

ADVENTURE TOURISM RISK, ENVIRONMENTAL IMAGE, AND REVISIT INTENTION: AN EMPIRICAL STUDY OF UNDERWATER CAVE DIVING TOURISM IN BUTON ISLAND, INDONESIA

Abstract

 **Sudirman Zaid**, (*Corresponding Author*),
Halu Oleo University
Department of Management
Bumi Tridharma Campus
Kendari, Indonesia
Phone: +62 81243601315
E-mail: sudirmanzaid@gmail.com

 **Sarini Yusuf Abadi**, Lecturer
Fisheries and Marine Faculty
Halu Oleo University
Bumi Tridharma Campus
Kendari, Indonesia
E-mail: sarini_yusuf@ymail.com
Phone: +62 85397397075

 **Murdjani Kamaluddin**, Professor,
Department Management
Halu Oleo University
Bumi Tridharma Campus
Kendari, Indonesia
E-mail: mmurdjanik@gmail.com
Phone: +62 82187 422911

Purpose - Most previous research on tourism analysis, focuses more on recreational tourism. This study aims to analyze risk perception by using adventure tourism risk, that is; equipment, physical, psychological, social, and financial risks, and their effects on environmental image and revisit intention.

Design - This study adopts the perceptions of tourists who used the services of three dive operators from January to March 2022: Rock n Roll Diver, Sulawesi Dive Trek, and Wasage Divers.

Methodology - The research data was collected from 98 respondents, namely tourists who did cave diving tours in Buton Island, Indonesia.

Approach - The hypothesis test is conducted using the Partial Least Squared (PLS) approach, and this test structurally accounts for both direct and indirect effects.

Findings - The results of the study provide information that adventure risk, include; risk of equipment, physical, psychological, social and financial affects environmental image and revisit intention, either directly or indirectly. Environmental image affects revisit intention and environmental image have a mediating effect adventure risk to revisit intention.

Originality of the research - This study tries to build a causal relationship between adventure tourism risk, and destination image, especially environmental image and its effect on revisit intention in underwater cave diving tourism in Buton Island, Indonesia.. Originality of the research is equipment, physical, psychological, social, and financial risks, and their effects on environmental image and revisit intention that to be focused on underwater cave diving tourism.

Keywords: Adventure tourism risk; Environmental image; Revisit intention; Underwater cave diving

Original scientific paper

Received 28 April 2022

Revised: 9 September 2022

20 September 2022

31 October 2022

Accepted: 9 November 2022

<https://doi.org/10.20867/thm.29.1.2>

INTRODUCTION

Adventure tourism is currently one of the tourist activities that gets a lot of attention from tourists because in addition to offering recreational aspects, it also offers experiences and challenges (Dumitras et al, 2021), so that adventure tourism is often defined by incorporating elements of risk and uncertainty (Carvache-Franco et al. al., 2022a). One of the adventure tourism activities is underwater tourism which offers marine e-based-activities adventure (Albayrak et al., 2021).

Underwater tourism allows tourists to enjoy a very beautiful underwater panorama. This type of tourism requires certain skills and equipment called scuba diving. Scuba diving tourism is classified as one of the adventure tours (Carvache-Franco et al., 2022a) which requires tourists to have some special requirements. Diving as adventure tourism is usually in a tour package with several other adventure tourism (Carvache-Franco et al., 2022b). Many tourists prefer to dive first and then do other adventure tourism such as; paragliding, water skiing, canopy (Carvache-Franco et al., 2022b). This indicates that diving tourism has a high attractiveness for tourists and has its own market segment.

Along with its development, currently scuba diving tourism is starting to develop into several types, including cave diving tourism (Tufekci & Aygun, 2021). This type of tourism is classified as adventure tourism which offers a panoramic view of the natural beauty in the underwater cave. The underwater cave has a very beautiful panorama that comes from cave ornaments and some unique marine species that live in the underwater cave. Cave diving as adventure tourism has a higher risk of tourism than recreational diving, so special preparation is needed to minimize the possible risks that can occur (Lee & Tseng, 2015; Lee et al., 2015).

Risks in cave diving tourism are generally classified as adventure tourism risk perception, which consists risk of equipment, physical, psychological, social, and financial (Hasan et al., 2017; Pandey & Rogerson, 2021). Adventure tourism risk perception will play a role in building the destination image (Liang & Xue, 2021; Chew & Jahari, 2014; Carballo et al., 2021) especially the environmental image of the destination (Lee & Xue, 2020). If tourists get a good experience when doing cave diving in a destination, then the environmental image will be higher, and vice versa. For this reason, adventure tourism risk perception plays a very important role in building a positive environmental image in a cave diving tourist spot. In addition, risk perception can also play a role in increasing revisit intention behavior for tourists (Carballo et al., 2021; Satyarini et al., 2020; Çetinsöz & Ege, 2013). If tourists feel a good risk perception, it will have an impact on increasing the destination image which in turn will have an impact on increasing the revisiting intention of tourists.

This study tries to build a causal relationship between risk perception, especially adventure tourism risk, and destination image, especially environmental image and its effect on revisit intention in underwater cave diving tourism at Buton Island, Indonesia. The results of this study are expected to be useful for decision making in the development of underwater cave diving tourism in Buton Island in the future.

1. LITERATURE REVIEW

Adventure Tourism Risk

“No risk, no fun”, this is what motivates a group of tourists to prefer adventure tourism over recreational tourism (Wang et al., 2019). Adventure tourism risk is seen as a risk that may occur when adventure tourism activities are carried out. However, this risk will usually be proportional to the level of satisfaction obtained by tourists through adventure tourism (Wang et al., 2019). Adventure tourism can be divided into soft adventure and hard adventure (Daliyeva, 2022). Soft adventure is a tourism activity with low risk, such as; camping, hiking, and backpacking, while hard adventure is a tourist activity with high risk and dangerous, such as; diving, caving, rock climbing, mountain, and sky diving (Daliyeva, 2022).

Adventure tourism has five dimensions of risk, namely; equipment, physical, psychological, social, and financial (Hasan et al., 2017; Pandey & Rogerson, 2021). Equipment risk is a risk that may occur due to failure in the use or functioning of equipment when doing adventure tourism (Sönmez & Graefe, 1998; Sheng et al, 1997). Physical risk is seen as a risk that occurs due to insecurity factors in the destination environment, natural disasters that can endanger the safety of tourists (Cui et al., 2016; Chew & Jahari, 2014; Çetinsöz & Ege, 2013). Psychological risk refers to the response of others to the choice of adventure tourism which may be dangerous, high risk, uncontrollable and unpredictable which can cause the image of this kind of tourism to be unfavorable (Tingchi Liu et al., 2013; Baker, 2014). Social risk is the risk that occurs due to the selection of adventure tourism causing a bad impression from others on the tourist (Baker, 2014; Chew & Jahari, 2014; Çetinsöz & Ege, 2013). Financial risk is a risk that arises due to a mismatch between the costs incurred and the pleasure obtained from adventure tourism (Cui et al., 2016; Chew & Jahari, 2014; Tingchi Liu et al., 2013; Baker, 2014).

Environmental Image

Destination image is the main determinant of tourist decisions in traveling. Destination image can be in the form of environmental image, cultural image, and socio-economic image (Lee & Xue, 2020). Environmental image is seen as an image that arises from the environmental management performance of a destination (Hu & Wall, 2005; Lee & Jeong, 2018). Environmental factors can be atmospheric and natural of destination (Lee & Xue, 2020). The natural factor of spot adventure tourism will have an impact on a good image and can increase the attractiveness of a destination (Pham & Khanh, 2021). Environmental image can be measured by variety, originality, climate, and safety (Bonn et al., 2005).

Revisit Intention

Revisit intention is part of behavioral intention which means the customer's desire to come back, give positive word of mouth, stay longer than expected, shop more than expected (Phi et al., 2022; He & Luo, 2020). A mental state that indicates a plan to take some action within a certain period of time. It is assumed to be a direct response to behavior. Revisit intention can also be interpreted as a customer will take repurchase actions in the future as a direct response to post-purchase behavior within a certain period of time (Shi et al., 2022; Nam, 2022; Constantin, 2022; Azam et al., 2022). Revisit intention can be measured by obtaining something unique at each visit, recommending it to others, and sharing experiences with others (Torabi et al., 2022).

Adventure Tourism Risk and Environmental Image

Adventure tourism risk is part of the perception of risk (Hasan et al., 2017) which influences the destination image (Perpiña, 2019; Liang & Xue, 2021; Chew & Jahari, 2014; Carballo et al., 2021; Satyarini et al., 2020), where the destination image can be an environmental image (Lee & Xue, 2020), so it can be concluded that adventure tourism risk can affect environmental

risk. The better tourists perceive the risk in an adventure tourism, then the environmental image of the tourist destination will increase. This means that if tourists can understand adventure risk well and consider themselves capable of managing these risks, it will have an impact on increasing tourists' positive responses to the environmental image that exists in tourist spots. Adventure risk can be divided into five dimensions; risk of equipment, physical, psychological, social, and financial. Based on this description, the following hypotheses can be built:

H1a: Better understanding and managing of equipment risks would lead to higher the positive response on environmental image

H1b: Better understanding and managing of physical risks would lead to higher the positive response on environmental image

H1c: Better understanding and managing of psychological risks would lead to higher the positive response on environmental image

H1d: Better understanding and managing of social risks would lead to higher the positive response on environmental image

H1e: Better understanding and managing of financial risks would lead to higher the positive response on environmental image

Adventure Tourism Risk and Revisit Intention

Adventure tourism risk is part of the perception risk (Hasan et al., 2017) giving an influence on revisit intention (Carballo et al., 2021; Liang & Xue, 2021; Satyarini et al., 2020; Çetinsöz & Ege, 2013; Chew & Jahari, 2014), so it can be concluded that the five dimensions of adventure risk, namely; risk of equipment, physical, psychological, social, and financial can influence revisit intention. The better tourists perceive the risk in an adventure tourism, the higher the tourist's revisit intention will be. This means that if tourists can understand adventure risk well and consider themselves capable of managing these risks, it will have an impact on increasing the frequency of tourist visits to tourist spots. To that end, a hypothesis can be built:

H2a: Better understanding and managing of equipment risk would lead to higher revisit intention

H2b: Better understanding and managing of physical risk would lead to higher revisit intention

H2c: Better understanding and managing of psychological risk would lead to higher revisit intention

H2d: Better understanding and managing of social risk would lead to higher revisit intention

H2e: Better understanding and managing of financial risk would lead to higher revisit intention

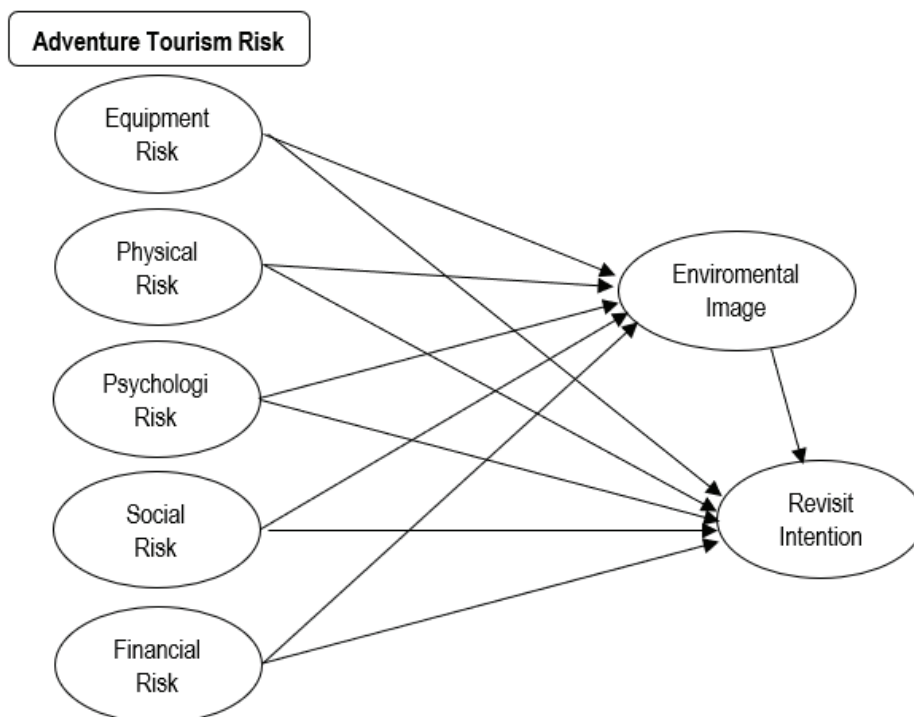
Environmental Image and Revisit Intention

Environmental image can have an influence on revisit intention. The better the tourist image of the environmental of the destination, the higher the level of revisit intention for that destination (Viet et al., 2020; Jin et al., 2020; Nurazizah & Marhanah, 2020; Loureiro & Jesus, 2019; Čulić et al., 2021). Based on this description, the hypotheses built are;

H3: The higher the positive response on environmental image would lead to higher revisit intention

Based on the literature review and the hypotheses built, the conceptual framework that becomes the research model can be seen in Figure 1.

Figure 1: Conceptual Framework



2. RESEARCH METHOD

Data collecting and analysis

This research was conducted on underwater cave diving tourism in Buton Island, Indonesia. The research data was collected through the responses of tourists who have done underwater cave diving tourism in several cave diving spots through three dive operators namely; Rock n Roll Diver, Sulawesi Dive Trek, and Wasage Divers. Underwater cave diving tours on the island of Buton is a new tourism spot. This tour has started to be managed commercially since December 2021, so that the respondents of this research were adopted from January to March 2022, totaling 98 tourists, who were then all used as respondents. Data collection was carried out using a google form which was sent to each respondent via Whatsapp. The collected data was then analyzed using Partial Least Square (PLS) analysis to test the research hypothesis by using margin of error of 5%. The use of PLS in this study is based on the consideration that the number of respondents is only 98 respondents, so that this research is exploratory, where the PLS is considered an appropriate analysis because it is not sensitive to the number of cases (Hair et al., 2010; Henseler et al., 2014), however results of this research cannot be generalized with an acceptable margin of error. In addition, the use of PLS as an analysis for hypothesis testing is also based on the consideration that the construct developed in this research model was adopted from various sources so that it is not an established construct.

Measurement scale

Measurement of variables in this study was carried out using a five-point Likert scale (5=strongly agree; 4=agree; 3=neutral; 2=disagree; 1=strongly disagree). The indicators used to measure the adventure tourism risk variable refer to the five indicator items developed by Hasan et al., 2017; the indicators used to measure the environmental image variable refer to the four indicator items developed by Bonn et al., 2005; and the indicators used to measure revisit intention refer to the three indicators developed by Torabi et al., 022.

3. RESULT

Respondent Description

The description of the respondents (in Table 1) shows that based on gender, male respondents are 90.82%, and female respondents are 9.18%. The age of the respondents was dominated by the category of 37-46 years old (34.69%), the category of 47-46 years old (27.55%), and the category of 57 years old and over (17.46%). Furthermore, the respondent's description is based on the frequency of visiting, 35.71% are more than three times, 29.59% are three times, 23.47% are twice and 11.23% is once. Diving

operators used by respondents when doing cave diving are Wasage Divers is 41 respondents (41.83%), Rock n Roll Divers is 32 respondents (32.65%), and Sulawesi Dive Trek is 25 respondents (25.51%) . Then, based on country of origin, 69.39% respondents came from Indonesia, 14.28% from Malaysia, 6.12% from Singapore and Thailand, and 4.09% from Britain.

Table 1: Respondent Description

Description	Category	Frequencies	Percentage (%)
Gender	Male	89	90,82
	Female	9	9,18
Age	Under 17	1	1,02
	17 – 26	8	8,16
	27 – 36	12	12,14
	37 – 46	34	34,69
	47 – 56	27	27,55
	57 and over	16	17,46
Frequency of Visiting	1	11	11,23
	2	23	23,47
	3	29	29,59
	More than 3	35	35,71
Diving Operator	Rock n Roll Divers	32	32,65
	Sulawesi Dive Trek	25	25,51
	Wasage Divers	41	41,83
Country	Indonesia	68	69,39
	Singapore	6	6,12
	Malaysia	14	14,28
	Thailand	6	6,12
	Britain	4	4,09

Source: Analysis Results, 2022

The results of the assessment of the reflective model (in Table 2) that were built in this study indicate that all items have a loading indicator value and Cronbach's alpha exceeds the tolerance threshold above 0.70, this indicates that all items are declared to reflect the construct. Furthermore, the composite reliability and average variance extracted values for all constructs exceed the tolerance threshold above 0.50 which indicates that all analyzed items are considered to be able to measure each construct.

Table 2: Assesment of Reflective Measurement Model

Construct	Item	Loading factor	Reliability	Cronbach alpha	Composite reliability	Avarage variance extracted
Equipment Risk (ER)	Item1	0.872	0.767	0.843	0.872	0.691
	Item 2	0.761	0.689			
	Item 3	0.729	0.623			
Physical Risk (PHR)	Item 1	0.845	0.738	0.794	0.806	0.624
	Item 2	0.819	0.704			
	Item 3	0.792	0.699			
Psychological Risk (PSR)	Item 1	0.804	0.700	0.772	0.785	0.607
	Item 2	0.773	0.692			
	Item 3	0.756	0.681			
Social Risk (SR)	Item 1	0.841	0.732	0.788	0.794	0.616
	Item 2	0.809	0.711			
	Item 3	0.785	0.695			

Construct	Item	Loading factor	Reliability	Cronbach alpha	Composite reliability	Average variance extracted
Financial Risk (FR)	Item 1	0.752	0.677	0.753	0.771	0.581
	Item 2	0.733	0.641			
	Item 3	0.708	0.619			
Environmental Image (EI)	Item 1	0.769	0.691	0.761	0.778	0.590
	Item 2	0.752	0.685			
	Item 3	0.739	0.646			
	Item 4	0.721	0.620			
Revisit Intention (RI)	Item 1	0.847	0.740	0.803	0.827	0.653
	Item 2	0.838	0.726			
	Item 3	0.815	0.701			

Source: Analysis Results, 2022

The results of discriminant validity testing using the Heterotrait-Monotrait Ratio of Correlations (HTMT) method (in Table 3) show that the overall value of the HTMT construct is below the tolerance threshold of 0.9, this indicates that all constructs in the research model are valid.

Table 3: Heterotrait-Monotrait Ratio of Correlations (HTMT)

	Equipment Risk	Physical Risk	Psychological Risk	Social Risk	Financial Risk	Environmental Image	Revisit Intention
Equipment Risk	Na						
Physical Risk	0.552	na					
Psychological Risk	0.618	0.576	na				
Social Risk	0.479	0.715	0.546	na			
Financial Risk	0.583	0.688	0.663	0.651	na		
Environmental Image	0.441	0.539	0.672	0.565	0.609	na	
Revisit Intention	0.426	0.582	0.585	0.577	0.598	0.649	na

Source: Analysis Results, 2022

The calculation results of the determination coefficients of the construct variable (in Table 4) show that the value of R² is between 0.386 and 0.695, this indicates that all construct variables have an influence on the dependent construct variable. Meanwhile, all of the Q² values from the structural model testing are above 0, this indicates that the structural model in this study is considered capable of predicting the data accurately.

Table 4: Determination coefficients (R²) and Predictive correlation (Q²)

Construct	R ²	Q ²
Equipment risk	0.565	0.238
Physical risk	0.472	0.202
Psychological risk	0.443	0.187
Social risk	0.418	0.159
Financial risk	0.386	0.131
Environmental Image	0.631	0.334
Revisit Intention	0.695	0.376

Source: Analysis Results, 2022

Table 5 displays the results of testing the structural dimensions of adventure tourism risk model on environmental image finding the path coefficient and significance as follows: equipment risk has a positive significant effect on environmental image ($\beta=0.277$; $p=0.00076$; 95% confidence interval= 0.117 to 0.367); physical risk has a positive significant effect on environmental

image ($\beta=0.385$; $p=0.00009$; 95% confidence interval= 0.261 to 0.522); psychological risk had a positive significant effect on environmental image ($\beta=0.413$; $p=0.00000$; 95% confidence interval= 0.278 to 0.586); social risk has a positive significant effect on environmental image ($\beta=0.446$; $p=0.00000$; 95% confidence interval= 0.354 to 0.639); and financial risk has a positive significant effect on environmental image ($\beta=0.361$; $p=0.00015$; 95% confidence interval= 0.164 to 0.495), thus Hypothesis (1a), (1b), (1c), (1d), (1e) is Accepted;

Furthermore, the results of testing the structural dimensions of adventure tourism risk model on revisit intention found the path coefficient and significance as follows: equipment risk had a positive significant effect on revisit intention ($\beta=0.676$; $p=0.00000$; 95% confidence interval= 0.473 to 0.799); physical risk had a positive significant effect on revisit intention ($\beta=0.294$; $p=0.00033$; 95% confidence interval= 0.136 to 0.401); psychological risk had a positive significant effect on revisit intention ($\beta=0.575$; $p=0.00000$; 95% confidence interval= 0.388 to 0.679); social risk had a positive significant effect on revisit intention ($\beta=0.358$; $p=0.00021$; 95% confidence interval= 0.232 to 0.470); and financial risk has a positive significant effect on revisit intention ($\beta=0.242$; $p=0.00082$; 95% confidence interval= 0.108 to 0.392), thus Hypothesis (2a), (2b), (2c), (2d), (2e) is Accepted;

Then, the results of testing hypothesis 3 which states that environmental image has a positive significant effect on revisit intention, found the value of = 0.729; $p=0.00000$; 95% confidence interval = 0.593 to 0.853) thus hypothesis 3 is Accepted.

Table 5: Path coefficients and significance

Hypotheses	Path coefficients (β)	Significance (p value)	Interval of confidence level (95%)
Equipment risk → Environmental Image	0.277	0.00076	[0.117, 0.367]
Physical risk → Environmental Image	0.385	0.00009	[0.261, 0.522]
Psychological risk → Environmental Image	0.413	0.00000	[0.278, 0.586]
Social risk → Environmental Image	0.446	0.00000	[0.354, 0.639]
Financial risk → Environmental Image	0.361	0.00015	[0.164, 0.495]
Equipment risk → Revisit Intention	0.676	0.00000	[0.473, 0.799]
Physical risk → Revisit Intention	0.294	0.00033	[0.136, 0.401]
Psychological risk → Revisit Intention	0.575	0.00000	[0.388, 0.679]
Social risk → Revisit Intention	0.358	0.00021	[0.232, 0.470]
Financial risk → Revisit Intention	0.242	0.00082	[0.108, 0.392]
Environmental Image → Revisit Intention	0.729	0.00000	[0.593, 0.853]

Source: Analysis Results, 2022

The results of the structural model test (in Table 6) provide information on the positive indirect path coefficient, which finds that the dimensions of adventure tourism risk are each equipment risk ($\beta=0.202$; $p=0.00301$; 95% confidence interval= 0.107 to 0.366); physical risk ($\beta=0.280$; $p=0.00054$; 95% confidence interval= 0.144 to 0.402); psychological risk ($\beta=0.301$; $p=0.00027$; 95% confidence interval= 0.197 to 0.467); social risk ($\beta=0.325$; $p=0.00029$; 95% confidence interval= 0.221 to 0.518); and financial risk ($\beta=0.263$; $p=0.00080$; 95% confidence interval= 0.135 to 0.420) has an positive indirect effect on revisit intention through environmental image.

4. DISCUSSIONS

The results of the analysis found that adventure tourism risk, each risk of equipment, physical, psychological, social and financial had a significant influence on environmental image. These results indicate that tourists' perceptions of adventure tourism risk in underwater cave diving on Buton Island, Indonesia can relatively be anticipated and controlled, causing the environmental image of underwater cave diving spots on Buton Island to increase. Empirically, the results of this study provide information that tourists perceive that they are able to understand and manage all the risks of adventure contained in underwater cave diving, thus increasing whether tourists perceive these risks will increase their good perception of the environment of underwater cave diving attractions in Buton Island, Indonesia. The results of this study support research conducted by Perpiña, 2019; Liang & Xue, 2021; Chew & Jahari, 2014; Carballo et al., 2021; Satyarini et al., 2020; Lee & Xue, 2020. Furthermore, the results of the analysis also found that adventure tourism risk has an influence on revisit intention. These results indicate that tourists' perceptions of adventure tourism risk in underwater cave diving on Buton Island, Indonesia can trigger an increase in their revisit intention. Empirically, the results of this study provide information that tourists perceive that they are able to understand and manage all the adventure risks contained in underwater cave diving, so that the better tourists perceive these risks, the more they will increase their desire to revisit on underwater cave diving tourist spots in Buton Island. These results

support the research conducted by Carballo et al., 2021; Liang & Xue, 2021; Satyarini et al., 2020; Çetinsöz & Ege, 2013; Chew & Jahari, 2014 who found that the better the risk perception, the higher the revisit intention. The results of the analysis also show that the increasing positive image of tourists on the underwater cave environment in Buton Island is able to increase the desire of tourists to make a visit to the underwater cave diving tourism spot. These results empirically indicate that the positive environmental image possessed by tourists which is the impact of a good perception of adventure risk in underwater cave diving tourism spots causes an increase in the desire to revisit the tourism spot.

Table 6. Indirect path coefficients

Path models	Indirect path coefficients	Significance (<i>p value</i>)	Interval of confidence level (95%)
Equipment risk → Environmental Image → Revisit Intention	0.202	0.00301	[0.107, 0.366]
Physical risk → Environmental Image → Revisit Intention	0.280	0.00054	[0.144, 0.402]
Psychological risk → Environmental Image → Revisit Intention	0.301	0.00027	[0.197, 0.467]
Social risk → Environmental Image → Revisit Intention	0.325	0.00029	[0.221, 0.518]
Financial risk → Environmental Image → Revisit Intention	0.263	0.00080	[0.135, 0.420]

Source: Analysis Result, 2022

Partially, the results of the analysis also provide information that tourists perceive that the equipment used in underwater cave diving is relatively functioning well so that the possibility of failure in the use of the equipment can be anticipated and controlled. Then, tourists also perceive that the underwater environment at the cave diving spot on Buton Island is relatively good and safe so that it does not endanger the safety of tourists. In addition, tourists also perceive that although it seems dangerous and high risk, actually adventure tourism, especially in underwater cave diving on Buton Island, is relatively under control. From the social risk dimension, tourists have the opinion that they are very proud to do underwater cave diving because not all tourists have the courage to do this type of tourism. In the financial risk dimension, tourists respond that the amount of money they spend to enjoy cave diving is in accordance with the satisfaction and pleasure they get.

The results of the structural model test provide information that adventure tourism risk, each risk of equipment, physical, psychological, social and financial has an indirect influence on revisit intention through environmental image. These results indicate that a good perception of adventure risk in underwater cave diving in Buton Island has an impact on increasing environmental image which in turn will have an impact on increasing revisit intention. The results of this study support the results of research conducted by Chew & Jahari, 2014; Carballo et al., 2021; Liang & Xue, 2021, who found that destination image can be an intervening between risk perception and revisit intention.

5. CONCLUSION

Most previous research that analyzes tourism, especially on the concept of risk perception and destination image focuses on recreational tourism, so this research tries to analyze adventure tourism. Conceptual development is directed at the use of adventure risk, respectively; equipment, physical, psychological, social, and financial risk for risk perception and environmental image for destination image. The results of the study provide information that adventure risk affects environmental image and revisit intention, either directly or indirectly. The results of the study also provide information that the average tourist response to underwater cave diving tourism in Buton Island, Indonesia is beautiful, satisfying, secure, controlable, naturally, and fair. Practically, the results of this study provide recommendations for managers of dive operators in Buton Island to pay more attention to risk factors and try to prepare everything to anticipate the impacts that may occur from these risks. In addition, it is hoped that the management of the dive operator will always preserve the environment in the underwater cave diving spot in order to increase the positive image of tourists for the environment of the tourist spot.

LIMITATION AND FUTURE RESEARCH

This research is only focused on underwater cave diving in analyzing adventure tourism risk, so that future research is expected to be focused on several other adventure tourism such as; sky diving, rock climbing, ice climbing, and others. In addition, this research is only focused on developing the concept of risk perception, destination image, and revisit intention, so that future research is expected to adopt the concept of tourist satisfaction and loyalty into a structural model in order to be able to produce more comprehensive information.

REFERENCES

- Albayrak, T., Caber, M., & Cater, C. (2021). Mass tourism underwater: A segmentation approach to motivations of scuba diving holiday tourists. *Tourism Geographies: An International Journal of Tourism Space, Place and Environment*, 30(5-6), 985-1000. <https://doi.org/10.1080/14616688.2019.1696884>
- Azam, N. R. A. N., Patwary, A. K., & Rashid, B. (2022). Measuring revisit intentions of green resorts in Malaysia: The role of perceived value and environmental concern. *Geo Journal of Tourism and Geosites*, 40(1), 157-166. <https://doi.org/10.30892/gtg.40119-815>
- Baker, D. M. A. (2014). The effects of terrorism on the travel and tourism industry. *The International journal of religious tourism and pilgrimage*, 2(1), 58-67. <https://doi.org/10.21427/D7VX3D>
- Bonn, M. A., Joseph, S. M., & Dai, M. (2005). International versus domestic visitors: An examination of destination image perceptions. *Journal of travel research*, 43(3), 294-301. <https://doi.org/10.1177/0047287504272033>
- Carballo, R. R., León, C. J., & Carballo, M. M. (2021). Gender as moderator of the influence of tourists' risk perception on destination image and visit intentions. *Tourism Review*, 77(3), 913-924. <https://doi.org/10.1108/TR-02-2021-0079>
- Carvache-Franco, M., Carvache-Franco, W., Carvache-Franco, O., Alvarez-Risco, A., Orden-Mejía, M., & Recalde-Lino, X. (2022a). Designing an Adventure Tourism Package from the Preferences of the Visitors. *Journal Of Environmental Management And Tourism*, 13(2), 305-312. [https://doi.org/10.14505/jemt.v13.2\(58\).01](https://doi.org/10.14505/jemt.v13.2(58).01)
- Carvache-Franco, M., Contreras-Moscol, D., Orden-Mejía, M., Carvache-Franco, W., Vera-Holguin, H., & Carvache-Franco, O. (2022b). Motivations and Loyalty of the Demand for Adventure Tourism as Sustainable Travel. *Sustainability*, 14(14), 8472. <https://doi.org/10.3390/su14148472>
- Çetinsöz, B. C., & Ege, Z. (2013). Impacts of perceived risks on tourists' revisit intentions. *Anatolia: An International Journal of Tourism and Hospitality Research*, 24(2), 173-187. <https://doi.org/10.1080/13032917.2012.743921>
- Chew, E. Y. T., & Jahari, S. A. (2014). Destination image as a mediator between perceived risks and revisit intention: A case of post-disaster Japan. *Tourism management*, 40, 382-393. <https://doi.org/10.1016/j.tourman.2013.07.008>
- Constantin, C. P., Ispas, A., & Candrea, A. N. (2022). Examining the Relationships between Visitors Profile, Satisfaction and Revisit Intentions: Evidence from Romanian Ecotourism Destinations. *Land*, 11(2), 186. <https://doi.org/10.3390/land11020186>
- Cui, F., Liu, Y., Chang, Y., Duan, J., & Li, J. (2016). An overview of tourism risk perception. *Natural Hazards*, 82(1), 643-658. <https://doi.org/10.1007/s11069-016-2208-1>
- Ćulić, M., Vujičić, M. D., Kalinić, Č., Dunjić, M., Stankov, U., Kovačić, S., Vasiljević, D. A., & Anđelković, Ž. (2021). Rookie Tourism Destinations - The Effects of Attractiveness Factors on Destination Image and Revisit Intention with the Satisfaction Mediation Effect. *Sustainability*, 13(11), 5780. <https://doi.org/10.3390/su13115780>
- Daliyeva, S. (2022). The importance of adventure tourism. *Scientific progress*, 3(2), 938-943.
- Dumitras, D. E., Mihai, V. C., Jitea, I. M., Donici, D., & Muresan, I. C. (2021). Adventure Tourism: Insight from Experienced Visitors of Romanian National and Natural Parks. *Societies*, 11(2), 41. <https://doi.org/10.3390/soc11020041>
- Hair, F. J., Black, C. W., Babin, J. B., & Anderson, E.R. (2010). *Multivariate Data Analysis*, Pearson Prentice Hall. https://www.academia.edu/13013769/Ebook_Hair_Multivariate_Analisis_Multivariat
- Hasan, K., Ismail, A. R., & Islam, F. (2017). Tourist risk perceptions and revisit intention: A critical review of literature. *Cogent Business & Management*, 4(1). <https://doi.org/10.1080/23311975.2017.1412874>
- He, X., & Luo, J. M. (2020). Relationship among travel motivation, satisfaction and revisit intention of skiers: A case study on the tourists of urumqi silk road ski resort. *Administrative Sciences*, 10(3), 56. <https://doi.org/10.3390/admsci10030056>
- Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen, D. J., Hair, J. F., Hult, G. T. M., & Calantone, R. J. (2014). Common beliefs and reality about PLS: Comments on Rönkkö and Evermann (2013). *Organizational research methods*, 17(2), 182-209. <https://doi.org/10.1177/1094428114526928>
- Hu, W., & Wall, G. (2005). Environmental management, environmental image and the competitive tourist attraction. *Journal of sustainable tourism*, 13(6), 617-635. <https://doi.org/10.1080/09669580508668584>
- Jin, M.-l., Choi, Y., Lee, C. K., & Ahmad, M. S. (2020). Effects of place attachment and image on revisit intention in an ecotourism destination: Using an extended model of goal-directed behavior. *Sustainability*, 12(18). <https://doi.org/10.3390/su12187831>
- Lee, S. W., & Xue, K. (2020). A model of destination loyalty: Integrating destination image and sustainable tourism. *Asia Pacific Journal of Tourism Research*, 25(4), 393-408. <https://doi.org/10.1080/10941665.2020.1713185>
- Lee, T. H., & Tseng, C. H. (2015). How personality and risk-taking attitude affect the behavior of adventure recreationists. *Tourism Geographies*, 17(3), 307-331. <https://doi.org/10.1080/14616688.2014.1000955>
- Lee, T. H., Tseng, C. H., & Jan, F. H. (2015). Risk-taking attitude and behavior of adventure recreationists: A review. *Journal of Tourism & Hospitality*, 4(2), 2-4.
- Lee, W., & Jeong, C. (2018). Effects of pro-environmental destination image and leisure sports mania on motivation and pro-environmental behavior of visitors to Korea's national parks. *Journal of destination marketing & management*, 10, 25-35. <https://doi.org/10.1016/j.jdmm.2018.05.005>
- Liang, X., & Xue, J. (2021). Mediating effect of destination image on the relationship between risk perception of smog and revisit intention: a case of Chengdu. *Asia Pacific Journal of Tourism Research*, 26(9), 1024-1037. <https://doi.org/10.1080/10941665.2021.1941156>
- Loureiro, S. M. C., & Jesus, S. (2019). How perceived risk and animosity towards a destination may influence destination image and intention to revisit: The case of Rio de Janeiro. *Anatolia: An International Journal of Tourism and Hospitality Research*, 30(4), 497-512. <https://doi.org/10.1080/13032917.2019.1632910>
- Nam, S., Oh, Y., Hong, S., Lee, S., & Kim, W. H. (2022). The Moderating Roles of Destination Regeneration and Place Attachment in How Destination Image Affects Revisit Intention: A Case Study of Incheon Metropolitan City. *Sustainability*, 14(7). <https://doi.org/10.3390/su14073839>
- Nurazizah, G. R., & Marhanah, S. (2020). Influence of destination image and travel experience towards revisit intention in Yogyakarta as tourist destination. *Journal of Indonesian Tourism, Hospitality and Recreation*, 3(1), 28-39. <https://doi.org/10.17509/jithor.v3i1.23016>
- Pandy, W. R., & Rogerson, C. M. (2021). Coastal tourism and climate change: risk perceptions of tourism stakeholders in south africa's garden route. *Geo Journal of Tourism and Geosites*, 37(3), 730-739. <https://doi.org/10.30892/gtg.37301-703>
- Perpiña, L., Camprubi, R., & Prats, L. (2019). Destination image versus risk perception. *Journal of Hospitality & Tourism Research*, 43(1), 3-19. <https://doi.org/10.1177/1096348017704497>
- Pham, H. S. T., & Khanh, C. N. T. (2021). Ecotourism intention: the roles of environmental concern, time perspective and destination image. *Tourism Review*, 76(5), 1141-1153. <https://doi.org/10.1108/TR-09-2019-0363>
- Phi, H. D., Ngo, T. Q., Phuong, T. H. T., & Linh, N. N. (2022). Effects of Destination Image on Revisit Intention: The Intermediate Role of Satisfaction & Words of Mouth (Empirical Evidence in Ho Chi Minh City, Vietnam). *Estudios de economia aplicada*, 40(1). <https://doi.org/10.25115/eea.v40i1.5747>
- Satyarini, N. W. M., Tamjuddin, T. & Kurniawan, R. (2020, May). Interrelation Between Tourist Risk Perception and Destination Image and Revisit Intention East Lombok Post Earthquake. In *2nd International Seminar on Business, Economics, Social Science and Technology (ISBEST 2019)* (pp. 181-186). Atlantis Press. <https://doi.org/10.2991/aebmr.k.200522.036>
- Sheng-Hsiung, T., Gwo-Hsiung, T., & Kuo-Ching, W. (1997). Evaluating tourist risks from fuzzy perspectives. *Annals of Tourism Research*, 24(4), 796-812. [https://doi.org/10.1016/S0160-7383\(97\)00059-5](https://doi.org/10.1016/S0160-7383(97)00059-5)

- Shi, H., Liu, Y., Kumail, T., & Pan, L. (2022). Tourism destination brand equity, brand authenticity and revisit intention: the mediating role of tourist satisfaction and the moderating role of destination familiarity. *Tourism Review*, 77(3), 751-779. <https://doi.org/10.1108/TR-08-2021-0371>
- Sönmez, S. F., & Graefe, A. R. (1998). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of travel research*, 37(2), 171-177. <https://doi.org/10.1177/004728759803700209>
- Tingchi Liu, M., Brock, J. L., Cheng Shi, G., Chu, R. & Tseng, T. H. (2013). Perceived benefits, perceived risk, and trust: Influences on consumers' group buying behaviour. *Asia Pacific Journal of Marketing and Logistics*, 25(2), 225-248. <https://doi.org/10.1108/13555851311314031>
- Torabi, Z. A., Shalbafian, A. A., Allam, Z., Ghaderi, Z., Murgante, B., & Khavarian-Garmsir, A. R. (2022). Enhancing Memorable Experiences, Tourist Satisfaction, and Revisit Intention through Smart Tourism Technologies. *Sustainability*, 14(5), 2721. <https://doi.org/10.3390/su14052721>
- Tüfekçi, Ş. & Aygün, Y. (2021). "What Makes Life Worth Living?": Divers' experiences On Recreational Cave Diving And Sense Of Well-Being. *Health and Sports Sciences, SP-14, Special Issue*, 7-11.
- Viet, B. N., Phuc, D. H., & Nguyen, H. H. (2020). Revisit intention and satisfaction: The role of destination image, perceived risk, and cultural contact. *Cogent Business & Management*, 7(1), 1-20. [doi:10.1080/23311975.2020.1796249](https://doi.org/10.1080/23311975.2020.1796249)
- Wang, J., Liu-Lastres, B., Ritchie, B. W., & Pan, D. Z. (2019). Risk reduction and adventure tourism safety: An extension of the risk perception attitude framework (RPAF). *Tourism Management*, 74, 247-257. <https://doi.org/10.1016/j.tourman.2019.03.012>

Please cite this article as:

Zaid, S., Abadi, S.Y., & Kamaluddin, M. (2023). Adventure Tourism Risk, Environmental Image, And Revisit Intention: An Empirical Study Of Underwater Cave Diving Tourism in Buton Island, Indonesia. *Tourism and Hospitality Management*, 29(1), 15-24, <https://doi.org/10.20867/thm.29.1.2>



Creative Commons Attribution – Non Commercial – Share Alike 4.0 International