further, the nodes such as "disappear after a time", "no delivery product", "unreliable", and "unreputable" were also frequently declared with 4 occurrences per each. The node "unclear policies" occurred 3 times in the dataset.

The category of "Delivery risk" consists of 7 nodes, in which the most frequent nodes declared by the participants include "damaged good" (10 occurrences), "loss" (8 occurrences), "longer shipping" (8 occurrences), and "late delivery" (8 occurrences). This implies that delivery risk in CBEC tends to be explained by issues associated with the quality and time of the delivery. Further, the node "no tracking" emerged, indicating that e-consumers saw the absence of monitoring as a potential risk in CBEC. The nodes "wrong address" and "wrong time" were the least declared (1 occurrence), indicating the least prevalence of these items.

The category of "Financial risk" consists of 6 nodes. Participants mostly considered financial risk as issues of prices and costs. Accordingly, the node "unexpected costs" was the most frequently mentioned (9 occurrences). The nodes of "higher price", "unclear prices", and "high shipping costs" were also declared with 5, 4, and 4 occurrences, respectively. Especially, the nodes of "fluctuating exchange rate" and "taxes and duties" were emerging in this dataset, which implies that financial risk in CBEC tends to relate to issues, such as fluctuations in exchange rates and changes in tax policies or import duties.

The category of "Privacy risk" includes 5 nodes. Accordingly, most participants were concerned about the risk associated with the insecurity of their data (8 occurrences) and the possibility of "data stolen" (5 occurrences) when shopping on a CBEC platform. Further, other nodes were also frequently declared, such as "data misused" (4 occurrences), "data sold without permission" (4 occurrences), and "data collected without permission" (2 occurrences). Overall, participants tend to express their scepticism about the privacy of their

personal information on CBEC platforms, focusing on issues of security, misuse, unauthorized sales, and unauthorized collection of their data.

The category of “Product risk” also emerged in this dataset as a notable issue, with 4 child nodes. Notably, “low quality” is the most prominent concern, mentioned 8 times, indicating that participants tend to be sceptical about the quality of the product when purchasing in CBEC. Further, product quality also relates to issues, such as “no guarantee” (4 occurrences), “counterfeit products” (3 occurrences), and “Sizing and Fit” (1 occurrence).

The category of “Process & time loss risk” emerged as a significant concern for participants (with 7 child nodes), encompassing several specific issues related to the consumer experience on the platform. As a result, “complicated process”, “time-consuming”, and “unfamiliar design” were three prominent nodes in this category (3 occurrences per each). Further, other nodes including “language barrier”, “limited options”, “crashed system”, and “poor navigation” were also declared in the dataset. This concludes that process & time loss risk is conceived majorly associated with user experience and efficiency of the CBEC platform.

Finally, the category of “Information risk” includes 3 nodes. Accordingly, “insufficient information” was the most frequent node (9 occurrences), indicating that the lack of information about products, services, or other relevant aspects, can lead to consumers’ risk perception. Further, “fake information” and “unreliable information” were also other nodes identified by participants.

- **Theme 2: Emotions**

Theme 2 “emotion” describes the emotions and feelings of participants. It is synthesised by two categories: “positive emotions” and “negative emotions”. This implies that participants might experience positive or negative feelings when dealing with a CBEC platform. Notably, the category of affective risk (negative emotions) dominated the dataset with terms, such as “confused”, “nervous”, “worry”, “anxiety”, “scared”, “uneasy”, etc. By contrast, perceived risk is conceived by several terms, such as “the possibility of these negative experiences” – (P1), “The potential negative outcomes” – (P10), “The potential negative outcomes or circumstances that I experience” – (P12), “The likelihood of these unpleasant events” – (P22), etc. Therefore, the results indicate the conceptual disparity between perceived risk and negative emotions (affective risk). In other words, affective risk (negative emotions) is another aspect of risk compared to perceived risk, as affective risk captures an individual’s negative feelings (i.e., anxiety, confusion, nervousness, shyness, uneasiness, and worry). An affective risk is the sensation of apprehension, distress, or disquiet regarding the potential

negative repercussions of one's actions. When investigating consumer behaviour in CBEC, it is crucial to consider affective risk as an independent construct in addition to perceived risk, as these results illustrate.

By contrast, the category of “positive emotions” was less prevalent in the dataset. Participants stated their positive emotions via such terms as “no worries”, “good”, “excited”, and “curiosity”. The relatively low number of positive emotional responses suggests that positive experiences were less common in the dataset. In general, the incidence of “emotions” in this dataset suggests that this is a critical concern for individuals involved in the purchasing process at CBEC. In contrast, the significantly higher frequency of negative emotions than positive emotions implies that the majority of individuals had unfavourable experiences while interacting with the website.

- **Theme 3: Behavioural intention**

Another theme that emerged from the dataset was “Behavioural intention” that participants might release when perceiving and feeling risks on the CBEC platform. It consists of two categories: “negative behavioural intention” and “positive behavioural intention”. Notably, the category of “Negative behavioural intentions” was prominent in this theme. This implies that most participants might refuse to purchase or arrive at other negative behaviours when perceiving and feeling potential risks on the CBEC platform. Theoretically, participants agreed that perceived risk and affective risk (negative feelings) negatively impact their purchase intention and purchase decision. Participants tend to abandon shopping carts, avoid the website, not buy, postpone the purchase, or switch to alternatives. In other words, if online consumers perceive risk in a website, they tend to refuse to buy products and services from that website.

By contrast, the category of “Positive behavioural intentions” also emerged in the dataset. Accordingly, a few participants declared that they might still “buy” from the website in case there were remedies for them. For instance:

*“...if there are many risks, there are remedies. For example, I can pay for delivery, or I can pick up the goods at the post office. I will still try to buy it...” – (P9)*

*“...Of course, emotions will influence my purchasing decisions. If I'm worried, it will be difficult for me to buy with confidence. But if I feel secure and happy, I will buy from this website...” – (P11).*

- **Theme 4: Antecedents of emotions**

The fourth theme that emerged to emotions was “Antecedents of emotions”, in terms of the antecedent factors that arouse participants’ emotions when interacting with the CBEC

platform. The results show that participants' feelings were derived from multiple aspects, such as "reputable website", "product quality", "website interface", etc. In the context of a more intimate lens, the majority of participants indicated that their affective risk (negative emotions) was primarily driven by concerns about issues, such as "shipping," "the return policy," "product quality," "security information," and so forth. For instance, when being asked, "In your opinion, what triggered these emotions?", the participants responded:

*"...the seller's legitimacy... website reputable... hidden costs... price... the return policy..." – (P1)*

*"...product quality... delivery time... shipping fees... import taxes... fraud risks... language barriers... return procedures... security information..." – (P10)*

*"...bad, poor-quality products, the products did not meet my expectations and did not fit me..." – (P12)*

Other participants stated that their positive emotions were derived from the similarity of the website and the interface design:

*"...interface of this website to be the same as any other website... payment process..." – (P16)*

*"...A user-friendly, straightforward, and easy-to-understand interface... a wide variety of safe payment options... delivery options..." – (P22)*

*"...the price is low... website is easy to navigate and allows you to quickly browse a vast selection... the items will fit... quality of the items..." – (P23)*

*"...this website is simple, easy to understand... the process is short, not many steps..." – (P28)*

*"...I think your website looks exactly the same as YesStyle. I am familiar with that website..." – (P26)*

Consequently, the study concludes that emotions that participants experienced while purchasing on this CBEC platform were aroused by their risk perception in terms of information, delivery, product, finances, privacy, etc. In other words, participants' perceived risk with multiple dimensions may lead to their negative/positive emotions.

Further, the author also queried, "In your opinion, how do your feelings impact your willingness to engage in a purchase on this website?" to verify whether participants' emotions impact their purchase intention on this CBEC platform. Consequently, most of the participants declared that emotions derived from perceived risk influence their purchase intention.

*“I think negative emotions can influence my purchasing decisions. If I feel nervous or insecure, I won't buy.” – (P3)*

*“If I feel scared or worried, I won't be inclined to make a purchase. Even though I'm familiar with this kind of shopping, I wouldn't be happy if I got scammed.” – (P4)*

*“Of course, emotions will influence my purchasing decisions...” – (P11)*

*“I think so. Because I'm worried, I will probably not buy.” – (P15)*

Consistently, respondents indicated that unpleasant emotions such as anxiety, unease, dread, and concern deter people from making purchases. These replies demonstrate that participants' propensity to make purchases on the CBEC platform is significantly influenced by unpleasant emotions arising from perceived risks. Thus, it may be inferred that emotions resulting from perceived risks have a considerable influence on buying intentions.

- **Theme 5: Strategies**

The theme of “strategies” emerged with the ways participants minimise perceived risk and negative feelings while improving purchase intention and decision on the CBEC platform. Accordingly, the study categorised this theme into three sub-themes, including “consumers’ strategies”, “websites’ strategies”, and “seller’s strategies”.

Most participants agreed that websites played an essential role in minimising perceived risk and negative feelings. Consequently, the category of “website strategies” emerged as the most prevalent in the dataset. The nodes, such as “social reputation”, “diverse choices”, “verified mark”, “complete information”, and “simple and secured checkout” were frequently declared by the participants with the frequency of 7,6,4,4, and 4. Further, “good support system”, “user-friendly website”, and “estimated time of delivery” were also mentioned with 3 occurrences per each. This implies that prioritising a combination of features that enhance trust, convenience, and reliability towards a CBEC website might be promising to mitigate risk. The emphasis on “social reputation”, “diverse choices”, “simple and secured checkout”, etc., suggests that consumers might value social proof, the efficiency and effectiveness that the CBEC platform could benefit them.

The category of “consumers’ strategies” also emerged as one of the most prevalent parent nodes in the dataset. This indicates that participants are actively engaged in creating their own strategies to minimise the risks and negative feelings associated with online shopping. Accordingly, “Learning and experience” was the most frequent node mentioned by the participants, with 5 occurrences. This suggests that consumers heavily rely on their past experiences and knowledge to make informed decisions and avoid potential pitfalls. Other nodes, such as “buy cheaper products”, “retain invoices and documents”, “read product



information”, “set a budget”, and “insecure my account”, etc., were also mentioned. The diversity of these strategies illustrates that consumers employ a variety of approaches to protect themselves and enhance their online shopping experience. For instance, participants might select cheaper items for trial purchase, so that they might experience less financial risk. Other participants proactively retain invoices, shipping documents, etc., that might facilitate in the circumstance of disputing.

Additionally, strategies for online sellers also emerged from the data. Prevalent nodes include “verified store” and “promotions” are with 4 occurrences per each. This suggests that from consumers' perspectives, a verified store and offering promotions are considered risk remedies. Other less cited nodes involve “detailed sellers’ profile”, “sales volumes”, “diversify selling channels”, etc. These additional strategies show that a broader approach to minimising perceived risk and negative feelings of consumers may also be useful. For instance, e-retailers or e-merchants should proactively provide detailed profiles that supports to build trust and transparency. Additionally, showing sales volumes may demonstrate product popularity and reliability.

### 6.2.3. Fuzzy-set qualitative comparative analysis (fsQCA)

- **Analysis of necessary conditions**

The fuzzy-set qualitative comparative analysis comprises an examination of the necessary and sufficient conditions. The necessity conditions analysis is conducted to determine whether any of the criteria are necessary for the result. According to Duşa (2018), the necessary condition refers to a condition that must be present for an outcome to occur. However, the presence of this condition alone does not guarantee the outcome; it is merely a prerequisite for the outcome. Accordingly, the author examined both the presence and absence of each condition on the result and its negation (Table 29).

**Table 29: Results of necessary conditions analysis – Source: Author’s contribution**

Conditions	Low behavioural intention	
	Consistency	Coverage
Affective risk	0.7500	0.5943
~Affective risk	0.6557	0.5859
Perceived risk	0.7015	0.6065
~Perceived risk	0.6282	0.5131
MA	0.8571	0.5532
~MA	0.3608	0.4339
PD	0.7711	0.5547
~PD	0.5586	0.5638
CO	0.6630	0.5153
~CO	0.5980	0.5464
UA	0.6081	0.5759

~UA	0.6154	0.4644
<i>~ denotes the low levels of a condition</i>		

Table 29 presents the necessary conditions for the fuzzy-set model. Conditions are deemed necessary when their consistency value exceeds 0.90 in the analysis of necessity. This means that at least 90% of the observations displaying high levels of the result also exhibit high levels of the condition (Schneider and Wagemann, 2012). Consequently, the consistency scores of all conditions are less than 0.9, indicating the absences of necessity conditions of low behavioural intention.

- **Analysis of sufficient conditions**

In the analysis of sufficient conditions, three sets of solutions including complex, parsimonious, and intermediate are calculated. These solutions vary in their treatment of counterfactuals, which are combinations of situations that have not yet met the frequency threshold and hence lack enough empirical data. The complex solution provides a comprehensive set of combinations that result from the application of logical procedures. However, interpreting complex solutions is often challenging due to the multitude of configurations and variables they include (Cangialosi, 2023). As a result, the author relied on the parsimonious and intermediate solutions to draw the essential configurations. According to Fiss (2011), the parsimonious solution is derived from a comprehensive set of simplifying assumptions and identifies the “core conditions” that are essential and common to all three kinds of solutions. Whereas, both “core” conditions and “peripheral” conditions are present in the intermediate solutions.

By comparing the parsimonious and intermediate solutions, the core and peripheral conditions were formulated. Table 30 presents intermediate results of the sufficiency analysis distinguishing core and peripheral conditions. Core conditions are the fundamental and highly impactful aspects of a configuration. They exhibit a robust and consistent correlation with the result in many instances and are indispensable for the occurrence of the outcome. Core conditions are denoted by the larger circles. In contrast, peripheral conditions are additional or supporting aspects inside a configuration. Although they impact the result, they are not as crucial or significant as the core conditions. Peripheral variables may amplify or alter the impact of core conditions, but they are not necessary for the result to happen (Fiss, 2011). Peripheral conditions are denoted by smaller circles. Additionally, the black circles present the high-level conditions (presence), while the cross circle presents the low-

level conditions (absence). Blank space presents “don’t care”, indicating that levels of the condition are not relevant to that configuration and fail to influence the outcomes.

Further, each configuration presents values for raw coverage (refers to the proportion of memberships in the outcome explained by each term of the solution), unique coverage (refers to the proportion of memberships in the outcome explained solely by each individual solution term), consistency (refers to the extent to which the configuration consistently exhibits the outcome) (Ragin, 2014). The solution coverage indicates the proportion of cases with the outcome that can be explained by the solution set (all the configurations combined). In other words, the solution coverage reflects the empirical relevance of the solution by showing the proportion of the outcome it explains. By contrast, solution consistency refers to the degree of consistency in the relationship between configurations and outcomes. In short, it demonstrates the reliability and robustness of the solution by illustrating the consistent manner in which the configurations result in the desired output (Ragin, 2014).

**Table 30: Results of the sufficiency analysis – Source: Author’s contribution**

Conditions	Low behavioural intention			
	Solution I	Solution II	Solution III	Solution IV
Perceived risk	●	⊗	●	⊗
Affective risk	●	●	⊗	●
Uncertainty avoidance (UA)	●	⊗	●	●
Collectivism (CO)	●	●	●	●
Masculinity (MA)	⊗	⊗	●	●
Power distance (PD)		⊗	●	●
Raw coverage	0.316	0.204	0.293	0.255
Unique coverage	0.11	0.128	0.046	0.091
Consistency	0.945	0.845	0.912	0.955
<b>Solution coverage</b>			0.716	
<b>Solution consistency</b>			0.828	

*The black circle (●) presents the high-level conditions, The cross circle (⊗) presents the low-level conditions  
Larger circles present core conditions, smaller circles present peripheral conditions*

In this study, the author set the minimum acceptable frequency of 1 case per configuration given a small sample size of 26 cases. And all configurations were set at a minimum raw consistency of at least 0.80 (Ragin, 2009). As shown in Table 30, four (4) solutions (configuration paths) are performed. The results show that the raw consistency of all solutions exceeds 0.8, which is acceptable. This indicates that the causal relationships are reliable. When the conditions of these configurations are present, the outcome is very likely

to occur. The solution consistency is 0.828, indicating that 82.8% of the cases with the identified configurations exhibit the outcome, indicating strong and reliable causal relationships. This implies a high reliability and robustness of the model. Additionally, the solution coverage is 0.716. It means that 71.6% of the cases with the outcome are explained by the solution set, indicating a good model fit. Solutions I to IV present paths to a low behavioural intention of the consumer in CBEC. The author would only discuss configurations with raw coverage values exceeding 0.25, as low coverage may suggest that the configuration is not a substantial contributor to the outcome (Ragin, 2009).

According to configuration I, 31.6% of cases suggest that high perceived risk, high affective risk, high uncertainty avoidance, and low masculinity are determinants of a low behavioural intention of the consumers in CBEC. In other words, if consumers have high perception and feelings of risks and have cultural norms characterised by high uncertainty avoidance, low masculinity, and high collectivism (as a peripheral condition), they tend to refuse to purchase, abandon the shopping cart, delay the purchase intention, etc. Notably, the level of power distance is not associated with the final behavioural intention. This conclusion has a consistency of 94.5%

In configuration III, 29.3% of cases suggest that high perceived risk combined with low affective risk, high collectivism, and the presence of peripheral conditions (i.e., uncertainty avoidance, masculinity, and power distance) leads to low behavioural intention. This scenario implies that even when affective risk is low, a high level of perceived risk can still significantly deter consumers' purchase intention if the consumers have high levels of collectivism. It reveals that collectivism amplifies consumers' perceived risk in CBEC regardless of the negative emotional response (affective risk). This conclusion has a consistency of 91.2%.

According to configuration IV, 25.5% of cases suggest that low behavioural intention (e.g., refuse to purchase, abandon the shopping cart, delay the purchase intention, etc.) occurs in CBEC shopping with consumers having low perceived risk, high affective risk, and high collectivism. Additionally, the presence of peripheral conditions (i.e., uncertainty avoidance, masculinity, and power distance) also contributes to the low behavioural intention. This conclusion has a consistency of 95.5%.

Notably, configurations III and IV contain the differences and similarities in the conditions. For instance, perceived risk is high in configuration III, but low in configuration IV. By contrast, affective risk is low in configuration III, but high in configuration IV. This implies that configuration III emphasises the impact of perceived risk on behavioural intention,

while configuration IV highlights the importance of affective risk (negative emotions). In Configuration III, the high-level perceived risk significantly led to a low behavioural intention even when consumer have fewer negative emotions toward the website. By contrast, in Configuration IV, consumers although perceive less risk towards the website, they still have emotional concerns that override rational risk assessments, which deters them from purchase intentions. In both configurations, the role of collectivism is emphasised. Accordingly, high collectivist characteristic is a consistent factor in driving low behavioural intentions of the consumer in CBEC.

fsQCA findings reveal the nuanced nature of cultural factors and the roles of perceived risk and affective risk in shaping consumer behavioural intention in CBEC. Accordingly, perceived risk and affective risk play the central role resulting in consumers' behavioural intention (e.g., refuse to purchase, abandon the shopping cart, delay the purchase intention, etc.). Cultural dimensions such as uncertainty avoidance, collectivism, masculinity, and power distance vary across different solutions and might not be necessary in every pathway. However, they still contribute to amplifying the impacts of perceived risk and affective risk and explaining the low behavioural intention of consumers in CBEC.

#### **6.2.4. Summary of Phase II**

Based on the results of phase I (quantitative study), the author setup three objectives including (1) to re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC, (2) to re-investigate whether perceived risk is different from affective risk, and whether perceived risk (cognitive stage) precedes affective risk (affective stage) in the decision-making journey in CBEC, and (3) to explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture. The thematic analysis provides an in-depth explanation of consumers' perceptions, emotions, and behaviours under risk in CBEC.

First, consumers' risk perception (perceived risk) is understood through 7 sub-dimensions (e.g., fraud risk, product risk, financial risk, etc.). Further, the study also induces a conceptual framework of perceived risk's sub-dimensions in CBEC from the interview data. As predicted, the author found that delivery risk was majorly related to the issues of losing, damaged products, longer shipping, and late shipping. Fraud risk was associated with the aspects of lacking assistance from the sellers and disappearing after a time. The financial risk was mainly related to issues of high prices and costs. The privacy risk was conceived as possibility related to the insecurity of consumers information, such as data insecurity, misuse, unauthorized sales, and unauthorized collection of consumers' data. Additionally,

the product risk emerged in this dataset as the possibility of low-quality product, no guarantee, and counterfeit products. The process & time loss risk was as associated with issues related to the consumer experience and efficiency of the CBEC platform. Finally, the information risk mainly involved the issue of “insufficient information”, indicating the lack of information about products, services, or other relevant aspects.

Second, the thematic analysis presented two results. First, the concept of perceived risk in CBEC was described by terms, such as “the possibility of losses” or “the likelihood of unpleasant events”. By contrast, affective risk was expressed by terms “anxiety”, “confused”, “nervous”, “shy”, “uneasy”, and “worry”. Second, based on the themes of “emotions” and “antecedents of feelings”, the study indicated that e-consumers might have negative or positive feelings when interacting with a CBEC platform. However, all these emotions were frequently originated from possible risks in terms of delivery, product, security, sellers, website, etc. In other words, the study concluded that perceived risk can be an antecedent of affective risk in the consumer's decision-making journey.

Third, based on the fsQCA findings, the study highlights the importance of cultural values at the individual level in shaping consumer perceptions, emotions, and behavioural intention. Accordingly, high uncertainty avoidance, high collectivism, and low masculinity amplify the impacts of perceived risk and affective risk, which results in low behavioural intentions in CBEC, such as unwillingness to purchase, postpone to purchase, cart abandonment, etc. Notably, the findings reveal various configurations to an outcome (low behavioural intention). It implies the complexity of cultural dimensions at the individual level. Consumers' negative behaviours in CBEC is consolidated by several combinations of cultural conditions.

## CHAPTER SEVEN

### 7. INTERPRETATION AND DISCUSSION

This chapter consists of two sections, including interpretation and discussion. In section interpretation, the author synthesises the research findings of quantitative and qualitative studies. The major focus is to integrate outcomes in each dataset towards research questions proposed at the beginning of the study. The next section presents a discussion of the findings from the research analysis. The discussion elucidates the implications of the results of this study. Additionally, the study demonstrates how the results were juxtaposed with prior research emphasised in the literature review. This aims to assess the presence of any discrepancies with prior research findings and thereafter elucidate the underlying reasons for these contradictions if they are presented.

#### 7.1. Interpretation of results

Table 31 provides a joint display for explanatory sequential mixed-method design. It is to indicate how the qualitative results provide a deeper understanding of the statistical findings. Accordingly, the author organised these results by research questions. For each research question, the author drilled down into specific quantitative results by using qualitative results to provide further insight and explanation.

**Table 31: Integrated results matrix – Source: Author’s contribution**

Research questions	Quantitative study Results	Qualitative study Results	Meta-inference
RQ1: Is perceived risk considered a multidimensional concept in CBEC?	<b>Construct validation</b> $w_{\text{fraud risk}} = 0.163$ $w_{\text{delivery risk}} = 0.154$ $w_{\text{financial risk}} = 0.166$ $w_{\text{P\&T risk}} = 0.172$ $w_{\text{product risk}} = 0.159$ $w_{\text{privacy risk}} = 0.159$ $w_{\text{information risk}} = 0.182$ $\rho_A PR = 0.9477$ <b>Model fit:</b> SRMR=0.03 dULS=0.6741 dG=0.3105	<b>Exemplar quote:</b> “Perceived risk is risks related to product quality, fraud, financial, delivery, returning, and time” ... types of risk include “time-consuming risk, quality risk, payment risk” – (P28) <b>Descriptive analysis:</b> - Fraud risk: “No support”, “disappear after a time”, “no delivery product”, “unreliable”, “unclear policies”, - Delivery risk: “loss and damage”, “late delivery”, “no tracking feature”, etc.	integrating quantitative and qualitative data provides robust evidence that perceived risk in CBEC is a multidimensional concept, composed of seven key subdimensions

		<ul style="list-style-type: none"> <li>- Financial risk: “higher price”, “unclear price”, fluctuating exchange rate” and “taxes and duties”</li> <li>- Privacy risk: “misuse”, “data sole without permission”, “data stolen”,</li> <li>- Product risk: low quality, “no guarantee”, “counterfeit products”, and “Sizing and Fit”</li> <li>- Process &amp; time loss risk: complicated process”, “time-consuming”, “unfamiliar design”,</li> <li>- Information risk: “insufficient information”, “fake information” and “unreliable information”.</li> </ul>	
RQ2: what is the role of affective risk making process?	<ul style="list-style-type: none"> <li>- Perceived risk negatively impacts purchase intention Perceived risk=&gt;Purchase intention (<math>\beta=-0.5502^{***}</math>)</li> <li>- Affective risk negatively impacts purchase intention Affective risk=&gt;Purchase intention (<math>\beta=-0.2967^{***}</math>)</li> <li>- Affective risk mediates the relationship between perceived risk and purchase intention Perceived risk=&gt;Affective risk=&gt;Purchase intention (<math>\beta=-0.1839^{***}</math>)</li> </ul>	<p><b>Exemplar quote:</b></p> <ul style="list-style-type: none"> <li>- Perceived risk is conceived by several terms, such as “the possibility of these negative experiences” – (P1), “The potential negative outcomes” – (P10).</li> <li>- Affective risk (negative emotions) is described with terms, such as “confused”, “nervous”, “worried”, “anxiety”, “scared”, “uneasy”, etc.</li> <li>- “Mainly my anxious feelings come from my concerns about product quality... delivery time... shipping fees... import taxes... fraud risks... language barriers... return procedures... security information...” – (P10)</li> <li>- “...Of course, emotions will influence my purchasing decisions. If I'm worried, it will be difficult for me to buy with confidence...” – (P11).</li> </ul>	<p>The critical mediating function in the decision-making voyage in CBEC is played by affective risk. Perceived risk directly influences purchase intentions and also generates negative feelings (affective risk), which further dissuades customers from making purchases.</p>



		- "No, I won't buy it. If the risk is too high and the information is ambiguous, I won't buy it because I don't like ambiguous and uncertain things" – (P6)	
RQ3: How do the individual-level cultural dimensions influence consumers' risk perception and purchase intention in CBEC?	<ul style="list-style-type: none"> <li>- Uncertainty avoidance moderate the relationship between perceived risk and purchase intention</li> <li>Perceived risk * Uncertainty avoidance =&gt; Purchase intention (<math>\beta=-0.178^{***}</math>)</li> <li>- Collectivism moderates the relationship between perceived risk and purchase intention</li> <li>Perceived risk * Collectivism =&gt; Purchase intention (<math>\beta=-0.126^{**}</math>)</li> <li>- Collectivism moderates the relationship between perceived risk and affective risk</li> <li>Perceived risk * Collectivism =&gt; Affective risk (<math>\beta=-0.102^{**}</math>)</li> </ul>	<p><b>fsQCA results:</b></p> <ul style="list-style-type: none"> <li>- 31.6% of cases suggest that high perceived risk, high affective risk, high uncertainty avoidance, and low masculinity are determinants of a low behavioural intention of the consumers in CBEC (raw consistency= 94.5%)</li> <li>- 29.3% of cases suggest that high perceived risk combined with low affective risk, high collectivism, and the presence of peripheral conditions (i.e., uncertainty avoidance, masculinity, and power distance) leads to low behavioural intentions (raw consistency= 91.2%)</li> <li>- 25.5% of cases suggest that low behavioural intentions (e.g., refuse to purchase, abandon the shopping cart, delay the purchase intention, etc.) occurs in CBEC shopping with consumers having low perceived risk, high affective risk, and high collectivism (raw consistency= 95.5%)</li> <li>- Solution consistency = 0.828</li> <li>- Solution coverage = 0.716</li> </ul>	<ul style="list-style-type: none"> <li>- Individual-level cultural factors, including uncertainty avoidance and collectivism, substantially affect the correlation between perceived risk and purchasing behaviour in CBEC. These cultural beliefs exacerbate customers' perceived and affective risks, resulting in a reluctance to buy.</li> <li>- Qualitative results significantly expand the quantitative findings by identifying complex and multifactorial pathways that lead to behavioural intentions in CBEC.</li> </ul>

### 7.1.1. RQ1: "Is perceived risk considered a multidimensional concept in CBEC?"

Regarding research question RQ1: "is perceived risk considered a multidimensional concept in CBEC?", the quantitative results demonstrate that perceived risk is a higher-order composite (i.e., second-order composite) that consists of 7 sub-dimensions, including fraud

risk, delivery risk, financial risk, product risk, process & time loss risk, privacy risk, and information risk. The multidimensional structure of perceived risk is supported by the model fit indices (e.g., SRMR = 0.03) and the composite reliability of perceived risk ( $\rho_A=0.947$ ), which indicates high reliability. The quantitative results are further supported by the qualitative findings, which offer rich, descriptive insights into sub-dimensions of perceived risk.

First, the qualitative results support the multidimensionality of perceived risk by providing further insight into this concept. In the definitions and descriptions of perceived risk, participants explicitly reference a variety of risk. For example, the quantitative findings that perceived risk is multidimensional is further supported by the alignment of phrases such as “risks related to product quality, fraud, financial, delivery, returning, and time”.

Second, the qualitative findings also provide detailed descriptions for each dimension of perceived risk through participant interpretations. For instance, fraud risk is described with terms, such as “no support,” “disappear after a time,” and “unclear policies.” Delivery risk is highlighted by terms, such as “loss and damage,” “late delivery,” and “no tracking feature.” Financial Risk is mentioned with terms like “higher price,” “unclear price,” and “fluctuating exchange rate.” Privacy Risk is highlighted with terms “misuse,” “data sold without permission,” and “data stolen.” Product Risk is described with terms “low quality,” “no guarantee,” and “counterfeit products.” Process & Time Loss Risk is associated with issues, such as “complicated process” and “time-consuming”. Information risk is described as “insufficient information,” “fake information,” and “unreliable information.” These vivid descriptions offer a more profound comprehension of what each subdimension entails, supporting the quantitative weights and their importance.

Third, the qualitative results also provide insights supporting the validity of the “perceived risk” construct and enhancing the conceptual clarity. The construct validity is further supported by the consistency of participant quotations and themes. For example, the reliability of risk dimensions is facilitated by the fact participants identified similar dimensions. Furthermore, the qualitative data contributes to the conceptual clarity of each risk dimension by providing comprehensive, contextualised explanations. For example, the term “privacy risk” is not just a statistical construct but a lived experience for consumers about “misuse” and “data theft.” These interpretations clarify what each risk dimension means in practice, making the quantitative constructs more understandable.

#### **7.1.2. RQ2: “what is the role of affective risk in the decision-making process?”**

Regarding research question RQ2: “What is the role of affective risk in the decision-making process?”, the integration of quantitative and qualitative results reveals a comprehensive understanding of affective risk compared to perceived risk, and the role of affective risk in the decision-making. The quantitative findings are also considerably reinforced by the qualitative findings, which provide contextual depth and elucidate the relationships between perceived risk, affective risk, and purchase intention in CBEC.

First, the quantitative results reveal the negative effects of perceived risk on purchase intention in CBEC ( $\beta=-0.5502^{***}$ ), indicating that if perceived risk increases, the purchase intention will decrease. The participants from the qualitative data describe perceived risk in terms of “the possibility of these negative experiences” and “the potential negative outcomes”. These interpretations underscore the general apprehension about perceived risk. Additionally, quotes like “If the risk is too high and the information is ambiguous, I won’t buy it” illustrate how perceived risks lead to hesitation and avoidance in purchasing decisions. These empirical instances substantiate and explain the significant negative relationship shown in the quantitative data.

Second, the statistical findings show that affective risk (negative emotions) negatively influence purchase intention in CBEC ( $\beta=-0.2967^{***}$ ). This suggests that negative emotions associated with risk perceptions (also called affective risk) deter purchasing behaviour. In qualitative insights, participants describe affective risk via terms, such as “confused,” “nervous,” “worried,” “anxiety,” “scared,” and “uneasy.” Additionally, the qualitative data reveal that affective risk also influences purchase intention. For instance, a participant stated, “Emotions will influence my purchasing decisions. If I’m worried, it will be difficult for me to buy with confidence.” These individual experiences demonstrate how affective risk (negative emotions) directly impacts people’s reluctance or unwillingness to buy, adding additional context and significance to the quantitative conclusion that affective risk decreases purchase intention.

Third, quantitative findings emphasise the mediating role of affective risk in the relationship between perceived risk and purchase intention ( $\beta=-0.1839^{***}$ ). In other words, perceived risk impacts purchase intention partly through the negative emotions it generates. The qualitative data support this mediation effect by revealing the pathway of how perceived risks lead to negative emotional states, which in turn influence purchasing intentions. Participants declare that concerns about product quality, delivery time, and security issues make them feel anxious and uneasy. For instance, a quote like “Mainly my anxious feelings come from my concerns about product quality... delivery time... shipping fees... import

taxes... fraud risks... language barriers... return procedures... security information...” clearly connects perceived risk to affective risk. This illustrates the process by which perceived risks lead to negative purchase intentions via affective risk, therefore clarifying the phenomenon of mediation seen in the quantitative study.

Furthermore, qualitative observations strengthen the conceptual difference between affective risk and perceived risk in clinical breast cancer. The quantitative results indicate that perceived risk and affective risk are related but distinct. The qualitative findings further provide vivid descriptions. For instance, the differentiation between “the possibility of negative experiences” (perceived risk) and feeling “worried” or “anxious” (affective risk) helps to delineate the two concepts. This served to strengthen the definitions used in the quantitative investigation and so guaranteed coherence between the two research methodologies. Thus, the author's conclusion is that the uniformity in conceptualisation across different approaches validates that the quantitative measurements effectively represent the actual experiences of customers. Moreover, this division is essential for comprehending the separate but interconnected functions of various risks in consumer behaviour, offering a solid conceptual structure than relying just on quantitative data.

### **7.1.3. RQ3: “How do the individual-level cultural dimensions influence consumers’ risk perception and purchase intention in CBEC?”**

First, in terms of the moderation of the individual-level culture, the quantitative results show that Uncertainty avoidance moderates the relationship between perceived risk and purchase intention ( $\beta = -0.178^{***}$ ). This implies that consumers with high uncertainty avoidance exhibit a stronger negative response to perceived risks, reducing purchase intentions. In other words, higher uncertainty avoidance strengthens the negative effect of perceived risk on purchase intention in CBEC. Additionally, Collectivism moderates the relationship between perceived risk and purchase intention ( $\beta = -0.126^{**}$ ) and between perceived risk and affective risk ( $\beta = -0.102^{**}$ ). It indicates that higher collectivism strengthens the negative impact of perceived risk on purchase intention. However, it weakens the positive impact of perceived risk on affective risk in CBEC. These statistical findings are confirmed and clarified through the fsQCA findings. The fsQCA results show that the combination of high perceived risk, high affective risk, and high uncertainty avoidance results in low behavioural intention (Solution I). The combination of high perceived risk, low affective risk, and high collectivism results in low behavioural intention (Solution III). These demonstrate how these cultural dimensions (i.e., uncertainty avoidance and collectivism) interact to amplify the impact of perceived and affective risks on behavioural intentions in CBEC, providing a more

comprehensive understanding than the linear relationships shown in the quantitative analysis.

Second, fsQCA results provide additional insights into complex pathways to behavioural intention (e.g., unwillingness to purchase) in CBEC. For instance, the quantitative data indicate that high collectivism strengthens the impact of perceived risk on purchase intention. The fsQCA results reveal multiple pathways to unwillingness to purchase. When high collectivism is combined with a high perceived risk, it leads to a decrease in the desire to make a purchase (Solution III). Nevertheless, the combination of high collectivism and high affective risk still results in a lower rate of purchase intention (Solution IV). This shows the complex, non-linear relationships among these factors that the quantitative analysis alone may not comprehensively reflect. Further, fsQCA findings also provide an advanced explanation for statistical results. Accordingly, the regression model and moderation analysis only reveal the strength or direction of the relationship between 2 aspects of risks and purchase intention changes depending on different cultural values. On the other hand, fsQCA results explain behavioural variability. It means that even among consumers with similar levels of perceived risk, their behavioural intentions can vary significantly. For instance, solutions II and IV show that participants with low perceived risk, high affective risk, and high collectivism tend to refuse to purchase in CBEC. However, these core conditions in conjunction with high uncertainty avoidance, high masculinity, and high-power distance (Solution IV) more frequently lead to higher negative behaviour compared to the combination in Configuration (II) (i.e., low uncertainty avoidance, low masculinity, and low power distance). Furthermore, this enhances the comprehension of consumer behaviour in CBEC.

Furthermore, the results of the fsQCA also highlight the combined effect of cultural dimensions that influence behavioural intentions in CBEC. The truth is that the quantitative data collects 29 combinations of 4 individual-level cultural dimensions among participants. It is inferred that cultural dimensions did not separately exist. Instead, they interacted and combined with each other. The quantitative study also investigated the impacts of all 4 individual-level cultural dimensions on the relationship between perceived risk, affective risk, and purchase intention. However, the results reveal that not all moderating variables show significant effects. For instance, only uncertainty avoidance and collectivism moderate the relationship between perceived risk and purchase intention. This phenomenon may be explained by the many effects and strong correlations among various cultural aspects. Accordingly, some variables might have a stronger moderating effect, while others might

have negligible or no effect. Therefore, the fsQCA results bring to light the role of peripheral conditions and core factors that might not be prominent in a purely quantitative analysis. For instance, in the configuration I, peripheral conditions like collectivism combined with core factors (perceived risk, affective risk, and masculinity) lead to low behavioural intention. Power distance is not associated with this causal pathway. By contrast, in configuration III, peripheral conditions like uncertainty avoidance, masculinity, and power distance in conjunction with core factors (i.e., perceived risk, affective risk, and collectivism) result in unwillingness to purchase.

Fourth, the results of the fsQCA further support the quantitative conclusion. Accordingly, culture might be assessed at the individual level, rather than at a national level. Using a country as a proxy of culture, the quantitative analysis based on this assumption was less successful than the individual-level approach. Particularly, there were no significant differences across the Hungarian and Vietnamese samples (invariance test), and differences in terms of risk perception, feelings and purchase intention are insignificant between the two samples (section 6.1.5). The fsQCA results further support the initial conclusion. By highlighting cultural orientations, fsQCA provides a thorough and deep understanding of how cultural elements interact to affect consumer behavioural intention in CBEC. The many configurations (I, II, III, IV) show that certain cultural traits lead to different patterns influencing behavioural intention. Results from fsQCA also highlight a more sophisticated comprehension compared to cultural evaluations at the national level, which may fail to include unique variations across individuals. For example, a customer who has a strong sense of collectivism may respond rather differently to perceived danger compared to another consumer from the same nation but with a lesser degree of collectivism. Therefore, the assessment of culture at the individual level is more efficient in comprehending and attending to consumer behaviour in CBEC.

## **7.2. Discussion**

### **7.2.1. Perceived risk as a multi-dimensional construct (higher-order composite)**

The explanatory sequential mixed-method study demonstrates the validity and reliability of modelling perceived risk as a multi-dimensional construct, especially a second-order composite. In other words, the quantitative phase reveals seven (7) sub-dimensions of perceived risk and validates its effectiveness and efficiency in constructing the hypothetical model. The qualitative phase provides more comprehensive explanations of 7 sub-dimensions of perceived risk. These include things like fraud risk (i.e., the potential for a seller to be unreliable), delivery risk (i.e., the possibility of not receiving the product on time

or a lengthy shipping time), financial risk (i.e., the potential for financial loss), etc. And there are other risks such as time and process loss risk (i.e., the potential for a consumer to create complexity and inconvenience), product risk (i.e., goods failing to perform as anticipated), privacy risk (i.e., the potential loss of control over personal information), and information risk (i.e., the potential for asymmetric information). Further, the qualitative study also supports and expands the scope of these risk dimensions by providing additional insights. For instance, “fluctuating exchange rate”, “taxes and duties”, and “extra shipping costs” emerged as the sources of financial risk in CBEC. These findings were somewhat consistent with the research of Bashir *et al.* (2021), who found that the high price risk might related to overpricing products to offset delivery charges (e.g., postage expenses, customs duties). By modelling perceived risk as a second-order composite with 7 dimensions, this research helps to a systematically conceptualise general perceived risk and offers a methodical understanding of perceived risk in CBEC. This also contributes to the explanatory power of consumers’ risk perceptions. These findings are in line with the “multi-dimensional theory of perceived risk”, proposed by Jacoby and Kaplan (1972) and Roselius (1971). According to the theorists, consumers perceive a variety of risks in purchase circumstances. These dimensions may be regarded as functionally autonomous. Consequently, each category of risk might represent a distinct facet of perceived risk. Further, the results are also consistent with research by Ariffin *et al.* (2018); Pappas (2016); Pillai *et al.* (2022); Qalati *et al.* (2021); Salim and Bahanan (2022); Suki and Suki (2017), who revealed that perceived risk can be understood by several dimensions. Sharma *et al.* (2022) found that four dimensions, including financial risk, time risk, performance risk, and privacy risk can be sources of overall perceived risk. Other scholars also suggested that financial risk, product risk, security risk, time risk, and social risk are significant dimensions of the perceived risk (Chen *et al.*, 2021; Qalati *et al.*, 2021). From another perspective, Berteau and Zait (2013) confirmed three dimensions of perceived risk, including delivery risk, financial risk, and product risk. On the other hand, the quantitative results reveal that modelling perceived risk as a higher-order construct is appropriate and enables reducing model complexity. Although the research of Pentz *et al.* (2020) revealed 6 dimensions of perceived risk, the structural model found only 3 dimensions affected purchase intention. Similarly, the structural model of Nguyen *et al.* (2021) also found that 4 in total 6 dimensions of perceived risk in e-commerce impact online purchase intention. Hong and Cha (2013) confirmed the effects of 3 in total 6 dimensions of perceived risk on purchase intention. However, they found the effect of only 2 risk dimensions on online trust. According to Koufteros *et al.* (2009), constructs that have

a strong correlation may not provide a clear factor structure, which can be difficult to describe and employ in substantive hypothesis testing. Whereas, second-order models acknowledge the significance and preserve the unique characteristics of individual first-order constructs, seeing them as different aspects of the overarching higher-order construct. The quantitative model in this study confirmed all 7 aspects of perceived risk. These aspects together can be understood as perceived risk, thus indicating that perceived risk can be appropriately modelled as a higher-order construct. Notably, this study also confirms that perceived risk is specified as a composite (i.e., an aggregate construct). It is significant, as the nature of higher-order constructs has implications for the inclusion criteria that are used for the identification of indicators (Johnson *et al.*, 2011). Consequently, a comparison between the model fits of composite and superordinate constructs was performed to rule out the former possibility. In the case of this study, the model fit was superior when perceived risk was modelled as an aggregate construct with causal indicators. The research is consistent with the study by Glover and Benbasat (2010) that modelled perceived risk as a second-order composite and revealed that online consumers' concerns on different aspects are effective predictors of general perceived risk in e-commerce. However, while these scholars revealed three aspects of perceived risk, this study modelled and validated perceived risk based on 7 dimensions.

### **7.2.2. Perceived risk and Affective risk – 2 aspects of risk in CBEC**

The quantitative phase demonstrates that perceived and affective risks are connected but separate. The results validate this conclusion by providing detailed explanations of each component. For example, whereas perceived risk is defined as "the possibility of negative experiences," affective risk is reinforced by the adjectives "worried," "anxious," and so on. The results show that affective risk and perceived risk are different. Affective risk captures an individual's negative feelings (i.e., anxiety, confusion, nervousness, shyness, uneasiness, and worry). This affective risk may be defined as an individual's experience of apprehension, distress, or unease in relation to the potential adverse consequences of their actions. Thus, it does not need substantial cognitive processing. Consistent with the research undertaken by Sha (2017, 2018), the results validate the distinctions between perceived risk and affective risk in the context of online buying. Moreover, the findings of the qualitative investigation further support the precision of the quantitative measurement scale used in this research (i.e., the scale designed by Petrova *et al.* (2023) and Sha (2018)).

By contrast, the findings also highlight that perceived risk and affective risk adversely influence buying intention in CBEC. The author indicates that increased perceived risk on



an e-commerce platform correlates with decreased purchasing intention among customers. This is consistent with studies by Han and Kim (2017); He et al. (2022); Kim and Koo (2016); Liew and Falahat (2019); Mosunmola et al. (2019); Sadiq et al. (2022); Tran and Nguyen (2022). For instance, Shao et al. (2021) show that perceived risk has a negative effect on purchase intention in cross-border e-commerce, as the consumer has the nature of avoiding risks. According to He et al. (2022), risk perception is the factor that prevents online consumers from purchasing from online websites. However, this finding differs from the research of Ventre and Kolbe (2020), who found that perceived risk insignificantly impacts the purchase intention of online consumers in Mexico. The reason was that perceived risk tends to be less for frequent online shoppers. Therefore, it might not be a barrier in the decision-making process of experienced online shoppers. According to Friedrich (2016), consumers' perception of risk may relate to specific and occasional factors. Therefore, in the emerging e-commerce markets, e-consumers may have less experience in online purchases. Consequently, it was determined that perceived risk negatively influences purchase intention. This view was also agreed by Sinha and Singh (2017); Thakur and Srivastava (2015), who revealed that consumers' online purchase intention in emerging markets, such as Taiwan, India were influenced by perceived risk. This could be the case in this study as this current study focused on the Hungarian and Vietnamese markets. They are small and less developed e-commerce markets. Therefore, online shoppers in these nations may perceive much risk when purchasing on e-commerce platforms.

Similarly, the quantitative findings reported the significant negative effect of affective risk on purchase intention in e-commerce. The qualitative study also supported this result by confirming that consumers tend to behave negatively when they feel worried or scared (e.g., prevent a purchase, not buy, switch to other websites, no purchase intention, cart abandonment, and postpone the purchase). These findings reinforce the view that if e-consumers feel worried, fearful, and distressful throughout the online purchasing process, they are more likely to reject their initial intention to make a purchase. The findings align with the research by Sha (2017, 2018), who also demonstrate that affective risk can lower consumers' purchase intentions.

Nevertheless, the statistical results indicate that the influence of affective risk on the intention to make a purchase is less pronounced than that of perceived risk on the intention. This finding contrasts with the prior study conducted by Sha (2017, 2018), which determined that online shoppers prioritised their negative emotions above their cognitive assessments in order to decrease their buying intention. According to Shiv and Fedorikhin (1999), the

influence of affect or cognition on consumer behaviour depends on the allocation of processing resources to a decision-making task. In other words, if consumers focus more on a decision-making task, the effect of cognition can be stronger. Xia (2002) revealed that consumer behaviour varies depending on the purposes of internet browsing. When consumers engage online with a task-oriented objective, they exhibit prolonged browsing durations and enhanced information processing. Conversely, if the internet objective is only amusement, individuals will allocate less time to searching and understanding intricate information. This may apply in this research, since participants were solicited to complete a decision-making activity. They were obligated to navigate the designated e-commerce website and complete transactions. This may enhance the influence of cognitive assessment over emotive evaluation in decision-making.

The findings are also different from the result of Hajiheydari et al. (2017), who found that negative emotions insignificantly impact purchase intention. Whereas positive emotions generate consumers to purchase. The reason for this is that positive emotions are stimulated by factors such as the quality of the website and the reputation of the seller. This could be different from the case in the current study, as the author created a simulating website given the truth that Hungarian and Vietnamese consumers do not shop on a common platform. Consequently, the website is entirely unfamiliar to customers. As a result, it is easy for consumers to generate affective risk such as worry, threat, and fear while ordering. This conclusion was also confirmed by the qualitative study (e.g., "...I feel a mix of curiosity and anxiety when ordering on this website, especially since I haven't used it before..." – (P1); "...I felt quite nervous when experiencing this website because, after all, it is a strange website to me..." – (P15)). This corroborates with the result of Sha (2017), who showed that purchasing goods online, particularly from new web merchants, poses a significant risk to customers due to their limited knowledge of the legality, privacy, and security measures used by these unknown entities. Consumers may experience affective risk when they encounter these web vendors. Consequently, this affective risk may induce individuals to relinquish their buying basket or explore another website belonging to a rival in search of further information.

### **7.2.3. The mediating role of affective risk in the decision-making process**

The explanatory mixed-method study also reveals the mechanism between consumers' perceptions, feelings and behavioural intentions. The results revealed the sequential role of affective risk (i.e., negative feelings) as the mediator of the relationship between perceived risk and purchase intention in CBEC. This finding is twofold. Initially, it illustrates the

predictive relationship between perceived risk and affective risk (negative emotions). If e-consumers perceive elevated risk levels on a CBEC website, they are more likely to encounter negative emotions that may affect their final decision-making. Consumers' perceptions of risk can serve as predictors of their negative emotions, including worry, distress, threat, and fear, during CBEC transactions. It aligns with the results of previous studies conducted by Hajiheydari et al. (2017); Kim and Lennon (2008); Sha (2017, 2018). Hajiheydari et al. (2017) confirmed that perceived risk can generate negative emotions in the process of online purchasing. In an earlier study, Kim and Lennon (2013) showed that perceived risk elicits negative emotions, such as distress and fear while reducing positive emotions, such as joy and excitement when shopping on e-commerce websites.

Second, the finding underscores that affective risk is a crucial component of the decision-making process. Affective risk, or negative feelings arising from consumers' perceived risk, significantly influences consumer behaviour. In other words, customers' perceptions of possible risks (e.g., fraud risk, financial risk, delivery risk, product risk, privacy risk, etc.) tend to evoke feelings of worry, distress, and fear. This diminishes their inclination to make purchases on electronic commerce platforms. These findings are consistent with the “risk-as-feelings” (Raf) hypothesis introduced by Loewenstein et al. (2001). The researchers proposed that cognitive assessments of risk may result in emotional responses. Moreover, negative emotions often elicit behavioural responses that diverge from what individuals perceive as the optimal course of action. Prior research has investigated the role of negative emotions as mediators in the relationship between perceived risk and intention. However, some found that negative emotions insignificantly mediate this relationship (Hajiheydari et al., 2017). The present study is distinguished by its confirmation of the mediating role of affective risk in the decision-making process. This is consistent with Sha's (2018) prior research, which also emphasised the mediating role of affective risk, including immediate negative emotions such as dread and threat, in the relationship between perceived risk and purchase intention.

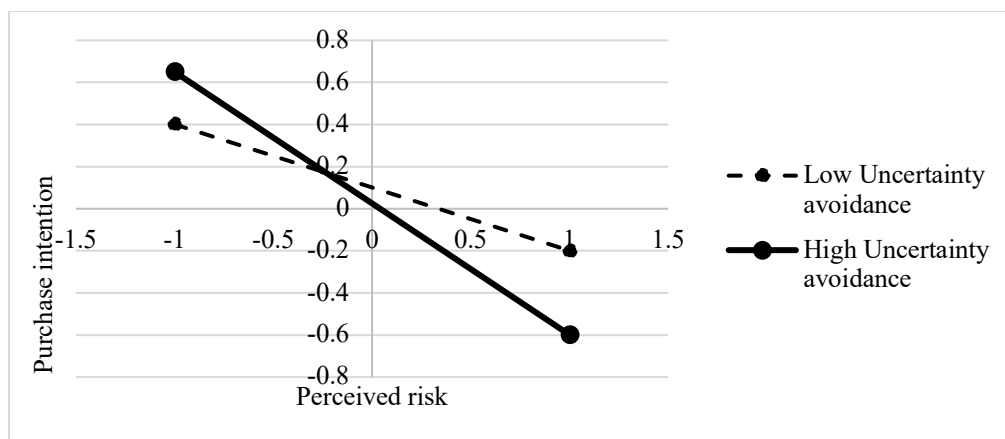
#### **7.2.4. Role of the cultural dimensions in shaping behavioural intention**

The integration of quantitative and fsQCA results enhanced the understanding of cultural influence towards behavioural intention in CBEC. In other words, the study reveals that cultural factors (i.e., uncertainty avoidance, collectivism, masculinity, and power distance) are essential in shaping behavioural intention (purchase intention) in CBEC.

- **Uncertainty avoidance and Collectivism**

The quantitative phase examines the moderating influence of cultural characteristics (namely, uncertainty avoidance and collectivism) on the correlations among perceived risk, affective risk, and purchase intention. These results are visualised in Figure 22-24.

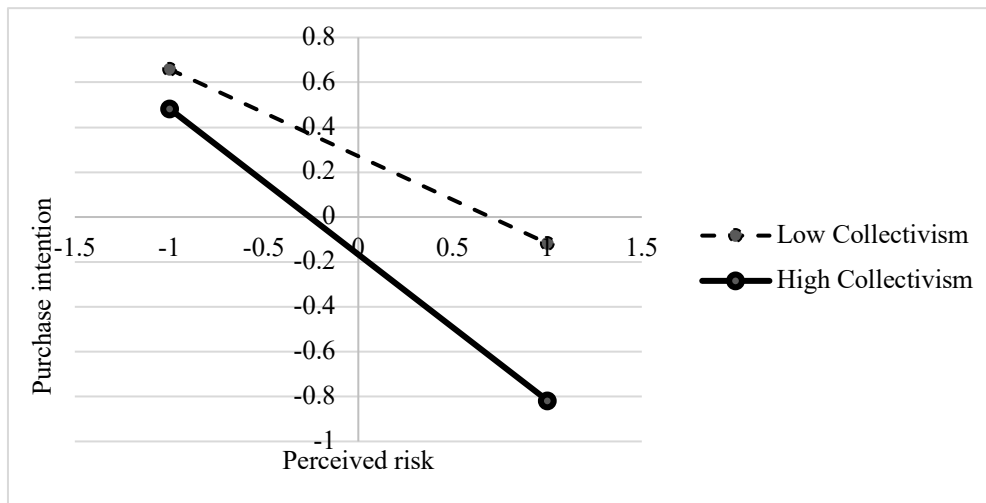
Figure 22 illustrates the moderating influence of uncertainty avoidance on the correlation between perceived risk and purchase intention. The trendlines exhibit a downward slope from left to right, signifying a negative correlation between perceived risk and purchase intention. It implies that consumers' purchase intentions will decrease as perceived risk increases. From the figure, there are different degrees of uncertainty avoidance. The dashed line indicates less uncertainty avoidance (i.e., risk-taking). The solid line indicates more uncertainty avoidance (i.e., risk-averse). As perceived risk escalates and customers exhibit more risk-taking behaviour, their purchase intentions diminish somewhat. Consequently, the adverse impact exhibits a less steep negative slope (refer to the dashed line). Conversely, when perceived danger escalates and customers exhibit more risk aversion, their purchasing intentions decline more rapidly. The adverse impact has a more pronounced negative slope (refer to the solid line). Thus, a greater degree of uncertainty avoidance among customers correlates with an intensified impact of perceived risk on purchase intention in e-commerce. In other words, elevated uncertainty avoidance strengthens the adverse effect of perceived risk on purchase intention in consumer behaviour in CBEC.



**Figure 22: Simple slopes plot (Uncertainty avoidance x Perceived risk > Purchase intention) – Source: Author's contribution**

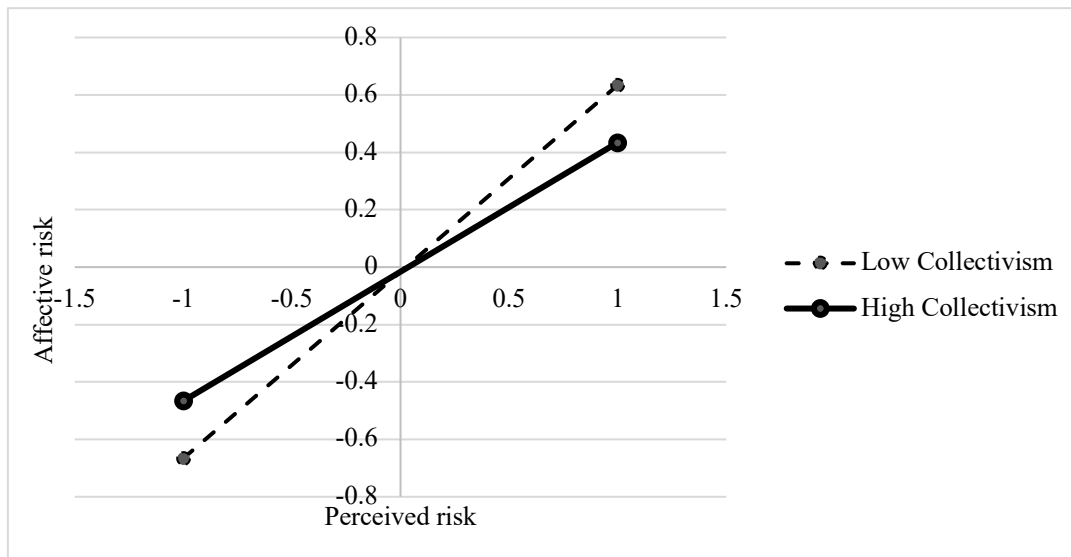
Figure 23 illustrates how collectivism influences the connection between perceived risk and purchase intention. High collectivism, therefore, enhances the adverse effect of perceived risk on purchase intention. The dashed line represents low collectivism, whereas the solid line indicates high collectivism. As perceived risk rises, consumers with low collectivist tendencies exhibit a slight decline in their purchase intentions. Consequently, the adverse

impact exhibits a less steep negative slope (refer to the dashed line). By contrast, if consumers are highly collectivist, their purchase intentions fall faster. The negative effect has a steeper negative slope (see the solid line).



**Figure 23: Simple slopes plot (Collectivism x Perceived risk > Purchase intention) – Source: Author’s contribution**

Figure 24 presents the effect of collectivism on the relationship between perceived risk and affective risk. The moderating result shows that high collectivism weakens the positive impact of perceived risk on affective risk in CBEC. Accordingly, the trendlines are sloping upward from left to right, indicating the positive effect of perceived risk on affective risk. This means that consumers perceive more risk, they would feel more worried and stressful. From the graph, it is obvious that the positive effect has a steeper slope when there is less collectivism (see the dashed line). In other words, the more individualistic the consumers are, the stronger the effect of perceived risk on their negative emotions. By contrast, if consumers are more collectivist, the effect of perceived risk on their negative emotions will be weaker (see the solid line).



**Figure 24: Simple slopes plot (Collectivism x Perceived risk > Affective risk) – Source: Author’s contribution**

Further, fsQCA results also support these quantitative results by deeply emphasising that these cultural dimensions (i.e., uncertainty avoidance and collectivism) amplify the impact of perceived and affective risks on behaviour intentions in CBEC. For instance, high perceived risk, high affective risk, and high uncertainty avoidance results in low behavioural intention (Solution I). High perceived risk, low affective risk, and high collectivism results in low behavioural intention (Solution III).

These findings are consistent with previous studies (e.g., Alcántara-Pilar et al. (2018); Faqih (2022)). Faqih (2022) demonstrated that within a high-context culture characterised by a strong inclination to avoid uncertainty, consumers are less inclined to establish sufficient trust, which in turn hinders their intention to adopt IT-based technology. This is especially apparent in the context of newly introduced e-commerce, which inherently involves a degree of risk and uncertainty. This scholar indicated a detrimental impact on the relationship between trust and intention. As a result, the relationship between trust and intention diminishes, whereas the relationship between risk and intention intensifies for consumers exhibiting a higher degree of collectivism. Similarly, Al-Adwan et al. (2022) also found that societies exhibiting high levels of uncertainty avoidance are predisposed to avoid uncertainty and risk, thereby resisting the adoption of e-commerce. In cultures characterised by high uncertainty avoidance, establishing trust is crucial to mitigate the risks and uncertainties associated with e-commerce. Alcántara-Pilar et al. (2018) demonstrated that uncertainty avoidance influences the relationship between perceived risk and consumer attitudes. In cultures characterised by higher uncertainty avoidance, consumers generally perceive

greater risk and exhibit a more negative attitude towards e-commerce. The research indicates that the adverse impact of perceived risk on consumer attitudes towards e-commerce is more pronounced among individuals from collectivist cultures. This finding is consistent with Mosunmola et al. (2019), who found a significant effect of collectivism on the relationship between perceived risk and purchase intention. This finding also corroborated the findings of Ganguly et al. (2010); Zendehdel et al. (2016), who confirmed that the relationship between perceived risk and consumers' attitudes towards e-commerce was moderated by collectivism.

Prior studies primarily examined the moderating role of collectivism in the relationship among trust, purchase intention, perceived risk, and attitude. This study is among the few that investigate the moderating effect of collectivism on the relationship between perceived risk and purchase intention. The quantitative findings indicate that collectivism negatively moderates the positive relationship between perceived risk and affective risk. The positive effect of consumers' perceived risk on negative emotions is moderated by collectivism. Collectivism signifies the interrelationships among individuals within various cultures. This concept relates to the perspective on whether individuals' self-image is characterised by a "I" or "We" orientation within their cultural context. An individualist consumer prioritises the individual's role in decision-making processes. Thus, an individual's perception of risk may readily elicit negative emotions. Limited literary works have examined this relationship within the framework of e-commerce. Thus, this study represents one of the initial investigations to hypothesise and validate this effect.

- **Masculinity and Power distance**

The quantitative phase did not confirm the moderating effects of masculinity and power distance in CBEC as the author hypothesised. The results may imply that traits such as accomplishment, assertiveness, competition, materialism, ambition, and success belonging to a masculine culture, or qualities such as caring, nurturing, modesty, relationships, and equality belonging to a feminine culture have no moderating effects on consumers' risk perception and purchase intention in e-commerce. The findings are in alignment with the research conducted by Faqih (2022), who also discovered that masculinity had an insignificant impact as a moderator in e-commerce. Furthermore, there is no correlation between the extent to which members of a society are prepared to recognise and embrace the existence of an unequal distribution of power and the association of their perceived risk, affective risk, and purchase intention on e-commerce platforms. Although previous studies have examined the moderating role of power distance such as studies by Alsaleh et al.

(2019); Capece et al. (2013); Dao (2021), these studies have primarily focused on the effect of trust and purchase intention in the online environment. To the best of the authors' knowledge, this study is one of the first to examine the moderating effect of power distance on the relationship between risk perception and purchase intention in e-commerce.

Nevertheless, the quantitative findings indicated that masculinity directly affects purchase intention and affective risk, despite relatively low path coefficient values ( $\beta=-0.072^{**}$ ;  $\beta=-0.074^*$ ). It can be posited that masculinity levels may prevent consumers from making purchases and generate affective risk. Furthermore, power distance shows a positive influence on affective risk ( $\beta=0.120^{**}$ ), indicating that high power distance heightens consumers' affective risk. These interesting results imply that despite not being hypothetically accepted, these cultural dimensions (i.e., masculinity and power distance) still somewhat influence behavioural intention in CBEC.

They are clarified through the qualitative phase. fsQCA findings emphasise the combinatorial effects of cultural dimensions by identifying the role of core and peripheral conditions. Accordingly, high perceived risk, high affective risk, high uncertainty avoidance, and low masculinity lead to low behavioural intention in CBEC (configuration I). High perceived risk combined with low affective risk, high collectivism, and peripheral cultural factors (uncertainty avoidance, masculinity, power distance) results in low behavioural intention (configuration III). Even with low perceived risk, high affective risk, and high collectivism, consumers still exhibit low behavioural intention (configuration IV). This implies that although cultural dimensions are peripheral conditions (i.e., additional aspects) in some circumstances, they may amplify or alter the impact of core conditions to affect the outcome of a configuration. Therefore, the study indicates that cultural dimensions influence consumer behavioural intentions in CBEC, although they vary across different solutions and might not be necessary in every pathway.

#### **7.2.5. The superior approach towards cultural dimensions in CBEC**

The findings from both quantitative and fsQCA analyses highlight the necessity of evaluating cultural dimensions at the individual level. The individual-level analysis provides a more precise understanding of consumer behaviour by accounting for the nuanced ways in which cultural traits interact with perceived and affective risks.

The quantitative results showed that cultural values at the individual level act like moderators in the relationships between consumers' risk perception, emotion, and purchase intention in CBEC. For instance, uncertainty avoidance strengthens the negative effect of perceived risk on purchase intention. Collectivism also strengthens the negative impact of



perceived risk on purchase intention in CBEC. Further, the roles of these cultural dimensions are also emphasised and drilled down through the analysis of 4 configurations in the qualitative phase. Accordingly, fsQCA provides a nuanced understanding of how cultural dimensions interact to shape consumer behavioural intention in CBEC. fsQCA findings demonstrate that individual cultural traits form unique patterns that impact behavioural intention. In addition, fsQCA even explains why there might be variability in behaviours among consumers with similar level of cultural value. For instance, participants have similar levels of low perceived risk, high affective risk, and high collectivism in solutions II and IV. However, these core conditions, when combined with high uncertainty avoidance, high masculinity, and high-power distance (Solution IV), are more frequently associated with low behavioural intention than the combination in Configuration (II) (i.e., low uncertainty avoidance, low masculinity, and low power distance). It can be concluded that individual-level cultural dimensions interact to form a variety of combinations, thereby demonstrating the cultural diversity within a given population. Consequently, the assessment of culture at the individual level is a more efficient approach for comprehending and addressing consumer behaviour in cross-border e-commerce contexts.

The results are inconsistent with those by Al Kailani and Kumar (2011); Sims and Xu (2012). These studies following the national-culture logic showed that nations with higher uncertainty avoidance scores perceived higher risks than ones with lower uncertainty avoidance scores. In other words, previous scholars mainly highlighted the role of national culture in researching individuals' behaviour. For instance, the research of Karahanna (2013) supported the view that national culture is important to identify individuals. In contrast, by demonstrating that cultural dimensions operate at the individual level and significantly shape consumer behaviour, this study offer a detailed view of how individual cultural orientations interact with perceived risk and affective risk to drive behavioural intentions. It contributes to a more refined analysis as suggested by Yoo *et al.* (2011). This has an important implication, as it corroborates that a country should not be used as a surrogate for culture in research on the international marketing and e-commerce, especially cross-border e-commerce. The research suggests that in current e-commerce, individual-level cultural dimensions may be more important.

## CHAPTER EIGHT

### CONCLUSION

#### **8. SUMMARY, RESEARCH IMPLICATIONS, AND FUTURE RESEARCH DIRECTIONS**

This chapter provides a synopsis of the study outcomes. The research also presents its theoretical and practical consequences. The paper identifies its shortcomings and proposes recommendations for further research. The chapter starts by reviewing the research questions. Three research issues are examined, and the synthesis of the results is also provided. The following part presents theoretical and practical insights, highlighting the study's contributions. The chapter ultimately delineates the constraints of the study and proposes recommendations for further investigations.

##### **8.1. Revisiting the research questions**

This work is based on several theoretical and practical acknowledgements. Two significant study gaps exist in the literature about perceived risk in e-commerce. Current study on online consumer behaviour largely stresses that consumers' risk reactions are cognitive activities. As a result, the notion of perceived risk has been extensively examined in scholarly literature. Nevertheless, little focus has been directed into emotional responses and the influence of unpleasant emotions in the decision-making process. In other words, the concept of affective risk (also called negative emotions) has not been thoroughly explored. Second, modelling and measuring perceived risk need further investigation. Prior scholars mainly focused on exploring perceived risk as a uni-dimensional concept (i.e., a singular construct without specific dimensions), or a multi-dimensional concept in a lower-order model. In other aspects, the impact of culture on risk perception, feeling, and behaviour in e-commerce has been overlooked. One of the significant critiques emerging in cultural and international marketing research is related to the unit of analysis. Accordingly, the nation has been often used as a surrogate of culture in previous studies.

Practically, the marketing philosophy has pivoted from the product-centric to the customer-centric focus, which drives businesses to concentrate more on consumers. Additionally, Modern online consumers encounter numerous risks, including opportunistic behaviour, information asymmetry, problems with privacy, security issues, financial dangers, and quality concerns in cross-border e-commerce, which may result in their online cart abandonments. Therefore, from a managerial point of view, understanding aspects of risk

that consumers perceive and feel helps companies fill the gap in online consumers' perceptions and navigate consumers' attention to improve their purchase intention and promote conversion rates and sales. Second, it is still disputable whether culture is significant in shaping consumer behaviour in cross-border e-commerce, and whether e-businesses need to customise localised versions of their websites for customers living in different countries.

Consequently, This study posits that perceived risk in e-commerce should be evaluated as a higher-order composite comprising seven dimensions. This could enhance the explanatory capacity of perceived risk and offer practitioners more customised interventions. The study highlights the significance of affective risk (negative emotions) as a critical component of the decision-making process. The study emphasises the important influence of cultural dimensions at the individual level in elucidating consumers' perceptions and behaviours in CBEC. These arguments were synthesised in three (3) research questions:

- (RQ1) *“Is perceived risk considered a multidimensional concept in CBEC?”*
- (RQ2) *“what is the role of affective risk in the decision-making process?”*
- (RQ3) *“How do the individual-level cultural dimensions influence consumers' risk perception and purchase intention in CBEC?”*

Based on the pragmatist idea that truth may be defined as what is effective or successful at a given moment and the study orients towards “what works” and real-world practice, the author conducted an explanatory sequential mixed-method study to address these research questions. The thesis consisted of 2 phases. The quantitative phase proposed a hypothetical model and 15 hypotheses to obtain 3 objectives:

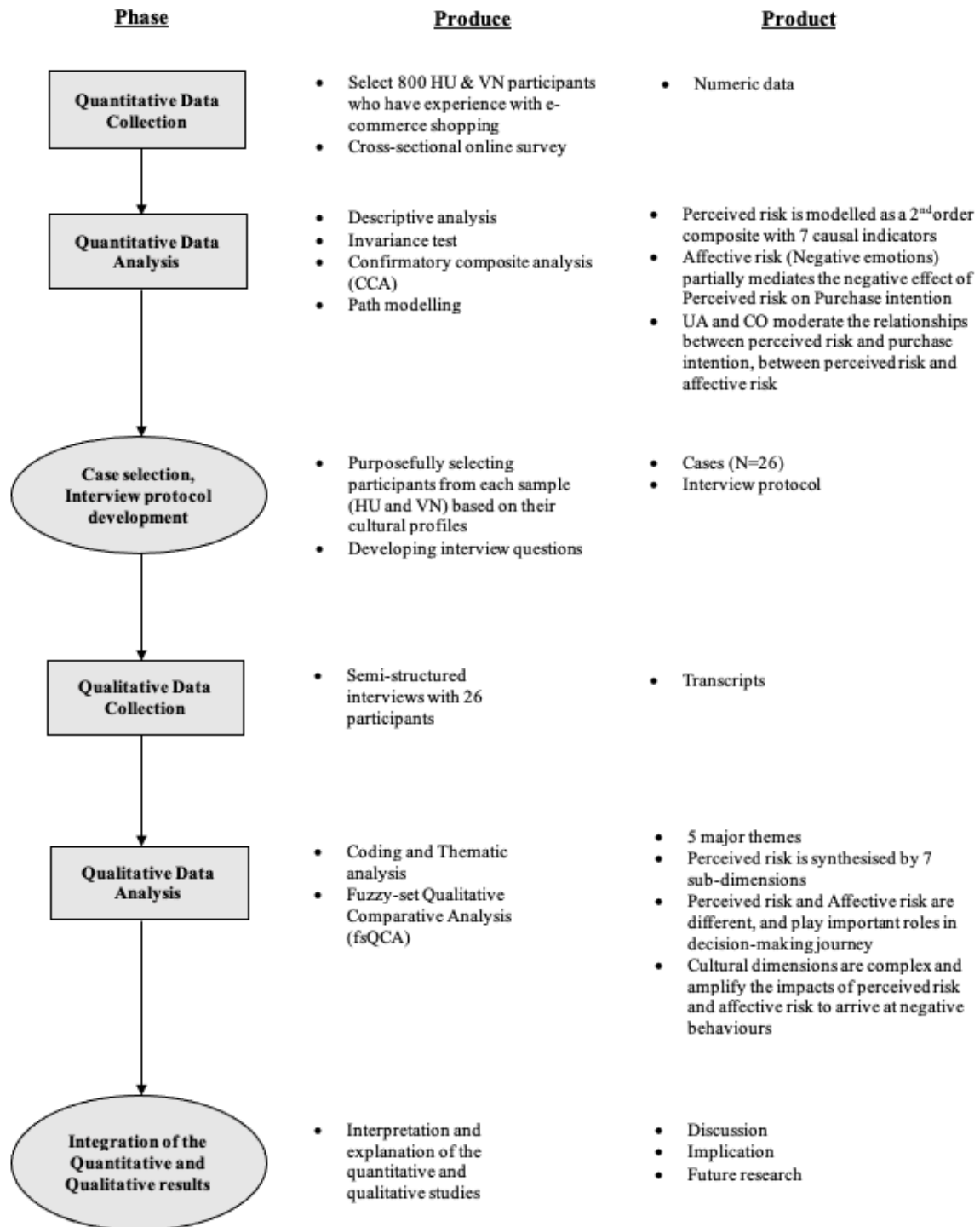
- To assess perceived risk as a higher-order composite in CBEC
- To investigate roles of affective risk towards perceived risk and purchase intention in CBEC
- To investigate moderating effects of the individual-level culture in the relationships between perceived risk, affective risk, and purchase intention in CBEC.

In phase II, qualitative study was conducted to obtain 3 objectives:

- To re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC
- To re-investigate whether perceived risk is different from affective risk, and whether perceived risk (cognitive stage) precedes affective risk (affective stage) in the decision-making journey in CBEC

- To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture.

The procedures and products of the explanatory sequential mixed-method study is concluded in Figure 25.



**Figure 25: Diagram for explanatory sequential mixed-method study adapted from Creswell and Clark (2017)**

In regard to Research Question 1 (RQ1), the study concludes that perceived risk should be assessed as a higher-order composite with multiple sub-dimensions (i.e., fraud risk, delivery risk, financial risk, product and time loss risk, product risk, privacy risk, and information risk). A conceptual framework of perceived risk and its sub-dimensions in CBEC is also identified based on the qualitative study. Research question 2 (RQ2) explores the emotional aspect of risk (affective risk) in consumers' behaviours and examines its effect on the relationship between perceived risk and purchase intention in CBEC. The results show that affective risk (characterised by immediate negative emotions such as anxiety, confusion, nervousness, shyness, uneasiness, and worry) is different from perceived risk (characterised by a logical and cognitive reaction, such as the possibility of loss). Further, affective risk partially mediates the negative correlation between perceived risk and purchase intention in CBEC. This study investigates the influence of cultural values on customer perceptions, emotional reactions, and purchase intentions within the framework of risk exposure, as specified in Research Question 3 (RQ3). These results indicate that individual-level cultural elements influence customer perceived, affective risks, and intentions to make a purchase. For instance, uncertainty avoidance and collectivism amplify the negative influence of perceived risk on purchase intention in CBEC. Further, the study emphasises that cultural dimensions do not operate in isolation. Instead, they combine and interact with each other to drive consumer behavioural intentions in CBEC. The study also concludes that cultural dimensions are also efficiently investigated at the individual level.

## **8.2. Theoretical implications**

The theoretical implications of the study were derived from the findings of the systematic review and the research agenda presented in Chapter 2. The author analysed research gaps in the area of perceived risk and purchase intention within e-commerce, proposing seven directions for future research. Three research questions were formulated and addressed through an explanatory sequential mixed-method study based on seven directions. This study contributes to the current literature on online consumer behaviour in the context of risk in several respects.

First, the systematic review revealed two theoretical gaps in the literature including (1) perceived risk theory was not focused although it is obvious from the discussion and (2) it is necessary to unpack consumer behaviour under risk in e-commerce from other perspectives. This study utilised existing theories and frameworks from multiple perspectives (e.g., the multi-dimensional theory of perceived risk, the theory of planned behaviour (TPB), the dual process theory, the hierarchy of effect (HOE) model, and the

multi-dimensional theory of culture) to fill these gaps. For instance, the multi-dimensional theory of perceived risk posits that perceived risk in consumer behaviour is not a singular construct but comprises multiple dimensions (Jacoby and Kaplan, 1972), the contribution from the research question (RQ1) validates perceived risk as a higher-order composite formulated by seven subdimensions (fraud risk, delivery risk, financial risk, product risk, process & time loss risk, privacy risk, and information risk). This result not only directly supports the multi-dimensional theory but also expands it by providing richer qualitative insights into each dimension. It also emphasises the nuanced nature of perceived risk in the e-commerce context. Notably, the qualitative findings provide an additional contextual understanding of each risk type in cross-border e-commerce. For example, financial risk is also additionally described with the terms “fluctuating exchange rate” and “taxes and duties”. Further, the study also offers a methodological solution for the multi-dimensional theory of perceived risk when highlighting that perceived risk would be efficiently measured as a higher-order composite. As mentioned earlier, the failure to consider perceived risk as a higher-order construct with multiple indicators has raised the question concerning the conceptual clarity of the perceived risk in e-commerce. Therefore, this is one of a few studies examining perceived risk as a higher-order composite with 7 dimensions. The study indicates that it is superior when modelling perceived risk as an aggregate construct with causal indicators. It is confirmed through a test of model fit.

As mentioned in the systematic review, there were limited combinations between theories and frameworks to explain consumer behaviours under risk in e-commerce. Relying on the view that one theory would not capture all aspects of behaviours by itself, this study integrated multiple theories and frameworks from marketing, psychology, neuroscience, and social culture. Accordingly, the current theoretical frameworks were expanded and improved, resulting in a more sophisticated and thorough comprehension of consumer behaviour in CBEC. As mentioned earlier, the Theory of Planned Behaviour (TPB) framework emphasises that attitudes are influenced by perceived risk, which subsequently directs behavioural intentions. The integrated dual process theory illustrates those cognitive assessments, which describe perceived risk, impact intents via deliberate thinking (risk-as-analysis), while affective reactions, which represent affective risk, are mostly influenced by instinctive, emotional processing (risk-as-feelings). This dual effect highlights the intricate nature of consumer decision-making, in which both logical evaluations and emotional responses shape intentions. Furthermore, the incorporation of the HOE model demonstrates the impact of both logical and emotional processing on cognitive and affective processes.

This paper presents a comprehensive analysis of the process by which consumers go from being aware and comprehending risks to experiencing emotional responses and finally to developing behavioural intentions (i.e., perceived risk-affective risk-purchase intention) in CBEC. Moreover, the incorporation of the multi-dimensional theory of culture emphasises the role of cultural values in shaping both logical assessments and emotional reactions to risks, therefore impacting consumer intentions. In general, this comprehensive approach combining many theoretical perspectives provides more profound understanding of the intricacies of consumer decision-making. Furthermore, it underscores the importance of using culturally customised approaches that tackle both the logical and emotional dimensions of risk assessment and decision-making in CBEC.

Second, prior research has seldom focused on the role and impact of emotional aspects, particularly negative emotions, in the decision-making process within the context of e-commerce. Kim and Lennon (2013) investigated the role of emotion, focusing specifically on positive emotions and elements of satisfaction in consumer behaviour. The results of Research Question 2 elucidate the interaction between affective risk and perceived risk in influencing consumer behaviour in Consumer-Based Electronic Commerce (CBEC). This is achieved by empirically illustrating the substantial influence of negative emotions on purchase intention, offering qualitative insights into the particular emotions implicated, and incorporating affective risk into existing theoretical frameworks. First, by quantifying the impact of affective risk, the study confirms that affective risk (negative emotions) is a consequence of perceived risk. However, it is also an independent and significant factor influencing consumer behavioural intention in CBEC. Second, the understanding of affective risk and its differences from perceived risk is expanded by illustrating how these negative emotions are linked to specific risk factors in e-commerce. The present qualitative study enhances the statistical results by providing a more intricate comprehension of the manifestation of affective risk in consumer behaviour. Moreover, the author situates the notion of affective risk within theoretical frameworks such as the dual process theory, the TPB, and the HOE models. By recognising its significance, this statement provides a theoretical basis for further investigation into the interaction between cognitive and emotional elements of risk in e-commerce. This theoretical synthesis specifically targets a deficiency in the existing body of knowledge by offering a comprehensive approach to comprehending risk in e-commerce.

Third, the literature review showed that the factor of culture was underrated and underrepresented in the literature on PR&PI in e-commerce. This is reflected in the number

of studies on cultural differences and the previous thematic analysis. This study investigates the effect of culture in terms of four dimensions: uncertainty avoidance, power distance, collectivism, and masculinity, thus addressing the previous underrepresentation in the literature. Furthermore, the study advances the understanding of how culture operates and influences consumer behaviour in CBEC. Accordingly, the findings suggest that cultural dimensions, such as uncertainty avoidance and collectivism, play a moderating function in strengthening the relationship between perceived risk and purchase intention. Consequently, the research emphasises the need of taking cultural factors into account when influencing behavioural intentions in e-commerce. The findings from the fsQCA model provide further clarity to the statistical results by demonstrating how cultural factors enhance the effects of perceived risk and affective risk on conduct. In addition, fsQCA findings also enhance the explanation of the cultural impacts, beyond what traditional quantitative methods can offer. Particularly, while qualitative results failed to confirm the impacts of other cultural dimensions (masculinity and power distance), fsQCA findings confirm that cultural dimensions do not operate in isolation but interact in complex ways to influence consumer behaviour.

One of the significant contributions is that this study emphasises the importance of evaluating culture at the individual level rather than at a national level. This contribution challenges the traditional assumption that a nation is the proxy of culture in research in international marketing. The findings indicate that individual-level cultural influences are nuanced, context-dependent, and shaped by personal experiences. It is consistent with the argument in the systematic review that culture is an experiential and memory factor, residing somewhere in the long-term memories of consumers. Hence, these cultural values have the potential to shape consumers' perceptions of circumstances, their emotional reactions, and their decision-making criteria. The results of the fsQCA study highlight the distinctive cultural environment by uncovering intricate mechanisms that influence behavioural intention and elucidating the differences in actions among consumers who share comparable cultural values. Additionally, the variance in the cultural dimension scores of the individuals across the two sample groups is insignificantly different. This implies that consumers in a country may not have the same cultural values. However, there are groups of consumers sharing the same cultural values across nations. This is significant because it confirms that individuals born and raised in every nation adapt differently to their dominant culture. As humans freely pursue their distinct interests and lifestyles, individuals are drawn to some cultural values and less to others wherever they live, notwithstanding local cultural



conventions. As a result, in international marketing research, it is fair to highlight their unique distinctions in cultural absorption. The study confirms that there are groups of risk-averse, risk-taking, individualist, and collectivist consumers in Hungary and Vietnam. As a result, the research suggests that in the rapidly evolving digital marketplace, individual-level cultural nuances are critical in understanding consumer behaviours, preferences, and purchase intentions.

Regarding the context, the systematic review showed a population gap in the current literature on perceived risk and purchase intention in e-commerce. Accordingly, comparative studies and studies focusing on the less-developed markets in e-commerce have been underrepresented. Therefore, this study highly concentrates on the Hungarian and Vietnamese e-commerce contexts. These markets are small and less-noticed. However, their growth rate is significant. Further, based on the common and different characteristics of consumer behaviours and culture, inquiring about Hungarian and Vietnamese online consumers can be a novel contribution to comparably aged research. The comparative analysis between Hungary and Vietnam also provides interesting results. Prior studies showed that culture impacts perceived risk more in Asia than in Europe (Hwang and Lee, 2012; Pratesi *et al.*, 2021). Whereas, the findings of this study show the contrary. Situated in Europe, Hungarian consumers exhibit greater influence of perceived risk and affective risk on their intentions to make purchases in cross-border e-commerce as compared to Vietnamese customers (Asians). Notwithstanding the little disparity, there exist two justifications for it. In comparison to Hungarian customers, Vietnamese consumers exhibit a lesser degree of uncertainty avoidance and individuality. Second, Vietnamese consumers are more familiar with e-commerce compared to Hungarian consumers. This is expressed in consumers' frequency of purchasing in two nations. 21% of Vietnamese consumers stated that they engaged in regular internet shopping, doing transactions many times each week. Further, while over 80% of total Hungarian consumers prefer purchasing from national e-vendors, Vietnamese consumers welcome international products and e-vendors.

Regarding the methodology, the systematic literature review recommended that qualitative research approaches, such as in-depth interviews, are necessary for this research field. These approaches enable researchers to investigate novel phenomena that impact the connection between perceived risk and purchase intention. Following this direction, the study uses existing literature on methodology to highlight the progression of analysing raw data from interview transcripts. The aim is to identify essential themes that accurately describe the phenomena being studied (i.e., Risk in cross-border e-commerce, under cultural differences).

It elucidates the process of theme analysis and constructs a conceptual framework to define a method that exemplifies rigour in qualitative research. Further, it employs a sequential approach of deductive and inductive methods and fsQCA to obtain a comprehensive and insightful analysis of interpretative data. This study may provide a basis for the application of this methodology to other research subjects and disciplines outside the realm of risk research in e-commerce. It may help ensure the use of rigorous and transparent methodologies in data analysis.

### **8.3. Practical implications**

This study holds practical significance for practitioners. Initially, utilising a multi-dimensional approach to perceived risk enables practitioners to develop various risk-reducing strategies or offer a third party a reference list to mitigate consumers' perceived risk. Implementing features that allow users to register as guests on the website may mitigate risks associated with process inefficiencies and time loss in e-commerce. Furthermore, offering the possibility of anonymous credit or debit card transactions could potentially mitigate privacy risks. Additionally, it may be beneficial in the development of associated IT tools. To finalise an online purchase, a customer is required to supply delivery, contact, and billing information, which may encompass credit card numbers and expiration dates. The process of entering this data may be arduous for a customer, particularly if the user does not possess the necessary credit card information during the transaction. The software that optimises the ordering process by retaining customer data within the retailer's systems offers advantages to consumers.

Notably, relying on the theme of “strategies” in the qualitative study, the author suggests that companies may focus on three aspects, such as website, sellers, and consumers to develop risk-mitigating strategies. For instance, developing a convenient and high-quality website is essential. Implementing a user-friendly website that includes an interactive help system and a straightforward and secure checkout process may reduce customers' sense of danger and distressing feelings. The potential of incorporating track and trace technologies, such as Real-Time Tracking and Proactive Updates, into the website is also noteworthy. Moreover, seller strategies may also be meaningful. For instance, e-retailers or platforms may offer price promotions, shipping discounts, broadening sales channels, presenting sales data, clarifying product pricing and additional charges (such as currency rate, taxes and customs, shipping cost, etc.) included in the total price also help to cultivate customers' trust and positive expectations.

The study provides valuable recommendations for cross-border e-businesses to reduce perceived risk and enhance consumers' purchase intentions in specific nations. The research identifies several dimensions of perceived risk that hinder consumers' purchase intentions in Hungary and Vietnam. These include fraud risk (the potential unreliability of sellers), delivery risk (the likelihood of delayed product receipt), financial risk (the risk of monetary loss or unexpected charges), process and time loss risk (the complexity and inconvenience faced by consumers), product risk (the failure of goods to meet expectations), privacy risk (the risk of losing control over personal information), and information risk (the possibility of asymmetric information). Consequently, it is essential for e-vendors to provide detailed information, including the registered store name, telephone number, address, email, product details, origin, return policy, and guarantee policy, to enhance the transparency of both vendors and e-commerce platforms. It enhances consumer trust in product quality.

Among Vietnamese e-consumers, the rising trend of online purchase (57.6 million out of 97 million people in 2022) has heightened worries over information and privacy issues. Statista (2022) reports that, despite the rise of other cashless payment options, 73% of online consumers in Vietnam opted for cash-on-delivery (COD) as their preferred shipping and payment method. The rationale is their desire to prevent the abuse of their bank account information. Consequently, businesses and agents must use security protocols like Secure Socket Layer (SSL) or Secure Electronic Transaction (SET) to protect consumer data. Moreover, the concern of product risk is of utmost importance for Vietnamese e-consumers, given the pressing problems of engaging in the trade of counterfeit products or violating intellectual property rights. In addition to their own website, international firms should collaborate with prominent E-commerce platforms like Tiki, Shopee, and Lazada to enhance their market penetration and positioning strategies. The use of an omni-channel approach shows great potential as it enhances the capacity to attract a larger customer base.

Hungarian e-consumers exhibit a preference for cashless payment methods. Approximately 54% of Hungarian e-shoppers have encountered situations where they either chose not to start the shopping process or abandoned it before completing their purchase due to the unavailability of a suitable payment method (Reacty Digital, 2021). Thus, considering a variety of payment methods might serve as a guide for international e-businesses operating in the Hungarian e-commerce industry. One significant factor contributing to the preference of Hungarian customers for local e-commerce over cross-border e-commerce is the promptness of delivery. According to Trademagazin (2023), almost 40% of online purchases in Hungary fail because clients cannot find a fast enough delivery alternative. Hence, it is

crucial for international merchants in the Hungarian e-commerce industry to enhance the efficacy and productivity of their logistical operations. Integrated into e-commerce websites in Hungary should be options such as the expected date of delivery and the tracking tool to enhance customer convenience.

Second, the author suggests that companies should focus not only on the influence the external factors on consumer behaviour, but also on the analysis of consumers' psychological processing and evaluation. This stage is important because consumers are also believed to form specific expectations of a product or service prior to its actual purchase. Hence, it is essential to prioritise the reduction of customers' distressing emotions, since affective risk may greatly influence consumers' decision-making processes. The research results emphasise the intermediary function of affective risk in the adverse influence of perceived risk on the intention to make a transaction in CBEC. In other words, marketers may start with mitigating strategies towards perceived risk in an attempt to manipulate and navigate consumers' feelings. For instance, as mentioned in the theme "strategies" consumers tend to actively engage in creating their strategies to minimise the risks and negative feelings associated with online shopping (e.g., "Learning and experience", "buy cheaper products", "read reviews", etc.). Therefore, endeavours such as promoting reviews and sharing, creating promotions, ensuring a great experience, and implementing robust return and refund procedures, etc., may elicit positive emotions such as security, pleasure, and enjoyment while alleviating concerns about being trapped with an unsatisfactory product. Establishing a long-term connection with internet customers and cultivating trust and good feelings is essential. Since e-commerce is inherently virtual, it is essential for firms to continuously aim to establish and sustain this connection as a key objective in their marketing efforts.

Third, turning back the debate of whether cultural differences are remarkable in current e-commerce and whether e-businesses need to customise localised versions of their e-commerce websites for customers living in different countries. The findings suggest that culture is still important for identifying consumers. However, the study also recognises the diversity within the culture. Therefore, a culture-centric marketing approach might be the background for companies to create customer-centric marketing strategies. Further, the research also found that similar market groups may exist across nations. It implies that there are similar groups of risk-averse and risk-taking consumers or collectivist and individualist consumers in both the Hungarian and Vietnamese e-commerce markets. Consequently, companies should focus on factors of individual cultural values instead of national values to

develop their e-commerce websites. Using the country as the surrogate of culture may lead to stereotypes in assessing consumer behaviours in international marketing. Therefore, the strategy of customer segmentation can rely on the cultural values that they belong to rather than their nations. It allows equivalent marketing and product management strategies in different countries to minimise operating costs and workforces. It is also called the strategy of globalisation and localisation balance. Accordingly, e-commerce businesses operating globally may strike a balance between standardised global strategies and localised adaptations that respect individual cultural differences. For instance, companies can create consumer profiles based on their cultural values. Regarding risk-averse and individualist consumers, the effect of their risk perception on purchase intention is strongest. Hence, e-retailers and e-businesses may offer customisation or charge a price premium for their online products, which offers risk-averse consumers a higher level of guarantee when making purchase transactions. For instance, options such as delivery assurance or a 110% refund guarantee can be meaningful. By contrast, risk-averse and collectivist consumers may look for the reviews or opinions of other consumers during their purchases. Therefore, creating a transparent reviewing system on the e-commerce website that allows previous buyers to provide their feedback can attract consumers and improve their trust and positive emotions. Besides risk-averse consumers, risk-taking consumer segmentation also needs to be considered. Risk-taking consumers are ready to try new things and easily accept new technologies. Hence, the significance of transparency in both the website and suppliers cannot be overlooked, as it serves as a crucial means of alerting users to potential risks that they may deal with in purchasing.

#### **8.4. Societal implications**

Several of the societal aspects that the research findings have the potential to influence include individual consumer behaviour and broader regulatory and economic outcomes. Initially, the need for enhanced consumer education is indicated by the disparity between perceived risk and affective risk in cross-border e-commerce, as well as the results of multiple dimensions of perceived risk. By understanding these risks, consumers have the potential to make more informed decisions, which may decrease the probability of negative experiences.

Second, the study also encourages corporate social responsibility (CSR). Accordingly, the study's insights into culture encourage companies to tailor their marketing strategies to enhance customer trust and increase market penetration in diverse customer segmentations. Companies that operate in the CBEC sector may be motivated to implement more

responsible practices, including safeguarding consumer data, assuring product quality, and establishing transparent and equitable policies. This not only reduces the perceived risk but also aligns with the broader societal objectives of ethical business conduct. Third, the findings underscore all the risks that consumers associate with engaging in CBEC, including fraud, financial, information, and privacy risks. Therefore, policymakers may employ this data to create more effective policies that protect consumers, such as more stringent data privacy legislation, improved fraud detection systems, and more explicit instructions on returns and refunds. Potentially, this could foster a more secure online purchasing environment and increase consumer confidence in international transactions.

### **8.5. Limitations and future research directions**

The study presents significant findings regarding consumers' risk and purchase intention in cross-border e-commerce; however, it also recognises several limitations that may inform future research endeavours.

Regarding the conceptual aspect, the study mainly focuses on the process of perception and evaluation of online consumers in cross-border e-commerce. This is an invisible process that exists within the consumer. Therefore, expanding the scope of the research to explore the mechanisms of environmental stimulus factors on the consumer's perception and evaluation process might be an interesting direction. It may provide a comprehensive assessment and an understanding of the stimulating mechanisms, evaluations, and behaviours of online consumers.

The author employed a quantitative methodology through cross-sectional surveys, providing a snapshot of consumers' perceptions, feelings, and behaviours at a specific moment. Consequently, the causality of the relationships must be examined. A longitudinal study is recommended for future research to examine changes in consumer behaviour. The quantitative study employed non-probability sampling techniques for sample collection. This method may affect the generalisability of the entire population because of the significant potential for sampling bias. Therefore, probability sampling techniques should be applied in a future study. From another perspective, an inherent methodological constraint of the research is the presence of subjectivity. Qualitative data collection, analysis, and interpretation are subjective and susceptible to the biases of the author. Additionally, it is possible that the people who chose to reach out were a highly motivated and resourceful subset. Further, the sample size of the qualitative study is too small which may impact the qualitative results. One another issue of this study is the representativeness of the cultural combinations. As mentioned earlier, the quantitative data collection covered 29 out of 32

combinations of cultural and national characteristics among participants. The qualitative data collection only covered 19 combinations. Therefore, the attempt to provide a holistic picture of cultural analysis may be influenced. Finally, the author conducted our research in Vietnam, an Asian country, and Hungary, a European country. Consequently, the sample fails to represent the entirety of the Asian and European continents. As a result, including samples from other countries can contribute to improving a comprehensive view.

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## Appendix A: Survey questionnaire

This survey was created to investigate the impact of perceived risk on consumers' purchase intention in e-commerce sites. We also examine the effects of cultural differences, consumers' emotions, on e-consumers in Vietnam and Hungary.

Questions are designed so that information can be gathered regarding individuals' perceived risk, affective risk, purchase intention, and cultural dimensions (i.e., uncertainty avoidance, masculinity, collectivism, and power distance).

It is a great honour to invite you to our survey. Please answer all questions in ALL sections. All responses will be used only for the academic purpose it is intended.

Please note:

Our survey contains three (3) major tasks. After completing 3 tasks, please click “submit” to finish your survey.

### 1. In Task 1:

You are invited to provide your demographic information and join a questionnaire to specify your cultural values. In doing so, you are required to participated in sub-section 1 and 2 in the questionnaire. Please follow our instructions for each section of the survey.

#### Sub-section 1: Demographic questions

In this section, you are invited to answer some demographic questions associated with your Age, Gender, Employment status, experience with e-commerce shopping, and monthly expenditure for online shopping.

Please select one answer corresponding to the following question.

1. What is your nationality?  
 Vietnam  
 Hungary
2. What gender do you identify as?  
(Select only one)  
 Male  
 Female
3. What age range group do you fit into from the following?  
(Select only one)  
 18-25  
 26-35  
 +36
4. Which of the following best describes your current employment status?  
 Student  
 Working
5. Have you ever bought any products or services on e-commerce websites before?  
 Yes  
 No. If No, please move to the “Submit”
6. If yes, how much do you spend on online shopping monthly?

- Less than 100 USD
- 100-500 USD
- +500 USD

**Sub-section 2: Survey questions associated with your cultural values.**

This section is to specify the cultural values that you belong to. You are invited to indicate your agreement or disagreement with each statement below.

*Please specify your answer according to a 5-point Likert-type scale anchored as 1= "strongly disagree"; 2 = "disagree"; 3="undecided"; 4= "agree"; and 5= "strongly agree"*

**1. Power distance:**

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
People in higher positions should make most decisions without consulting people in lower positions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in higher positions should not ask the opinions of people in lower positions too frequently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in higher positions should avoid social interaction with people in lower positions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in lower positions should not disagree with decisions by people in higher positions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in higher positions should not delegate important tasks to people in lower positions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Uncertainty avoidance:**

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
It is important to have instructions spelled out in detail so that I always know what I'm expected to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to closely follow instructions and procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rules and regulations are important because they inform me of what is expected of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standardized work procedures are helpful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instructions for operations are important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. Collectivism:**



How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
Individuals should sacrifice self-interest for the group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individuals should stick with the group even through difficulties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group welfare is more important than individual rewards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group success is more important than individual success.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individuals should only pursue their goals after considering the welfare of the group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group loyalty should be encouraged even if individual goals suffer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4. Masculinity:

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
It is more important for men to have a professional career than it is for women.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Men usually solve problems with logical analysis; women usually solve problems with intuition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solving difficult problems usually requires an active, forcible approach, which is typical of men	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are some jobs that a man can always do better than a woman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2. In Task 2:

We require you to imagine that you will buy a pair of shoes as a birthday gift for your partner. You are required to visit the following website: <https://knight.mysapo.net/>

After browsing the website, you will select items you want to purchase, put them in your cart and start placing the order.

#### 3. In Task 3:

After placing the order, you are required to join sub-section 3 in the questionnaire. Please follow our instructions for each section of the survey.

**Sub-section 3: Survey questions associated with perceived risk, affective risk and purchase intention**

In this section, you are invited to indicate your level of agreement or disagreement with the following statements associated with the possibilities you perceive that can happen when purchasing on the e-commerce website where you have just visited and placed your order.

*According to 5-point Likert-type scales anchored as 1= "strongly disagree"; 2 = "disagree"; 3="undecided"; 4= "agree"; and 5= "strongly agree"*

1. Fraud risk:

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
Information about the product on this website may not true	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It may be difficult to get support on this website when product fails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I may not find the place where to settle disputes on this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This website may disappear after a short time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sellers on this website may fail to keep the promise of post-services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Delivery risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
The delivered product may be lost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product may be delivered a wrong place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product may be damaged during the delivering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Financial risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
Traditional stores may offer more discounts than this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This website offers discount prices but the total cost may not lower.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online payment on this website will charge extra fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delivering to the home will charge relatively higher fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Process and Time loss risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
The process of purchasing on this website is complex and inconvenient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessing this website will take too much time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information transformation is too slow during purchasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Product risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
The quality of the product may not be accepted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product performance may not be consistent with the expectation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product may be false and the quality will be poor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is difficult to return when the product is not satisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Privacy risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
My personal address, telephone number could be misused by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My e-mail address could be misused by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The account number of my credit or debit card could be misused by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Information risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
The information about online suppliers on this website is not sufficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information about product to be purchased on this website is not sufficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Affective risk

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
I feel tense while purchasing on this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am worried when ordering on this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am afraid of finishing the order placement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel uneasy about this website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 9. Purchase intention

How much do you agree on a scale from 1-5 with the following statements?

	1	2	3	4	5
I am likely to purchase the products(s) on this website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am likely to recommend this website to my friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am likely to make another purchase from this website next time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Appendix B: The simulating website

## YOUR SHOP

HOME PAGE INTRODUCE PRODUCT NEWS CONTACT



### New product



Puma 180 PRM - Trainers  
\$135.00



Fila LUSO - Trainers  
\$145.00



Nike Sportswear DUNK NEXT NAT...  
\$225.00



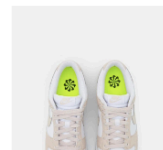
Nike Sportswear GAMMA FORCE ...  
\$210.00



### Featured products



Coupon25



See all

### Latest news



What Christmas gift should I give my new girlfriend?

Sunday, September 3, 2023 Sapo

The Christmas atmosphere is rushing around everywhere, everyone is eagerly waiting and preparing special gifts...

Continue reading



What to give for a half day of October 20? And here is the secret

Sunday, September 3, 2023 Sapo

International Women's Day is approaching, men are wondering what gift to buy to please...

Continue reading



5 meaningful 10/20 gifts that 100% women want to receive

Sunday, September 3, 2023 Sapo

Perfume Perfume has become popular in each of our lives. And although, in love people often care...

Continue reading



Calvin Klein



#### About us

- Home page
- Introduce
- Product

#### Policy

- Home page
- Introduce
- Product

#### Customer support

- Home page
- Introduce
- Product

#### Sign up for promotions

Enter your email address

Follow us

Coupon25

## YOUR SHOP

- HOME PAGE
- INTRODUCE
- PRODUCT
- NEWS
- CONTACT



Home page > All products

#### PRODUCT PORTFOLIO

- Home page
- Introduce
- Product
- News
- Contact

#### ALL PRODUCTS

Arrange: Prices go up



adidas Originals FORUM BOLD ST... \$120.00



Puma 180 PRM - Trainers \$135.00



File LUSO - Trainers \$145.00



Vans KNU SKOOL - Training shoes \$150.00 ~~\$170.00~~



adidas Originals FORUM UNISEX - ... \$150.00



Puma CAVEN 2.0 UNISEX - Trainers \$170.00 ~~\$195.00~~

first 2 >





# Puma 180 PRM - Trainers

Brand: PUMA | Status: In stock

**\$135.00**

*Description is updating*

Size

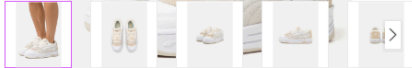
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45

Color

Quantity:

1 + - ADD TO CART



- PRODUCT DESCRIPTION
- WARRANTY POLICY

**Upper material :** Synthetic leather/textile  
**Lining :** Textile  
**Insole :** Textile  
**Sole :** Synthetic materials  
**Type of cushioning :** Cold cushioning  
**Fabric :** Synthetic leather

✔ You added [Puma 180 PRM - Trainers] to cart ✕

Your shopping cart currently has 1 products

Product information	Unit price	Quantity	into money
<div style="display: flex; align-items: center;"> <div> <p>Puma 180 PRM - Trainers</p> <p>35 / white</p> <p style="color: red; font-size: 0.8em;">Erase</p> </div> </div>	\$135.00	<span style="border: 1px solid #ccc; padding: 2px 5px;">-</span> <span style="border: 1px solid #ccc; padding: 2px 5px; margin: 0 5px;">1</span> <span style="border: 1px solid #ccc; padding: 2px 5px;">+</span>	\$135.00

**Total amount:** \$135.00

Pay

- PRODUCT DESCRIPTION
- WARRANTY POLICY


**Upper material :** Synthetic leather/textile  
**Lining :** Textile  
**Insole :** Textile  
**Sole :** Synthetic materials  
**Type of cushioning :** Cold cushioning  
**Fabric :** Synthetic leather

Customer information

[Log in](#)

Email

First name


Phone  

Address

Postal/Zip Code

Use a different billing address

Note (optional)


I'm not a robot 


Shipping method


Door-to-door delivery **\$6.00**


Pick up at the post office **\$4.00**


Payment method


VN PAY 


Zalo PAY 

Apple pay 

ALIPAY 


PYPAL 

Cash on Delivery (COD) 

Bank transfer 

[Refund policy](#) [Privacy policy](#) [Terms of service](#)

Order summary (1 products)

	<b>Puma 180 PRM - Trainers</b> 35 / white	\$135.00
---	--	----------

Discount

Subtotal	\$135.00
Shipping	\$6.00
<b>Total</b>	<b>\$141.00</b>

[Return to cart](#)



Thank you for your purchase!

A confirmation email has been sent to [thuhoa291080@gmail.com](mailto:thuhoa291080@gmail.com).  
Please check your inbox

Payment information

Hoà Thu  
[thuhoa291080@gmail.com](mailto:thuhoa291080@gmail.com)  
+84912469350

Payment method

Zalo PAY

Shipping information


Hoà Thu  
Tân Xuân, Xuân Đỉnh, Từ Liêm, Hà Nội  
+84912469350

Shipping method

Door-to-door delivery

Order summary #1003 (2)

	<b>adidas Originals FORUM BOLD STRIPES W - Trainers</b> 36 / white	\$120.00
--	---	----------

	<b>Fila RAY TRACER TR2 - Training shoes</b> 36 / Grey	\$240.00
--	--	----------

Discount	\$90.00
Subtotal	\$270.00
Shipping	\$6.00

**Total** **\$276.00**

 Print



## **Appendix C: In-depth interview questions**

1. How do you feel when experiencing this cross-border purchase on this website? If so, could you describe the specific circumstances?
2. In your opinion, what triggered these emotions?
3. In your opinion, how do your feelings impact your willingness to engage in a purchase on this website?
4. From your perspective, do you think there are strategies or interventions that cross-border e-commerce platforms could implement to alleviate negative emotions and enhance consumers' purchase intentions?
5. In your opinion, what does "perceived risk" mean in the context of cross-border e-commerce?
6. What types of risks do you associate with this e-commerce website?
7. How do you perceive the fraud risk on this website?
8. How do you perceive the delivery risk on this website?
9. How do you perceive the financial risk on this website?
10. Do you experience any issues related the process and time loss risk when experiencing this website?
11. How do you think about the product risk on this website?
12. How do you perceive the privacy risk when ordering on this website?
13. How do you perceive the risk relating to the information of the seller and products presented on this website? Are they sufficient?
14. In your opinion, how do these risks impact your willingness to purchase on this website?
15. What strategies do you employ to reduce or manage perceived risks when shopping from that website?

Construct	Affective risk	Fraud risk	Delivery risk	Financial risk	P&T risk	Product risk	Privacy risk	Information risk	PI	UA	PD	CO
<b>Affective risk</b>	<b>0.6881</b>											
Fraud risk	0.3358	<b>0.6013</b>										
Delivery risk	0.2859	0.4904	<b>0.7085</b>									
Financial risk	0.372	<b>0.6099</b>	0.5225	<b>0.6337</b>								
P&T risk	0.3012	0.5954	0.3693	0.4704	<b>0.6136</b>							
Product risk	0.3586	0.4549	0.4724	<b>0.6416</b>	0.4012	<b>0.6328</b>						
Privacy risk	0.2877	<b>0.6127</b>	0.4145	0.5237	0.5618	0.4696	<b>0.6367</b>					
Information risk								<b>0.7144</b>				
PI	0.3601	0.3935	0.3622	0.6332	0.4106	0.5661	0.5019	<b>0.7184</b>				
UA	0.525	0.5366	0.4123	0.5063	0.4349	0.4402	0.4506	0.4649	<b>0.7184</b>			
PD	0.0341	0.001	0.0053	0.0103	0.0048	0.0102	0.0035	0.0268	0.0403	<b>0.6668</b>		
CO	0.1069	0.0428	0.032	0.0491	0.0532	0.0572	0.0479	0.0487	0.1183	0.1586	<b>0.722</b>	
MA	0.0574	0.0112	0.0209	0.0297	0.026	0.0421	0.0195	0.0459	0.1342	0.2579	0.32	<b>0.6824</b>
	0.0395	0.0018	0.0053	0.0104	0.0038	0.0064	0.0144	0.0064	0.0128	0.0455	0.1876	0.1085
												<b>0.7719</b>

**Table 19: Discriminant Validity: Fornell-Larcker Criterion – Source: Author’s contribution**

Construct	Affective risk	Fraud risk	Delivery risk	Financial risk	P&T risk	Product risk	Privacy risk	Information risk	PI	UA	PD	CO	MA
Affective risk													
Fraud risk	0.5791												
Delivery risk	0.534	0.7038											
Financial risk	0.6102	0.783	0.7226										
P&T risk	0.5499	0.774	0.6079	0.6876									
Product risk	0.5986	0.6771	0.6884	0.8028	0.6353								
Privacy risk	0.5374	0.7835	0.6405	0.7241	0.7514	0.6876							
Information risk	0.6012	0.6284	0.6038	0.7994	0.6438	0.754	0.7116						
PI	0.7251	0.7328	0.6424	0.712	0.6603	0.6646	0.671	0.6839					
UA	0.1842	0.0314	0.0712	0.1016	0.0675	0.1011	0.0561	0.1628	0.1988				
PD	0.3272	0.2077	0.179	0.222	0.2305	0.2397	0.2201	0.2207	0.3421	0.399			
CO	0.2399	0.1056	0.1426	0.1708	0.1598	0.2057	0.1402	0.2149	0.3635	0.5103	0.565		
MA	0.1988	0.0424	0.0719	0.1024	0.0616	0.0802	0.1218	0.0808	0.1135	0.2144	0.4327	0.3295	

**Table 20: Discriminant Validity: Heterotrait-Monotrait Ratio of Correlations (HTMT) – Source: Author’s contribution**

**Table 21: Discriminant Validity: Heterotrait-Monotrait Ratio of Correlations (HTMT2) – Source: Author’s contribution**

Construct	Affective risk	Fraud risk	Delivery risk	Financial risk	P&T risk	Product risk	Privacy risk	Information risk	PI	UA	PD	CO	MA
<b>Affective risk</b>													
Fraud risk	0.5777												
Delivery risk	0.5317	0.7041											
<b>Financial risk</b>	0.6103	0.7832	0.7203										
P&T risk	0.5494	0.7738	0.6053	0.6878									
<b>Product risk</b>	0.5972	0.6761	0.6865	0.8033	0.6338								
Privacy risk	0.536	0.7808	0.6314	0.7218	0.749	0.6862							
<b>Information risk</b>	0.6003	0.627	0.6025	0.7997	0.6436	0.7526	0.7091						
<b>PI</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					
<b>UA</b>	0.1811	N/A	0.0605	0.0986	N/A	0.079	N/A	0.1577	N/A				
<b>PD</b>	0.327	0.2055	0.1771	0.2188	0.2286	0.2392	0.2183	0.219	N/A	0.3981			
<b>CO</b>	0.2363	0.099	0.1367	0.1601	0.1535	0.2046	0.1354	0.214	N/A	0.5079	0.5635		
<b>MA</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1098	N/A	N/A	N/A	N/A

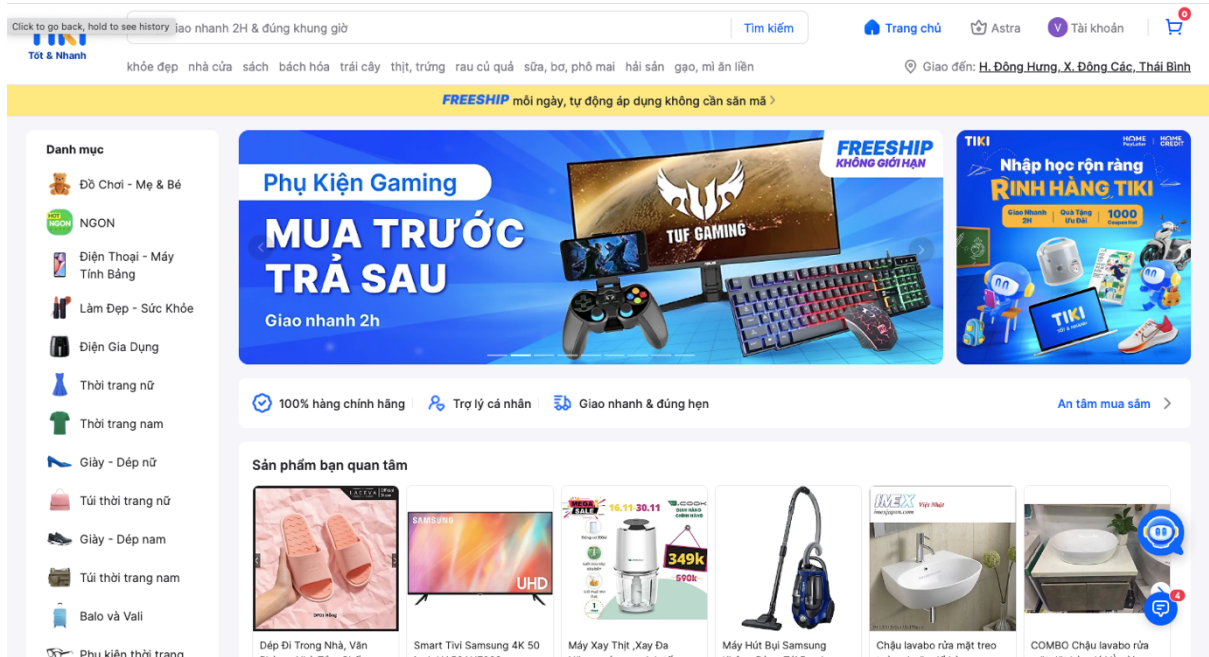
**Table 26: Higher-order construct validation (Perceived risk) – Source: Author’s contribution**

	Hungary				Vietnam				Pooled data			
	VIF	Loadings	Weights	T-statistic	VIF	Loadings	Weights	T-statistic	VIF	Loadings	Weights	T-statistic
Fraud risk Delivery risk	3.1621	0.8461	0.1862	32.8784	2.4564	0.7918	0.1861	24.4978	2.7355	0.8192	0.1634	41.3875
Financial risk	2.2255	0.781	0.1667	25.5348	1.8938	0.7397	0.1683	17.8605	2.019	0.7586	0.1545	30.0183
P&T Loss risk	3.1165	0.8493	0.1811	26.3643	2.9769	0.8381	0.1909	24.1526	3.0226	0.8432	0.1662	36.3257
Product risk	2.1099	0.7615	0.1645	24.5234	2.0749	0.7559	0.1662	18.247	2.0856	0.7592	0.172	29.6848
Privacy risk	2.4529	0.8071	0.1755	23.9278	2.4516	0.7945	0.179	20.9375	2.4124	0.7997	0.1599	31.1587
Information risk	2.5159	0.8102	0.1687	27.2711	2.2333	0.7802	0.1665	21.1144	2.3577	0.7949	0.1591	34.755
	2.1804	0.7695	0.1668	21.6736	2.2836	0.7746	0.186	20.1153	2.2242	0.7722	0.1825	29.2806

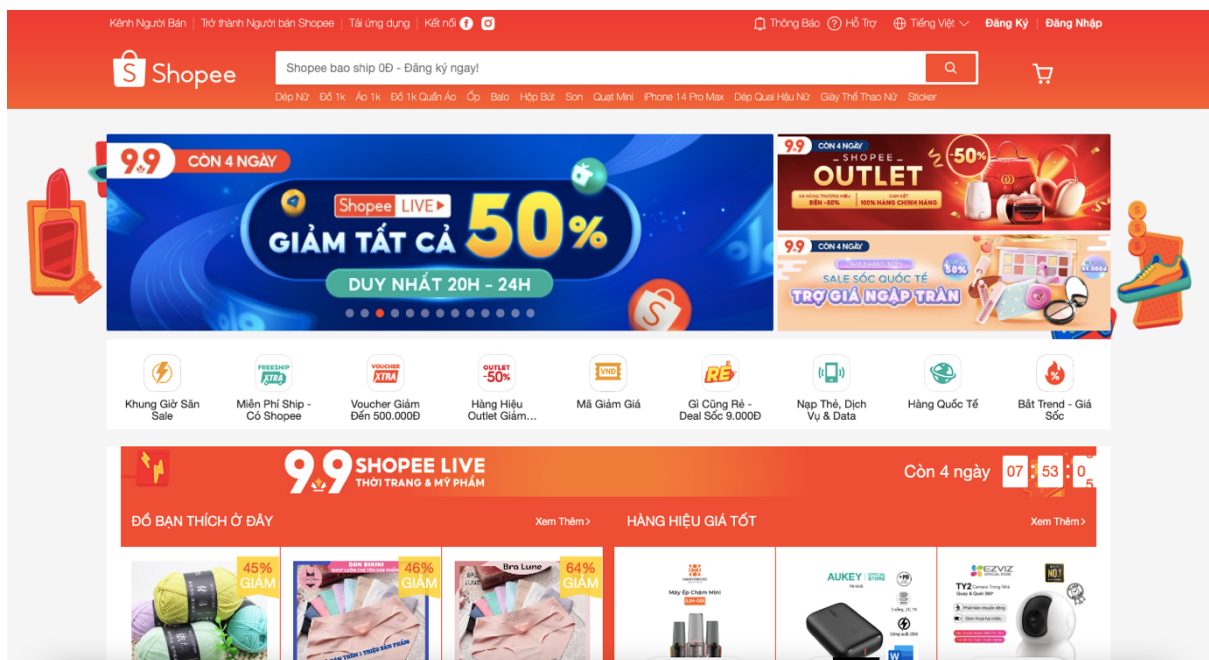
**Table 27. Direct/Indirect relationships – Source: Author’s contribution**

	Hungary			Vietnam			Pooled data		
	Direct/Indirect effect	T-value	P-value (2-sided)	Direct/Indirect effect	T-value	P-value (2-sided)	Direct/Indirect effect	T-value	P-value (2-sided)
Affective risk -> Purchase intention	-0.3629	-4.9267	0.0000	-0.3450	-6.1468	0.0000	-0.2967	-6.9000	0.0000
Perceived risk -> Affective risk	0.7168	19.4371	0.0000	0.6342	13.2628	0.0000	0.6197	17.1404	0.0000
Perceived risk -> Purchase intention	-0.5691	-7.8805	0.0000	-0.5477	-8.8696	0.0000	-0.5502	-12.9275	0.0000
Perceived risk -> Affective risk -> PI	-0.2602	-4.8439	0.0000	-0.2188	-5.271	0.0000	-0.1839	-6.3506	0.0000

# Appendix E: Home page of some e-commerce websites in Vietnam



Source: Tiki.vn



Source: shopee.vn

SAVE MORE ON APP    SELL ON LAZADA    CUSTOMER CARE    TRACK MY ORDER    LOGIN    SIGNUP    THAY ĐỔI NGÔN NGỮ

**Lazada**    Search in Lazada          **20.000đ**

Categories ▾    LazMall    Vouchers    Top Up & eCoupon    LazGlobal

**LazFlash Sale**       **GIÁ THẤP NHẤT 30 NGÀY**    **MUA NGAY**

\* Áp dụng 1 số sản phẩm

On Sale    Ends in **03** : **52** : **21**    |    20:00    00:00    12:00 Tomorrow    20:00 Tomorrow

**On Sale**

<p>Làm trắng nhanh Sữa dưỡng thể Niacinamide Kem body si...</p> <p><b>₫52,000</b> <del>₫121,800</del> <b>57%</b></p> <p><a href="#">BUY NOW</a></p>	<p>MULTIPLE PLUG DESIGN Specially designed multi-plug design, allows you to connect multiple devices.</p> <p>Ổ power plug smart 5 plugs, 2 ports USB charger, 9 universal...</p> <p><b>₫67,000</b> <del>₫142,240</del> <b>53%</b></p> <p><a href="#">BUY NOW</a></p>	<p>A HOOD SHOP</p> <p>Bộ đầu chuyển đổi máy khoan thành máy cưa điện cầm tay...</p> <p><b>₫68,130</b> <del>₫125,000</del> <b>45%</b></p> <p><a href="#">BUY NOW</a></p>	<p>Nhang trầm hương nụ đốt xông nhà tẩy uế Sơn Mộc Hương là...</p> <p><b>₫135,000</b> <del>₫500,000</del> <b>73%</b></p> <p><a href="#">BUY NOW</a></p>	<p>Doctor recommended</p> <p>100% cure in 7 days</p> <p>[Kem Xóa Sẹo] Che khuyết điểm sẹo xóa sẹo lồi mắt tình...</p> <p><b>₫62,000</b> <del>₫141,800</del> <b>56%</b></p> <p><a href="#">BUY NOW</a></p>	<p>Mọc mạnh mẽ chỉ với 1 giọt</p> <p>Tinh chất dưỡng mi Tinh chất tăng trưởng lông mày 30ML...</p> <p><b>₫68,000</b> <del>₫146,200</del> <b>53%</b></p> <p><a href="#">BUY NOW</a></p>
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Ordinary.            

Source: Lazada.vn



## Appendix F: Home page of some e-commerce websites in Hungary

**EMAG** Örült napok

Vissza a suliba

Ingyenes szállítás easyboxba\*

Phones, tablets and smart devices | Computer technology, laptops and office supplies | TV, photo and entertainment | Household appliances | Small household appliances and beauty care devices | Home and interior design | Baby-mama and toys | DIY, garden and car | Fashion, sports and leisure | Supermarket

Mobile phones | Smart watches | Tablets | Activity meters | Smart devices | External batteries | Memory cards | Phone accessories | Tablet accessories | Headphones and earphones

### Mobile phones [more >](#)

<p><b>Samsung Galaxy A23 5G Mobile Phone, Card Independent, Dual SIM, 64GB, Blue</b></p> <p>Crazy days Most popular</p> <p>★★★★★ 5 (7)</p> <p>Free shipping to Easybox</p> <p>HUF 79.990</p>	<p><b>Apple iPhone 14 Pro Mobile Phone, Card Independent, 256GB, 5G, Astro Gray</b></p> <p>Crazy days</p> <p>★★★★★ 5 (9)</p> <p>Free shipping to Easybox</p> <p>HUF 495.690</p>	<p><b>Honor X6 Mobile Phone, Card Independent, Dual SIM, 4GB RAM, 64GB, LTE, Blue</b></p> <p>Crazy days</p> <p>★★★★★ 4.67 (9)</p> <p>Free shipping to Easybox</p> <p>51.690 HUF</p>	<p><b>Huawei Nova 9 SE Mobile Phone, Card Independent, Dual SIM, 8GB RAM, 128GB, LTE, Midnight Black</b></p> <p>Crazy days</p> <p>★★★★★ 4.56 (9)</p> <p>Free shipping to Easybox</p> <p>75.890 HUF</p>	<p><b>Motorola Moto g72 Mobile Phone, Card Independent, Dual SIM, 128GB, 8GB RAM, Meteorite Gray</b></p> <p>Crazy days</p> <p>★★★★★ 5 (1)</p> <p>HUF 84.390</p>
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Source: emag.hu

Kedvezmény az új szezonra! 20-25% a kosárban található termékekre! 09.14-ig. FALL

Kapcsolat | Blog | Kedvencek (0) | Fiók létrehozása | Jelentkezz be

epico.hu

Keresés

Ingyenes visszaküldés 100 napon belül részletek megtekintése

Ingyenes kiszállítás 14 900 Ft felett, előre fizetés esetén\* részletek megtekintése

Kosár (0)

ÚJDONSÁGOK | NŐI | FÉRFI | GYERMEK | SPORTCIPŐK | KIEGÉSZÍTŐK | PRÉMIUM | TÁSKÁK | LEÉRTÉKELÉS

epico - CCC

CCC

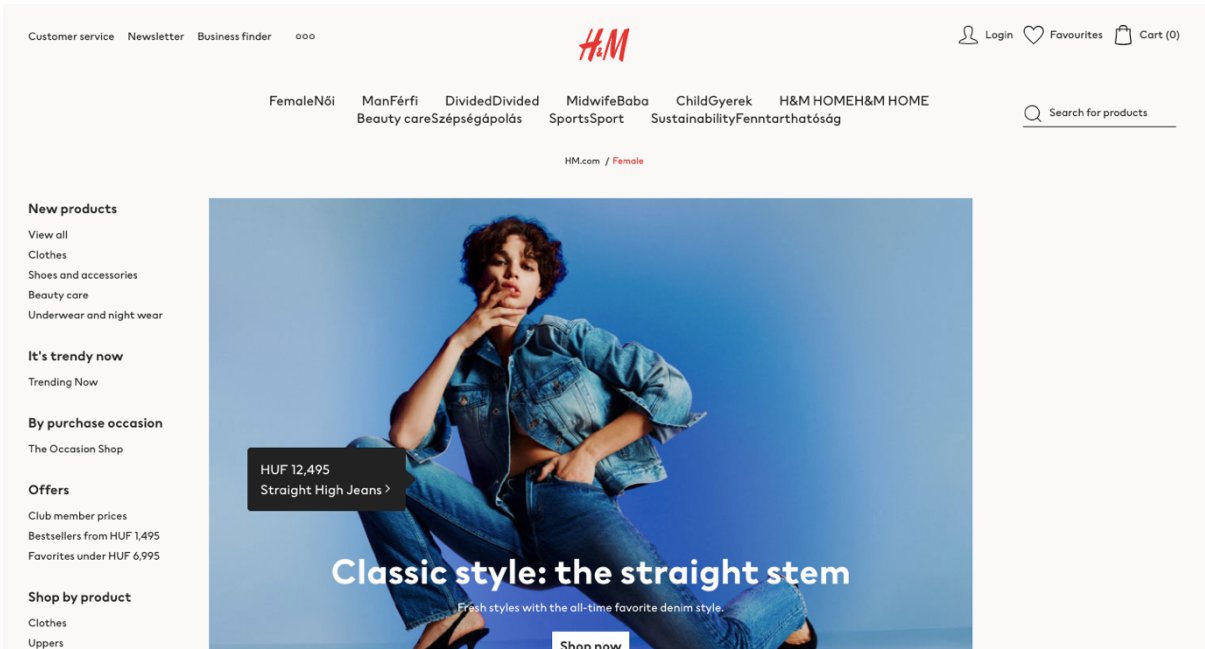
Akcio | Újdonság

Alapértelmezett rendezés

5 597 termékek

<p><b>Sergio Bardi</b></p> <p>Relaxing ESPANA-03 M107 Szabó</p>	<p><b>Sergio Bardi</b></p> <p>Relaxing PCT-R1071-07SR Szabó</p>	<p><b>Clara Barson</b></p> <p>Relaxing TRACY AK770002-06 F</p> <p>Újdonság</p>	<p><b>Sergio Bardi</b></p> <p>Relaxing PCT-R1071-07SR Szabó</p>
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Source: epico.hu



Source: hm.com.hu



Source: mediamarkt.hu