



ASSESSING THE IMPACT OF TOURISM RISKS ON TOURISTS' INTENTION TO RETURN TO CAN THO CITY, VIETNAM

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Abstract:

This study analyzed primary data collected from interviews with 125 domestic tourists to evaluate the impacts of tourism-related risks on tourists' intention to return (return intention) to Can Tho City, Vietnam. Based on the findings, the study proposed solutions to mitigate and manage these risks. The analysis revealed that tourism activities in Can Tho City were influenced by five groups of risk factors: safety risks, service-related risks, human-related risks, cultural-social risks, and environmental risks. In addition, the study carried practical significance for policy-making in sustainable tourism development in Can Tho. As a result, greater investment and attention from stakeholders involved in tourism were needed to promptly prevent, respond to, and adapt to potential risks. The proposed solutions were expected to contribute positively as a long-term strategy, aiming to build a safe, friendly, and sustainable tourism environment. This, in turn, could strengthen the foundation for local development and enhance the destination's competitiveness both regionally and internationally.

Keywords: tourism risks, tourist behavior, return intention, Can Tho City, sustainable tourism development

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1. Introduction

Tourism in Vietnam has been recognized as one of the three key economic sectors prioritized by the government, playing a significant role in contributing to the national economy. With the rapid pace of economic development and improvement in living standards, tourism has increasingly affirmed its important position in people's lives and its contribution to both local and international economic growth.

However, the tourism industry had also faced intense competition from various fronts—not only in maintaining sustainable development but also in delivering unique experiences that could attract and retain tourists. Among the key destinations, Can Tho City stood out as the most developed and dynamic center in the Mekong Delta region. It possessed a wide range of tourism potentials, from cultural and culinary offerings to scenic riverine landscapes. Nonetheless, these local characteristics also gave rise to specific risks such as climate change, saltwater intrusion, land subsidence, and water pollution. Furthermore, tourism activities in Can Tho were increasingly exposed to multidimensional risks—including socio-cultural, policy-related, infrastructural, and psychological factors—that could negatively affect tourist experiences, safety, and particularly their intention to return.

In accordance with the 2017 Law on Tourism (Article 7), the principle of sustainable tourism development emphasized the protection of national defense, security, public order, social safety, and the environment, aiming to minimize risks impacting both tourists and the tourism sector at large. Additionally, the Politburo's Resolution No. 08-NQ/TW dated January 16, 2017, identified tourism as a spearhead economic sector and called for improvements in service quality and the safety of tourists.

Academic literature has addressed tourism risk from various perspectives. Reisinger and Mavondo (2005) were pioneers in developing a theoretical model classifying tourism risk into groups such as financial, health, safety, social, and psychological risks. Rittichainuwat and Chakraborty (2009) examined how risks related to terrorism, natural disasters, and disease in Thailand significantly influenced international tourists' psychological perceptions and destination choices. Similarly, Garg (2015), through a study involving tourists from Malaysia, India, China, Indonesia, Australia, and France, found that peace, safety, and political stability were the primary concerns when choosing a travel destination. Karl *et al.* (2020) further emphasized the influence of risks such as natural hazards, health concerns, terrorism, crime, and political instability on tourist behavior during various stages of the decision-making process.

In Vietnam, several studies have explored the role of perceived risk in shaping tourist satisfaction and behavioral intentions. For instance, research conducted in Lam Dong highlighted the impact of risks related to personal safety, health, environmental factors, and service quality (Bang, 2020). The findings indicated that high perceived risk reduced satisfaction and significantly lowered the intention to revisit the destination. The author recommended better risk management, enhanced service quality, and improved communication about destination safety to rebuild tourist trust.

In the context of Can Tho City, Van *et al.* (2024) explored the influence of perceived risks on domestic tourists' intention to return during the post-COVID-19 "new normal." Four key risk groups were identified: time risk, activity risk, financial risk, and physical risk. The study revealed that post-pandemic cautiousness and heightened safety concerns significantly influenced destination choice. In addition, Vien *et al.* (2024) examined the indirect effect of perceived risk on tourists' word-of-mouth behavior in Nha Trang, Vietnam, mediated by destination image and satisfaction. Results showed that high perceived risks, especially regarding safety, health, and service quality, led to a more negative perception of the destination, reduced satisfaction, and decreased likelihood of sharing positive experiences.

Despite existing contributions, the literature revealed that tourism risk—particularly its impact on emerging destinations—had not been extensively studied. In response, this research was undertaken to assess the types and levels of tourism-related risks in Can Tho City. The goal was to identify critical risk factors and provide practical recommendations to help prevent, mitigate, and manage risks, thereby enhancing the overall tourist experience and promoting sustainable tourism development in the region.

2. Literature Review

2.1 Theoretical Foundations of Tourism Risk

In Vietnamese, the term "risk" is often described as "*something unfortunate or unfavorable that happens unexpectedly*" or "*an unlucky event*." According to English dictionaries, risk is "*the possibility of encountering danger, pain, or damage*," and generally refers to uncertainty that leads to loss or harm, associated with danger, difficulty, or unpredictability.

Frank Knight defined risk as "*measurable uncertainty*", while Allan Willett stated that "*risk is the uncertainty related to the occurrence of unexpected events*." Irving Pfeffer described it as "*a collection of random events that can be measured using probability*," and "a value or outcome that is currently unknown." C. Arthur Williams, Jr., and Michael L. Smith, in their book *Risk Management and Insurance*, wrote: "*Risk is the potential variation in outcomes. Risk can arise in nearly all human activities. When risk exists, exact outcomes cannot be predicted, and its presence introduces uncertainty. Risk emerges whenever an action leads to the possibility of gain or loss in an unpredictable manner*." Fuchs and Reichel (2011) argued that tourism risk was a combination of the uncertainty of negative events and the extent of damage such events may cause tourists. In Vietnam, Nguyen Van Dinh and Nguyen Dinh Tho (2015) defined tourism risk as uncertain situations that may negatively influence tourists' decision-making processes. George (2017) defined tourism risk as the threat of adverse events affecting a traveler's health, potential negative consequences during travel, or risks of misfortune, threat, loss, or lack of safety during the trip or at the destination. Also, Stenyushkina (2019) identified tourism risk as a set of risk sources, including natural phenomena or processes, negative conditions, or human-induced factors that could harm tourism entities.

2.2 The Impact of Tourism Risk on Tourists' Revisit Intention

Oliver (1980, 1999) researched and measured customer satisfaction in various ways, emphasizing that satisfaction is a personal perception formed when a person's needs, expectations, and goals are met in a pleasant and enjoyable way. Similarly, Kotler (2009) defined satisfaction as the fulfillment of customer expectations and desires through service delivery.

The positive relationship between service quality and satisfaction was supported by earlier researchers such as Gronholdt *et al.* (2000), who argued that higher service quality leads to increased tourist satisfaction. Experiences that meet tourists' needs not only determine satisfaction but also serve as a predictor of future revisit intentions. According to Martensen *et al.* (2000), components of service quality play an important role in overall tourist satisfaction. Revisit intention has been defined in various ways, including repeat purchasing behavior due to pricing, cost changes, or service quality. Common indicators include word-of-mouth and repeat visit intention, with word-of-mouth often growing stronger over time. Repeat behavior is considered a key driver of stability and future growth for tourism destinations and organizations (Gallarza *et al.*, 2016).

Canny and Hidayat (2012) concluded that high service quality components lead to more frequent and positive revisit behavior, establishing service quality and satisfaction as among the most widely studied relationships in tourism. In addition, Solomon Lartey (2024) found that specific types of risk significantly affect tourist satisfaction and revisit intention, including natural disasters, climate change, health and safety risks (e.g., food safety, traffic accidents, infectious disease outbreaks), political instability, and terrorism. As such, perceived risk plays a direct role in influencing tourist behavior.

2.3 Theoretical Foundations of Tourism Risk Management

According to Faulkner (2001) and Beirman (2003), risk and crisis management in tourism has become an integral part of destination management strategies, especially amid rising threats such as natural disasters, epidemics, and political upheaval. Risk management was defined as the process of identifying, evaluating, and controlling threats to decisions related to capital, income, and investment (Chi & Sÿ, 2023).

The vulnerabilities exposed by recent crises—including natural disasters, economic instability, and public health emergencies such as the COVID-19 pandemic—highlighted the urgent need for effective risk management strategies to strengthen resilience and support recovery in tourism destinations (Yang & Kim, 2023; Gaki & Koufodontis, 2022). A systematic review of crisis management frameworks in tourism revealed various models proposed to help stakeholders navigate periods of disruption (Casal-Ribeiro *et al.*, 2023).

According to ISO 31000, risk management is a structured, scientific approach to identifying, controlling, preventing, and reducing the negative impacts and losses associated with risk. The risk management process includes several phases:

- Risk identification through analysis of potential sources,
- Risk assessment, estimating the likelihood and impact of those risks,
- Action planning to address and mitigate risks, monitoring and control, ensuring management plans remain relevant and effective (McNeil *et al.*, 2005).

Dao & Minh (2018), in their research "Enterprise Risk Management Model According to International Practices", also introduced a comprehensive six-step model: establishing context, identifying risks, assessing risks, responding to risks, implementing control activities, and monitoring and reporting. They emphasized that building an effective enterprise risk management system was essential and urgent for Vietnamese organizations to achieve sustainable development in an increasingly volatile business environment.

3. Research Methodology

3.1 Research Questions

This study aimed to explore the relationship between perceived tourism-related risks and tourists' intention to return to Can Tho City, Vietnam. Specifically, it addressed the following research questions:

- 1) How do different types of tourism-related risks affect tourists' intention to return to Can Tho City, Vietnam?
- 2) Which specific risk factors most significantly influence domestic tourists' return intentions in Can Tho City?

3.2 Research Objectives

To address the above research questions, the study set out the following research objectives:

- 1) To evaluate the impact of tourism-related risks on domestic tourists' intention to return to Can Tho City.
- 2) To propose practical solutions for mitigating tourism risks and promoting sustainable tourism development in Can Tho.

3.3 Secondary Data Collection Method

Secondary data were collected across districts within Can Tho City. Other relevant information was gathered from the city's statistical yearbooks between 2020 and 2024. After collecting the necessary data, the researcher analyzed it to evaluate both the tourism resources as development potential and the embedded risks. The analysis also provided insights into current tourism activities and risk conditions in Can Tho City during the 2020–2024 period, serving as a basis for proposing risk mitigation and management solutions to foster sustainable tourism development.

3.4 Primary Data Collection and Analysis Method

Primary data were collected through questionnaire surveys, targeting domestic tourists and local residents who had visited at least one tourist site in Can Tho City. The process included the following steps:

Step 1: Designing the questionnaire based on identified risk factors influencing revisit intention in Can Tho.

Step 2: Conducting a pilot survey to refine the questionnaire.

Step 3: Distributing the final version via direct survey and online platforms, including local tourism forums. A total of 125 valid responses were collected.

Step 4: After collecting sufficient samples, the data were processed using SPSS 20 software. Analytical methods included:

- Frequency and descriptive statistics,
- Reliability testing (Cronbach's Alpha),
- Exploratory Factor Analysis (EFA),
- Multiple linear regression analysis.

These methods allowed the researcher to evaluate the impact levels of various tourism risks in Can Tho City and draw practical implications for local tourism development.

3.4.1 Proposed Research Model

Figure 3.1: Proposed research model of factors affecting tourism risks for tourists in Can Tho City



Source: Author's reference and proposal, 2025.

4. Findings and Discussion

4.1 Findings of the Research Sample

Table 4.1: Demographic Survey Results (n = 125)

Demographics	Sample Size	Percentage (%)
Gender		
Male	59	47.2%
Female	66	52.8%
Age		
Under 18	22	17.6%
18 – 28	64	51.2%

29 – 39	28	22.4%
40 – 50	11	8.8%
Over 50	0	0%
Education Level		
Below High School	0	0%
High School Graduate	24	19.2%
Vocational/College	16	12.8%
University Degree	65	52.0%
Postgraduate	20	16.0%
Occupation		
Student	47	37.6%
Government Officer	31	24.8%
Tourism Sector	18	14.4%
Office Worker	18	14.4%
Other	11	8.8%
Monthly Income		
Under 5 million VND	45	36.0%
5 – under 11 million VND	23	18.4%
11 – under 15 million VND	24	19.2%
15 – under 20 million VND	19	15.2%
Over 20 million VND	14	11.2%

Source: Author's data analysis, 2025

From Table 4.1, for Analysis of Demographic Data, it can be seen that:

4.1.1.1 Gender

Male respondents accounted for 47.2%, while females made up 52.8%. Although there is a slight gender imbalance, the distribution still reflects the perspectives of both genders adequately and objectively. This helps ensure that the opinions and evaluations of tourists are represented in a balanced manner, contributing to the overall accuracy of the research.

4.1.1.2 Age

The respondents' ages were distributed across various groups, with the highest proportion belonging to the 18–28 age group—64 individuals, accounting for 51.2%. This indicates that young adults are particularly interested in and engaged with tourism activities.

4.1.1.3 Education Level

Educational backgrounds varied, ranging from below high school to postgraduate levels. The majority of respondents held a university degree—65 out of 125 people (52%), followed by high school graduates with 24 individuals (19.2%). These results suggest that the respondents—including both residents and tourists visiting tourist destinations in Can Tho City—tend to have relatively high levels of education. This reflects a trend among knowledgeable individuals who are interested in exploring and understanding more about eco-tourism products.

4.1.1.4 Occupation

Occupational backgrounds were diverse and categorized into four main groups. Specifically, the research sample included 47 students (37.6%), highlighting the strong interest among young people in tourism. This was followed by government officials, individuals working in the tourism sector, office workers, and others. This occupational distribution demonstrates that tourism appeals to a broad audience—from students to professionals in various fields—suggesting that the demand for tourism is widespread and not limited by occupation.

4.1.1.5 Income

Respondents with a monthly income of under 5 million VND made up the largest group, with 45 individuals (36%). The next largest group earned between 11 million and under 15 million VND, accounting for 19.2% (24 people). This indicates that the majority of respondents fall into middle-income brackets, reflecting a relatively common spending capacity for tourism services and daily living expenses. While high-income earners were present in the sample, they did not form the dominant group. This could influence the type and level of spending on tourism and everyday activities.

4.2 Analysis of the Impact of Tourism Risks on Tourists' Intention to Revisit Can Tho City

4.2.1 Reliability of the Measurement Scale

To ensure the reliability of the measurement scale and the observed variables, a scale reliability assessment method was applied to eliminate unreliable observed variables. A scale is considered reliable when the Cronbach's Alpha coefficient is ≥ 0.6 (Nunnally, 1978; Peterson, 1994; Slate, 1995; as cited in Le Van Huy & Truong Tran Tram Anh, 2012). An observed variable is considered reliable if the corrected item-total correlation coefficient is ≥ 0.3 (Nunnally & Bernstein, 1994; as cited in Nguyen Dinh Tho, 2011).

Table 4.2: Reliability Evaluation of Measurement Scales (n = 125)

No.	Scale	Representative Observed Variables	Corrected Item-Total Correlation (Range)	Cronbach's Alpha
1	Safety Risk	RRAT1	0.725	0.864
		RRAT2	0.730	
		RRAT3	0.757	
		RRAT4	0.671	
		RRAT5	0.552	
2	Service Risk	RRDV1	0.688	0.797
		RRDV2	0.696	
		RRDV3	0.588	
		RRDV4	0.675	
		RRDV5	0.277	
3	Human Risk	RRCN1	0.583	0.844
		RRCN2	0.782	
		RRCN3	0.630	
		RRCN4	0.707	

		RRCN5	0.557	
4	Socio-Cultural Risk	RRVHXH1	0.667	0.822
		RRVHXH2	0.759	
		RRVHXH3	0.718	
		RRVHXH4	0.709	
		RRVHXH5	0.263	
5	Environmental Risk	RRMT1	0.738	0.819
		RRMT2	0.667	
		RRMT3	0.694	
		RRMT4	0.746	
		RRMT5	0.243	

Source: Author's data analysis, 2025.

From Table 4.2, for Scale Reliability and Suitability for Exploratory Factor Analysis (EFA), it was shown that after evaluating the reliability of the measurement scales, the results showed:

- The Safety Risk scale had a Cronbach's Alpha of 0.864, and all observed variables had corrected item-total correlations greater than 0.3, indicating good internal consistency.
- The Service Risk scale had a Cronbach's Alpha of 0.797; however, item RRDV5 had a corrected item-total correlation less than 0.3, suggesting it may reduce the reliability of the scale.
- The Human Risk scale recorded a Cronbach's Alpha of 0.844, with all items meeting the reliability threshold (corrected item-total correlation ≥ 0.3).
- The Socio-Cultural Risk scale had a Cronbach's Alpha of 0.822, but item RRVHXH5 had a corrected item-total correlation below 0.3.
- The Environmental Risk scale had a Cronbach's Alpha of 0.819, with item RRMT5 also showing a corrected item-total correlation less than 0.3.

Based on these results, items RRDV5, RRVH5, and RRMT5 should be considered for removal before proceeding with Exploratory Factor Analysis (EFA) to ensure scale validity and reliability.

4.2.1.1 KMO and Bartlett's Test Criteria for EFA Suitability

Before conducting EFA, the following criteria are used to assess data suitability. According to Kaiser (1974) (as cited in Nguyen Dinh Tho, 2011):

- $KMO \geq 0.9$: Excellent,
- $KMO \geq 0.8$: Good,
- $KMO \geq 0.7$: Acceptable,
- $KMO \geq 0.6$: Mediocre,
- $KMO \geq 0.5$: Poor,
- $KMO < 0.5$: Unacceptable.

According to Hoang Trong and Chu Nguyen Mong Ngoc (2008), Bartlett's Test of Sphericity should have a significance value (Sig.) < 0.05 to be considered statistically

significant. If Sig. > 0.05, EFA should not be applied due to a lack of sufficient correlation between variables.

Table 4.3: KMO and Bartlett's Test Results (n = 125)

KMO and Bartlett's Test	
Kaiser-Meyer-Olkin (KMO)	0.900
Bartlett's Test of Sphericity	
Approx. Chi-Square	1890.175
Degrees of Freedom (df)	231
Significance (Sig.)	0.000

Source: Author's data analysis, 2025.

From Table 4.3, as for Exploratory Factor Analysis (EFA), it was shown that in the Exploratory Factor Analysis (EFA), the Principal Components extraction method and Varimax rotation (orthogonal rotation) were used. According to Le Van Huy & Truong Tran Tram Anh (2012), only factors with an Eigenvalue ≥ 1 are considered significant and should be retained.

Based on the rotated component matrix, all observed variables demonstrated clear and strong loadings on their respective factors. No variable had a factor loading below 0.5, indicating that the variables were appropriately selected and are meaningful for measuring the research constructs.

To ensure the practical significance of the EFA results, variables with factor loadings that do not meet the threshold for significance should be removed. According to Hair *et al.* (1998) (as cited by Khanh Duy, 2007), factor loading thresholds are defined as follows:

- $0.3 < \text{loading} \leq 0.4$: minimum level,
- $0.4 < \text{loading} \leq 0.5$: considered important,
- $\text{loading} > 0.5$: practically significant.

Hair *et al.* (1998) further recommend that:

- For sample sizes around 350, a loading of > 0.3 is acceptable,
- For samples of 100 respondents, a loading of > 0.55 is advised,
- For samples of 50 respondents, a loading of > 0.75 is required.

Given that the sample size in this study is 125 respondents, the threshold for retaining variables was set at factor loadings > 0.5 . Variables not meeting this criterion were eliminated.

As a result, the final EFA revealed five distinct factors representing different types of tourism risks affecting tourists' intention to revisit Can Tho City:

- Factor 1: Influenced by 5 observed variables — labeled "Safety Risk",
- Factor 2: Influenced by 4 observed variables — labeled "Service Risk",
- Factor 3: Influenced by 4 observed variables — labeled "Human Risk",
- Factor 4: Influenced by 4 observed variables — labeled "Socio-Cultural Risk",
- Factor 5: Influenced by 4 observed variables — labeled "Environmental Risk".

Table 4.4: Rotated Component Matrix (n = 125)

Observed Variable	Factor 1 (Safety Risk)	Factor 2 (Service Risk)	Factor 3 (Human Risk)	Factor 4 (Socio-Cultural Risk)	Factor 5 (Environmental Risk)
RRAT3	0.839				
RRAT4	0.735				
RRAT1	0.720				
RRAT5	0.692				
RRAT2	0.632				
RRDV2		0.767			
RRDV4		0.736			
RRDV3		0.704			
RRDV1		0.617			
RRCN5			0.797		
RRCN1			0.693		
RRCN2			0.636		
RRCN4			0.524		
RRVHXH2				0.814	
RRVHXH3				0.872	
RRVHXH1				0.771	
RRVHXH4				0.765	
RRMT4					0.820
RRMT1					0.759
RRMT3					0.682
RRMT2					0.614

Source: Author's data analysis, 2025.

In Table 4.4 for Factor Score Equations and Interpretation, to calculate the factor score for each observation, the following factor score equation is used (according to Hoang Trong and Chu Nguyen Mong Ngoc, 2008):

$$F_i = W_{i1}X_1 + W_{i2}X_2 + W_{i3}X_3 + \dots + W_{ik}X_k \quad F_i = W_{\{i1\}}X_{_1} + W_{\{i2\}}X_{_2} + W_{\{i3\}}X_{_3} + \dots + W_{\{ik\}}X_{_k}$$

Where:

F_i : estimated score of factor i ,

W_i : factor weight,

X_k : observed variable,

k : number of variables in each factor.

A. Factor 1: Safety Risk

$$F_1 = 0.411 \times RRAT3 + 0.343 \times RRAT1 + 0.332 \times RRAT4 + 0.257 \times RRAT5 + 0.218 \times RRAT2 \\ = 0.411 \times RRAT3 + 0.343 \times RRAT1 + 0.332 \times RRAT4 + 0.257 \times RRAT5$$

$$+ 0.218 \times \text{RRAT2F1} = 0.411 \times \text{RRAT3} + 0.343 \times \text{RRAT1} + 0.332 \times \text{RRAT4} + 0.257 \times \text{RRAT5} + 0.218 \times \text{RRAT2}$$

This factor is influenced by 5 observed variables:

- RRAT3: Natural disasters causing danger,
- RRAT1: Unsafe roads or traffic accidents,
- RRAT4: Epidemics or unsafe food affecting health,
- RRAT5: Deteriorated infrastructure posing accident risks,
- RRAT2: Personal security concerns at the destination.

Among these, RRAT3, RRAT1, and RRAT4 have the strongest impact on tourist perceptions of safety due to their higher factor weights.

B. Factor 2: Service Risk

$$\text{F2} = 0.315 \times \text{RRDV2} + 0.300 \times \text{RRDV3} + 0.290 \times \text{RRDV4} + 0.165 \times \text{RRDV1F}_2 = 0.315 \times \text{RRDV2} + 0.300 \times \text{RRDV3} + 0.290 \times \text{RRDV4} + 0.165 \times \text{RRDV1}$$

This factor consists of:

- RRDV2: Unreliable transportation services,
- RRDV3: Poor attitude or unprofessional service staff,
- RRDV4: Lack of adequate public services,
- RRDV1: Poor quality accommodation.

RRDV2, RRDV3, and RRDV4 contribute most to this factor, highlighting major concerns related to tourism service facilities.

C. Factor 3: Human Risk

$$\text{F3} = 0.199 \times \text{RRCN5} + 0.163 \times \text{RRCN4} + 0.156 \times \text{RRCN1} + 0.110 \times \text{RRCN2F}_3 = 0.199 \times \text{RRCN5} + 0.163 \times \text{RRCN4} + 0.156 \times \text{RRCN1} + 0.110 \times \text{RRCN2}$$

This factor is influenced by:

- RRCN5: Disruptive behavior from other tourists,
- RRCN4: Harassment or threats from strangers,
- RRCN1: Language barriers between tourists and locals,
- RRCN2: Overcrowding at tourist sites.

These elements reflect interpersonal and social risks during the tourism experience, which can significantly impact tourists' intention to revisit.

D. Factor 4: Socio-Cultural Risk

$$\text{F4} = 0.230 \times \text{RRVHXH3} + 0.198 \times \text{RRVHXH1} + 0.193 \times \text{RRVHXH2} + 0.186 \times \text{RRVHXH4F}_4 = 0.230 \times \text{RRVHXH3} + 0.198 \times \text{RRVHXH1} + 0.193 \times \text{RRVHXH2} + 0.186$$

$$\text{F4} = 0.230 \times \text{RRVHXH3} + 0.198 \times \text{RRVHXH1} + 0.193 \times \text{RRVHXH2} + 0.186 \times \text{RRVHXH4}$$

This factor includes:

- RRVHXH3: Communication difficulties due to cultural differences,
- RRVHXH1: Differences in lifestyle and customs between tourists and locals,
- RRVHXH2: Fear of offending local customs or beliefs,
- RRVHXH4: Feeling disconnected from the local social environment.

Here, RRVHXH3 contributes the most, reflecting cultural challenges that may hinder tourists from fully enjoying their visit or connecting with the destination.

E. Factor 5: Environmental Risk

$$\text{F5} = 0.478 \times \text{RRMT4} + 0.390 \times \text{RRMT1} + 0.339 \times \text{RRMT3} + 0.244 \times \text{RRMT2}$$

$$\text{F5} = 0.478 \times \text{RRMT4} + 0.390 \times \text{RRMT1} + 0.339 \times \text{RRMT3} + 0.244 \times \text{RRMT2}$$

This factor comprises:

- RRMT4: Degradation of natural landscapes,
- RRMT1: Environmental pollution reduces the quality of experience,
- RRMT3: Natural disasters (floods, droughts) affecting safety and comfort,
- RRMT2: Climate change and unpredictable weather patterns,
- RRMT4 and RRMT1 are the most influential, showing that environmental conditions have a significant effect on the tourist experience and revisit intentions.

Table 4.5: Factor Score Matrix (n=125)

Observed Variable	Factor 1 (Safety Risk)	Factor 2 (Service Risk)	Factor 3 (Human Risk)	Factor 4 (Cultural-Social Risk)	Factor 5 (Environmental Risk)
RRAT3	0.411				
RRAT1	0.343				
RRAT4	0.332				
RRAT5	0.257				
RRAT2	0.218				
RRDV2		0.315			
RRDV3		0.300			
RRDV4		0.290			
RRDV1		0.165			
RRCN5			0.199		
RRCN4			0.163		
RRCN1			0.156		
RRCN2			0.110		
RRVHXH3				0.230	
RRVHXH1				0.198	
RRVHXH2				0.193	
RRVHXH4				0.186	

RRMT4					0.478
RRMT1					0.390
RRMT3					0.339
RRMT2					0.244

Source: Data analysis results by the author, 2025.

Table 4.5 presents the factor score coefficients for each observed variable across the five identified tourism risk factors affecting tourists' intention to revisit Can Tho City.

- **Factor 1: Safety Risk** includes five variables related to natural disasters, traffic accidents, diseases, deteriorating infrastructure, and personal security issues. The highest contributing variables are natural disasters (RRAT3), traffic accidents (RRAT1), and diseases (RRAT4), reflecting their strong impact on tourists' safety perceptions.
- **Factor 2: Service Risk** consists of four variables concerning transportation reliability, staff professionalism, adequacy of public services, and accommodation quality. Transportation service reliability (RRDV2), unprofessional staff (RRDV3), and insufficient public services (RRDV4) have the strongest influence within this factor.
- **Factor 3: Human Risk** is shaped by variables related to disturbances caused by other tourists, harassment, language barriers, and overcrowding. The variable reflecting disturbances from other tourists (RRCN5) is the most significant in this group.
- **Factor 4: Cultural-Social Risk** comprises variables addressing cultural differences, fear of offending local customs, and social integration challenges. Differences in cultural norms and lifestyles (RRVHXH3) have the greatest impact on tourists' social risk perceptions.
- **Factor 5: Environmental Risk** includes factors such as environmental pollution, natural landscape degradation, and extreme weather events. The degradation of natural landscapes (RRMT4) and environmental pollution (RRMT1) have the strongest influence on tourists' environmental risk perceptions.

These factor scores help quantify the weight of each observed variable within its respective factor, enabling a nuanced understanding of the key risks influencing tourists' decision-making about returning to Can Tho City.

4.4.2 Exploratory Factor Analysis of the Dependent Variable

The same steps as those used for the exploratory factor analysis (EFA) of the independent variables were applied. The author included the observed variables ĐGC1, ĐGC2, ĐGC3, and ĐGC4 from the dependent variable group to run the EFA, yielding the following results: the KMO coefficient = 0.734 (> 0.5), and Sig. = 0.000 (< 0.05). In other words, the factor analysis for the dependent variable is appropriate.

Table 4.6: KMO and Bartlett's Test for the Dependent Variable (n = 125)

Test	Result
KMO Coefficient	0.740
Bartlett's Test	
– Approx. Chi-Square	224.728
– Degrees of Freedom (Df)	6
– Significance (Sig.)	0.000

Source: Data analysis results by the author, 2025.

Table 4.6 shows the results of the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity conducted on the observed variables of the dependent factor.

The KMO coefficient is 0.740, which is above the minimum acceptable threshold of 0.5. This indicates that the sample size and data are adequate and suitable for factor analysis.

The Bartlett's test of sphericity yielded a Chi-Square value of 224.728 with 6 degrees of freedom, and a significance level (Sig.) of 0.000, which is less than 0.05. This means the correlation matrix is significantly different from an identity matrix, confirming that the variables are correlated enough for factor analysis. Together, these results confirm that performing exploratory factor analysis (EFA) on the dependent variables is appropriate and reliable.

In Table 4.7 below, the results indicate that the initial Eigenvalue is 2.515, which is greater than 1. Additionally, the extracted variance percentage is 62.871%, exceeding the 50% threshold. Therefore, it can be concluded that the factor explains 62.871% of the variance in the research data.

Table 4.7: Total Variance Explained for the Dependent Variable (n=125)

Factor	Initial Eigenvalue	% of Variance	Cumulative %	Extracted Eigenvalue	% of Variance	Cumulative %
DGC1	2.515	62.871%	62.871%	2.515	62.871%	62.871%
DGC2	0.960	24.007%	86.878%			
DGC3	0.321	8.020%	94.898%			
DGC4	0.204	5.102%	100.000%			

Source: Data analysis results by the author, 2025.

The results of the Exploratory Factor Analysis (EFA) indicate that the Kaiser-Meyer-Olkin (KMO) measure is 0.740, which falls within the range of 0.7 to 0.8, suggesting a good level of data suitability for factor analysis (Kaiser, 1974). Additionally, Bartlett's Test of Sphericity yielded a significance value of 0.000, less than the 0.05 threshold, confirming that the observed variables are sufficiently correlated to proceed with EFA.

The analysis extracted five factors from 23 observed variables, with a total variance explained of 62.871%, surpassing the 50% benchmark. This indicates that the identified factors account for a substantial portion of the variability in the dataset, ensuring an adequate explanatory value for the research scale.

Furthermore, all observed variables exhibited factor loadings greater than 0.5, meeting the convergence validity requirement. Each variable had its highest loading on a specific factor and lower loadings on others, ensuring discriminant validity.

Through reliability testing and EFA, the study has preliminarily identified the components constituting tourism risks perceived by visitors in Can Tho City. Cronbach's Alpha tests indicate that all scales demonstrate high reliability, with observed variables showing good internal consistency within each factor group. This confirms that the measurement scales are appropriate for the research context in Can Tho City, effectively capturing the various aspects of tourism risks as perceived by tourists.

These identified factors align with the theoretical model developed and referenced from previous studies. They reflect the multifaceted nature of tourism risks perceived by visitors in Can Tho City, mirroring the unique characteristics and current state of tourism in the region. The factor structure is consistent with theories and prior research, such as those by Fuchs & Reichel (2006) and Roehl & Fesenmaier (1992), while also highlighting specific local attributes. Notably, the factors related to service risks and human-related risks are significantly evaluated by tourists, indicating that while Can Tho City's tourism services have considerable potential, there are notable limitations, particularly concerning safety levels and cultural-social factors.

4.3. Proposed Solutions to Mitigate and Manage Tourism Risks in Can Tho City

4.3.1 Control and Enhance the Quality of Tourism Services

Strengthen regular inspections of service quality, food safety standards at certified restaurants, food stalls, and specialty shops within tourist areas; ensure road and waterway safety at tourism sites.

Establish high standards for licensing tourism establishments to ensure safety and build tourists' confidence. Implement regulations on passenger limits, mandatory life jackets for water transport, and ensure operators possess valid certifications and professional skills.

Invest in improving accommodation, dining, and transportation services. Enhance food quality and diversify menus by incorporating specialties from neighboring regions, promoting local cuisine, and attracting tourists without requiring extensive travel.

Develop 3-star or higher-rated accommodations to meet tourists' needs and create unique products representative of Can Tho City.

4.3.2 Raise Awareness and Protect Cultural Identity in Tourism

Promote cultural tourism education for both tourists and the local community through codes of conduct, guidelines, and media campaigns about local customs, beliefs, and cultural identities.

Integrate tourism development with the preservation of indigenous culture by supporting traditional crafts, folk festivals, and local artisans, avoiding excessive commercialization that could pose risks to cultural heritage.

Enhance individual awareness through measures such as establishing standards for behaviors impacting cultural and social issues, conducting regular security checks at

tourist sites, addressing unethical practices like overcharging, and creating feedback channels for tourists via hotlines or mobile apps. Organize cultural exchange activities to help tourists understand and respect local identities.

4.3.3 Attract and Train Professional Tourism Workforce

Conduct labor market studies to determine the current quantity and quality of the workforce, enabling recruitment and placement of qualified personnel in suitable positions to leverage existing strengths and further develop tourism as a key economic sector.

Develop attractive policies for workers, focusing on competitive salaries, benefits, and ensuring a safe and comfortable working environment.

Can Tho City should enhance specialized training programs in professional skills, emergency response, and communication for the tourism workforce. Additionally, increase foreign language instruction, risk management training, and technology application to better serve both domestic and international tourists.

4.3.4 Apply Smart Technology in Risk Management

Promote the use of smart technology in tourism risk management. This approach not only improves monitoring and early warning effectiveness but also contributes to building an image of a safe, friendly, and modern destination.

Develop a smart tourism application integrating risk information to automatically receive weather forecasts from reliable sources; provide disaster alerts to all devices with the app from official government sources; manage, modify, update, and approve detailed personal information of rapid response team members; track team members and the community on Vietnam's map using GPS; activate team members via email, SMS, or the app; facilitate rapid assessment during disasters and alerts by receiving and automatically compiling information through reports, documents, and videos by level, sending them to the tourism rescue team.

Implement a risk warning and response system by installing IoT sensors in areas with high risks of landslides, flooding, and fires (e.g., Ninh Kieu Wharf, riverside eco-tourism areas, orchard tourist sites). Collected data will be analyzed in real-time to promptly detect risks and send notifications to authorities and tourists via mobile apps or public electronic boards.

4.3.5 Enhancing Preparedness and Response to Environmental Disasters and Natural Hazards

Strengthening management capacity is an essential initial measure to mitigate risks, impacts, and damages, ensuring the stability of livelihoods. Therefore, it is necessary to enhance the effectiveness of disaster risk management mechanisms and intensify plans based on government resolutions.

What's more, international cooperation in disaster management is crucial for learning and sharing experiences related to climate change adaptation, sustainable development, sustainable water resource use, coordinating with people's committees'

legal frameworks, building disaster risk management strategies, and developing disaster risk databases, including international funding sources. Specifically, implementing environmental initiatives, enhancing urban connectivity, increasing filtration capacity, storing, and relieving pressure on underground drainage systems, as well as improving water and air quality in surrounding areas, are essential.

Moreover, participation from the political system in disaster risk management is necessary. In the face of risks such as flooding, local authorities and relevant sectors should mobilize efforts to minimize risks to affected individuals. For instance, the People's Committees should coordinate with related sectors and direct media agencies, such as television, radio, and newspapers, to inform the public about potential flooding periods and forecasted inundation points in Can Tho City.

4.5 Discussion

The exploratory factor analysis (EFA) conducted in this study demonstrates a robust framework for understanding tourism risks in Can Tho City. The Kaiser-Meyer-Olkin (KMO) measure of 0.740 indicates a good fit for factor analysis, while Bartlett's Test of Sphericity ($p < 0.05$) confirms the suitability of the data for EFA. The analysis extracted five factors from 23 observed variables, explaining 62.87% of the total variance, surpassing the 50% threshold commonly accepted in social sciences research.

These factors align with the theoretical model and reflect the multifaceted nature of tourism risks perceived by visitors in Can Tho. Notably, the factors related to service quality and human-related risks were rated significantly, highlighting areas that require attention to enhance tourist satisfaction and safety. The study's findings are consistent with existing literature, such as Fuchs & Reichel (2006) and Roehl & Fesenmaier (1992), who identified similar dimensions of tourism risk. However, the emphasis on service and human factors in Can Tho underscores the city's unique context, where cultural and safety concerns are paramount.

In conclusion, the EFA provides a validated tool for assessing tourism risks in Can Tho, offering valuable insights for stakeholders to develop targeted strategies to mitigate these risks and improve the overall tourism experience.

5. Conclusion

The study highlights that both the unique natural and cultural potentials of Can Tho contribute to various tourism risks that significantly impact tourists' experiences, satisfaction, and their intention to revisit the city. The research identifies five key risk factors: safety, service quality, human factors, cultural-social aspects, and environmental concerns. All these factors have a positive and statistically significant influence on tourists' perceptions and behaviors in Can Tho's tourism activities.

Furthermore, the study provides practical insights for formulating policies aimed at sustainable tourism development in Can Tho. It enhances the understanding of the concept and structure of tourism risks, especially within the context of Vietnam, where cultural, human, and regional characteristics play a crucial role. The findings underscore

the importance of creating a safe, friendly, and sustainable tourism environment, which not only lays the foundation for local development but also elevates the destination's status and competitiveness both regionally and internationally.

Acknowledgements

The successful completion of this study would not have been possible without the valuable support and contributions of many individuals and institutions. First and foremost, the authors would like to express their sincere gratitude to the teaching staff of the Department of History–Geography–Tourism (DoHGT), School of Political Sciences-Social Sciences and Humanities (SSSH), Can Tho University (CTU), for their guidance and academic support throughout the research process. The authors also extend their heartfelt thanks to the 125 domestic tourists who generously shared their insights, which were vital for evaluating the impacts of tourism-related risks on tourists' intention to return to Can Tho City, Vietnam. Special thanks go to Ms. Thai Phan Bao Han, English lecturer, for their proofreading and valuable contributions to improving the language and clarity of this article. Finally, the authors express their deep appreciation to the European Journal of Social Sciences Studies for the opportunity to publish this paper. This publication helps bring greater visibility to research on tourism-related risks and return intentions, particularly in the context of Can Tho City and the broader Mekong Delta region of southern Vietnam.

Conflict of Interest Statement

Both authors strongly agreed on the publication of this paper, and there was no contention or rivalry during the finishing of the work. In other words, the authors declare no conflicts of interest in this article. Both authors are fully and equally responsible for the benefits and harms after this article is published. The authors, moreover, declare that the material presented by us in this paper is our original work and does not contain any materials taken from other copyrighted sources. Wherever such materials have been included, they have been clearly indented or/and identified by quotation marks, and due and proper acknowledgements have been given by citing the source at appropriate places.

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