

University of Pécs
Faculty of Business and Economics
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DOCTORAL DISSERTATION SUMMARY

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

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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.

Research Aim

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. To obtain the research aim, three (3) Research Questions are formulated, including:

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?

These research questions are answered through the following Research Objectives:

1. Research objectives of the quantitative phase

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

2. Research objective of the qualitative phase

- (i) To re-examine a conceptual framework of perceived risk and its sub-dimensions in CBEC
- (ii) 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
- (iii) To explain consumers' purchase intention in CBEC that involves multiple contributing factors such as perceived risk, affective risk, and 4 dimensions of culture.

The main research areas and causal relationships in this research are presented in Figure 1.

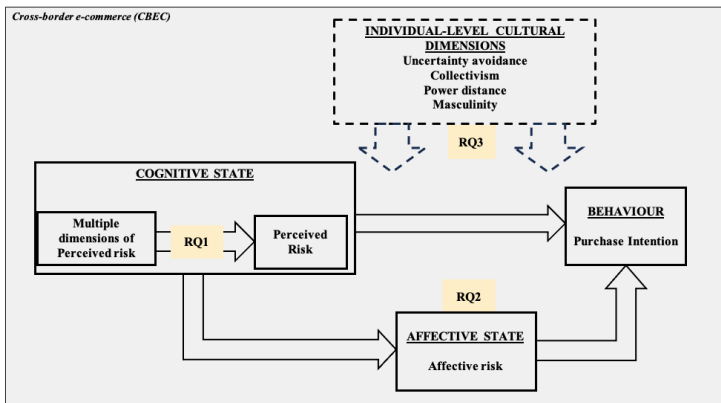


Figure 1. The conceptual model – Source: Author’s contribution

Research Methodology

Pragmatism is considered the philosophical worldview assumption for this research. The levels for developing the research are presented in Figure 2

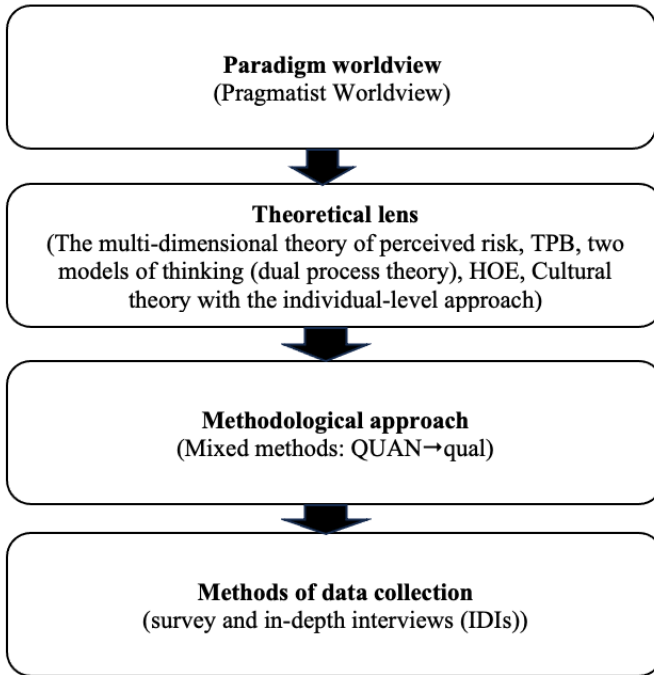


Figure 2: Four levels for developing the research study adapted from Creswell and Clark (2017)

Hungary and Vietnam have been selected as regional scope of this research due to various reasons (Table 1).

Table 1. Comparing between Hungary and Vietnam – Source:
Author’s collection

Aspect	Common feature	Different feature	
		Hungary	Vietnam
Geographic location and market	Small and less-developed market	Central European market	Southeast Asian market
E-commerce adoption	Significant expansion in recent years	Market volume of \$2.706 billion by 2023	Market volume of \$13.357 billion by 2023
Consumer behaviour	-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
Cultural characteristics		-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

Research design

A mixed method of quantitative and qualitative approach is used in this research. Accordingly, the author conducted an explanatory sequential design with quantitative and qualitative (QUAN→qual) methodologies (Figure 3)

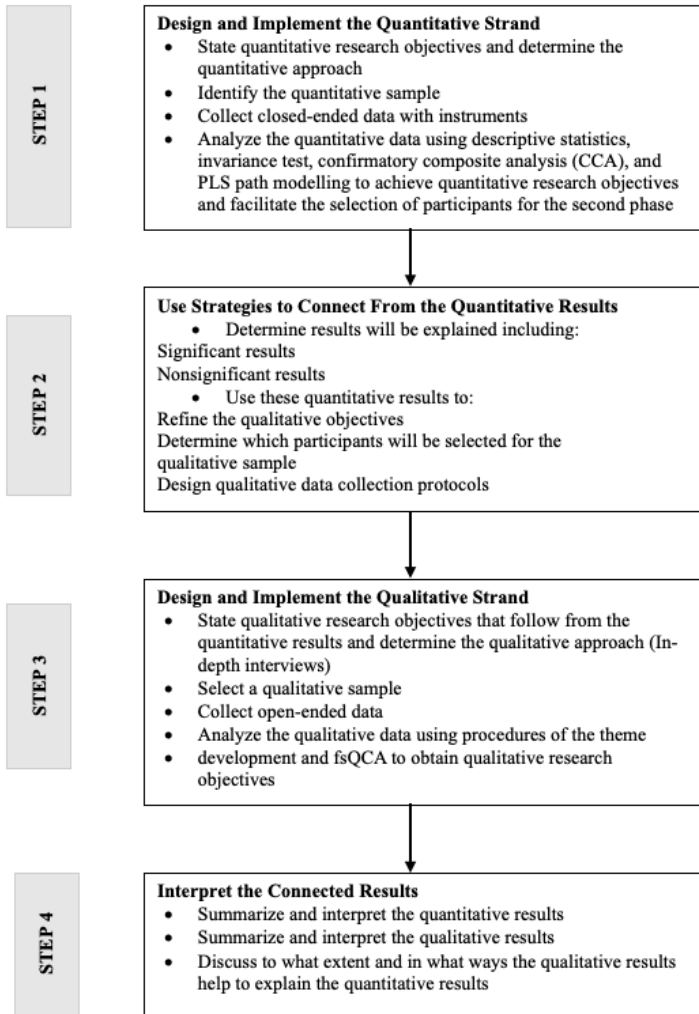


Figure 3. Flowchart of the basic procedure in implementing an explanatory sequential mixed methods design. Adapted from Creswell and Clark (2017)

- **Phase I – Quantitative study**

Three research objectives of Phase I (Quantitative study) are obtained through a set of 15 hypotheses divided into 7 groups. These are presented below:

H₁. Perceived risk is negatively related to purchase intention in e-commerce.

H₂. Perceived risk positively influences affective risk in e-commerce.

H₃. Affective risk is negatively related to purchase intention.

H_{4a}. Uncertainty Avoidance moderates the negative effect of perceived risk on purchase intention.

H_{4b}. Uncertainty Avoidance moderates the positive effect of perceived risk on affective risk.

H_{4c}. Uncertainty Avoidance moderates the negative effect of affective risk on purchase intention.

H_{5a}. Power Distance moderates the negative effect of perceived risk on purchase intention.

H_{5b}. Power Distance moderates the positive effect of perceived risk on affective risk.

H_{5c}. Power Distance moderates the negative effect of affective risk on purchase intention.

H_{6a}. Collectivism moderates the negative effect of perceived risk on purchase intention.

H_{6b}. Collectivism moderates the positive effect of perceived risk on affective risk.

H_{6c}. Collectivism moderates the negative effect of affective risk on purchase intention.

H_{7a}. Masculinity moderates the negative effect of perceived risk on purchase intention.

H_{7b}. Masculinity moderates the positive effect of perceived risk on affective risk.

H_{7c}. Masculinity moderates the negative effect of affective risk on purchase intention.

These hypotheses are presented in the research model (Figure 4)

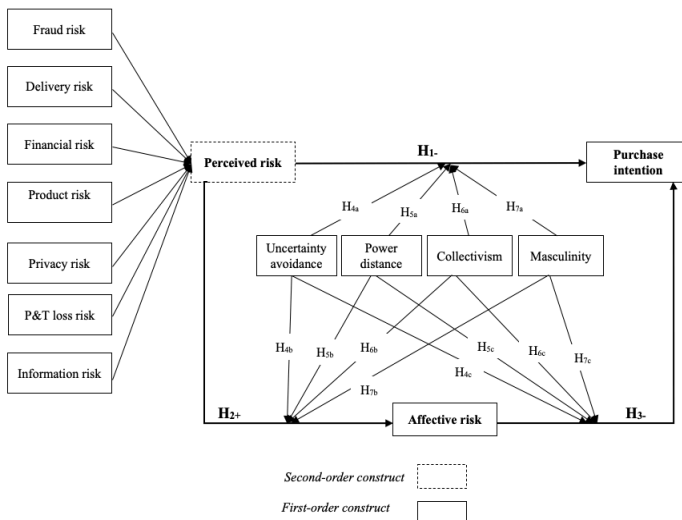


Figure 4: Hypothetical research model – Source: Author’s contribution

The author employs a cross-sectional survey to examine the associations between variables.

The survey contains three (3) major tasks.

Task 1 includes 2 sub-sections. Accordingly, in sub-section 1, the participants were required to answer questions associated with their demographic information. Sub-section 2 specifies the cultural values that the participant belongs to.

In Task 2, the participants were required to imagine that they would buy a pair of shoes as a birthday gift for their partners. They were required to visit the simulating website designed by the author. After browsing the website, the participants would select items that they wanted to purchase, put the items in their cart, and start placing the order.

In Task 3, respondents were asked to indicate their level of agreement or disagreement with items on a 5-point Likert Scale ranging from 1 “strongly disagree” to 5 “strongly agree”.

- **Phase II – Qualitative study**

Open-ended, semi-structured interviews (IDIs) are utilised in this phase. The in-depth interview includes 2 stages. Stage 1 is to invite the relevant respondents for the interview. 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.

Sampling

- **Phase I – Quantitative study**

A combination of purposive and snowball sampling techniques is adopted to collect the sample. The respondents' selection criteria were:

- (1) They must be Vietnamese or Hungarian adults.
- (2) They should have personal experience with purchases on an e-commerce website.

The primary data collection took place from June 15th, 2023, to October 1st, 2023. In all, 1926 respondents were invited to participate in the survey. Out of this, 800 valid replies were chosen for the analysis. The response rate achieved is 40%.

- **Phase II – Qualitative study**

The author conducts 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.

Data analysis method

- **Phase I – Quantitative study**

The author used composite-based structural equation modelling (SEM). To assess the invariance of samples, the

author applied the measurement invariance of composite models (MICOM). To estimate and assess the second-order composite formed by first-order reflective constructs, the author employed confirmatory composite analysis (CCA) through a three-stage approach. The moderating effect is also examined by a two-stage approach.

- **Phase II – Qualitative study**

The author applied the content-analysis technique to code themes among the experiences of participants. A sequential deductive and inductive approach was employed for coding the data. This process was conducted in NVivo. Further, 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).

Research findings

Phase I – Quantitative study

Table 2 and Figure 5 summary the result of the hypothesis testing in the Quantitative phase (Phase I)

Table 2: Results of the structural model – Source: Author’s contribution

	Hypothesis	Direct/ Indirect/ Moderating Effect	P-value (2-sided)	Supported
H1	Perceived risk is negatively related to purchase intention in e-commerce	-0.5502	0.0000	YES
H2	Perceived risk positively influences affective risk in e-commerce	0.6197	0.0000	YES
H3	Affective risk is negatively related to purchase intention	-0.2967	0.0000	YES
ME	Affective risk mediates the relationship between Perceived risk and Purchase intention	-0.1839	0.0000	YES
H4a	Uncertainty Avoidance moderates the positive effect of perceived risk on affective risk	-0.1781	0.0002	YES
H4b	Uncertainty Avoidance moderates the positive effect of perceived risk on affective risk	0.0411	0.2426	NO
H4c	Uncertainty Avoidance moderates the negative effect of affective risk on purchase intention	0.0711	0.1406	NO

H5a	Power Distance moderates the negative effect of perceived risk on purchase intention	0.0503	0.1808	NO
H5b	Power Distance moderates the positive effect of perceived risk on affective risk	-0.0239	0.4866	NO
H5c	Power Distance moderates the negative effect of affective risk on purchase intention	-0.0308	0.4316	NO
H6a	Collectivism moderates the negative effect of perceived risk on purchase intention	-0.1261	0.0083	YES
H6b	Collectivism moderates the positive effect of perceived risk on affective risk	-0.1021	0.0030	YES
H6c	Collectivism moderates the negative effect of affective risk on purchase intention	0.0749	0.1261	NO
H7a	Masculinity moderates the negative effect of perceived risk on purchase intention	-0.0577	0.1308	NO
H7b	Masculinity moderates the positive effect of perceived risk on affective risk	-0.0362	0.3293	NO
H7c	Masculinity moderates the negative effect of affective risk on purchase intention	0.0325	0.4072	NO

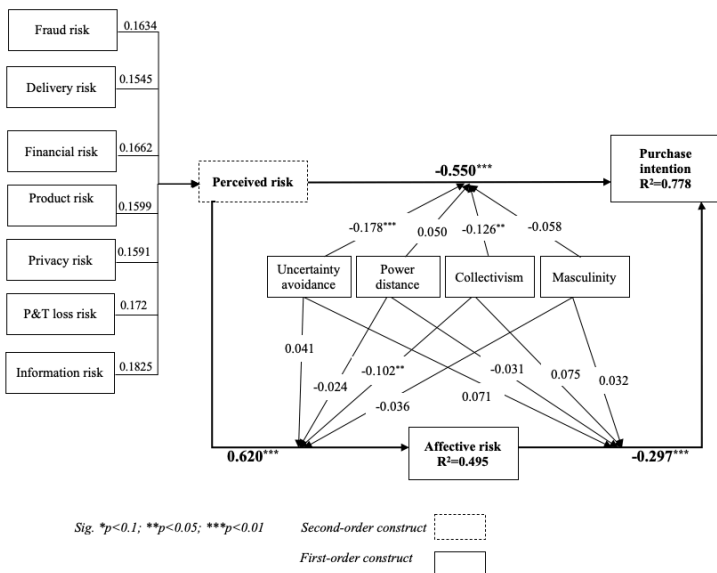


Figure 5: The research model estimation – Source: Author’s contribution

Table 3 provides a joint display for explanatory sequential mixed-method design. The author synthesises the research findings of quantitative and qualitative studies.

Table 3: 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?	<p>Construct validation</p> <p>$w_{fraud\ risk} = 0.163$</p> <p>$w_{delivery\ risk} = 0.154$</p> <p>$w_{financial\ risk} = 0.166$</p> <p>$w_{P\&T\ risk} = 0.172$</p> <p>$w_{product\ risk} = 0.159$</p> <p>$w_{privacy\ risk} = 0.159$</p> <p>$w_{information\ risk} = 0.182$</p> <p>$\rho_{APR} = 0.9477$</p> <p>Model fit:</p> <p>SRMR=0.03</p> <p>dULS=0.6741</p> <p>dG=0.3105</p>	<p>Exemplar quote:</p> <p>“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)</p> <p>Descriptive analysis:</p> <ul style="list-style-type: none"> - 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. - Financial risk: “higher price”, “unclear price”, fluctuating exchange rate” and “taxes and duties” - Privacy risk: “misuse”, “data sole without permission”, “data stolen”, 	<p>integrating quantitative and qualitative data provides robust evidence that perceived risk in CBEC is a multidimensional concept, composed of seven key subdimensions</p>

- Product risk: low quality, “no guarantee”, “counterfeit products”, and “Sizing and Fit”
- Process & time loss risk: complicated process”, “time-consuming”, “unfamiliar design”,
- Information risk: “insufficient information”, “fake information” and “unreliable information”.

<p>RQ2: what is the role of affective risk making process?</p>	<ul style="list-style-type: none"> - Perceived risk negatively impacts purchase intention Perceived risk=>Purchase intention ($\beta=-0.5502^{***}$) - Affective risk negatively impacts purchase intention Affective risk=>Purchase intention ($\beta=-0.2967^{***}$) 	<p>Exemplar quote:</p> <ul style="list-style-type: none"> - Perceived risk is conceived by several terms, such as “the possibility of these negative experiences” – (P1), “The potential negative outcomes” – (P10). - Affective risk (negative emotions) is described with terms, such as “confused”, "nervous", "worried", "anxiety", "scared", "uneasy", etc. - “Mainly my anxious feelings come from my concerns about product 	<p>The critical mediating function in the decision-making voyage in CBEC is played by affective risk. Although perceived risk has a direct impact on purchase intentions, it also induces negative emotions (affective risk), which further discourage consumers from making purchases.</p>
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	<p>- Affective risk mediates the relationship between perceived risk and purchase intention Perceived risk=>Affective risk=>Purchase intention ($\beta=-0.1839^{***}$)</p>	<p>quality... delivery time... shipping fees... import taxes... fraud risks... language barriers... return procedures... security information..." – (P10)</p> <p>- "...Of course, emotions will influence my purchasing decisions. If I'm worried, it will be difficult for me to buy with confidence..." – (P11).</p> <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)</p>	
<p>RQ3: How do the individual-level cultural dimensions influence consumers' risk perception and</p>	<p>- Uncertainty avoidance moderate the relationship between perceived risk and purchase intention</p>	<p>fsQCA results:</p> <p>- 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</p>	<p>- Individual-level cultural dimensions, particularly uncertainty avoidance and collectivism, significantly influence</p>

purchase intention in CBEC?	<p>Perceived risk * Uncertainty avoidance => Purchase intention ($\beta=-0.178^{***}$)</p> <ul style="list-style-type: none"> - Collectivism moderates the relationship between perceived risk and purchase intention 	<p>consumers in CBEC (raw consistency= 94.5%)</p> <ul style="list-style-type: none"> - 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%) 	<p>the relationship between perceived risk and purchase intention in CBEC. These cultural values amplify consumers' perceived risk and affective risk, leading to unwillingness to purchase.</p>
	<p>Perceived risk * Collectivism => Purchase intention ($\beta=-0.126^{**}$)</p> <ul style="list-style-type: none"> - Collectivism moderates the relationship between perceived risk and affective risk 	<ul style="list-style-type: none"> - 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%) 	<ul style="list-style-type: none"> - Qualitative results significantly expand the quantitative findings by identifying complex and multifactorial pathways that lead to behavioural intentions in CBEC.
	<p>Perceived risk * Collectivism => Affective risk ($\beta=-0.102^{**}$)</p>	<ul style="list-style-type: none"> - Solution consistency = 0.828 - Solution coverage = 0.716 	

The procedures and products of the explanatory sequential mixed-method study is concluded in Figure 6

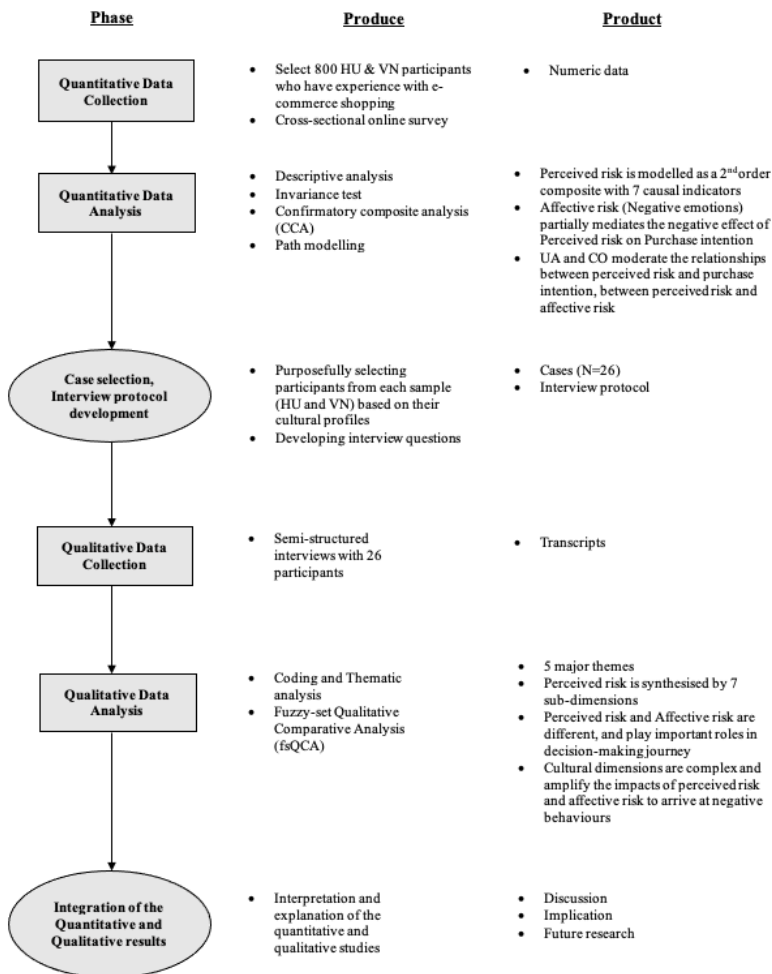


Figure 6: Diagram for explanatory sequential mixed-method study adapted from Creswell and Clark (2017)

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