"Factors affecting adventure tourist satisfaction: Evidence from Indonesia"

| AUTHORS | Ade Parlaungan Nasution (iD)
 Muhammad Yasir Arafat Pohan (iD)
 Denny Ammari Ramadhan (iD)
 Christine Herawati Limbong
 Nova Jayanti Harahap |

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
66	1	7

Ade Parlaungan Nasution, Ph.D.,
Lecturer, Department of Management,
Faculty of Economics and Business,
Universitas Labuhanbatu, Indonesia.
(Corresponding author).

Muhammad Yasir Arafat Pohan,
Lecturer, Department of Management,
Faculty of Economics and Business,
Universitas Labuhanbatu, Indonesia.

Denny Ammari Ramadhan, Lecturer,
Faculty of Economics and Business,
Universitas Riau Kepulauan, Indonesia.

Christine Herawati Limbong, Lecturer,
Department of Accounting, Faculty of
Economics and Business, Universitas
Labuhanbatu, Indonesia.

Nova Jayanti Harahap, Magister,
Lecturer, Department of Management,
Faculty of Economics and Business,
Universitas Labuhanbatu, Indonesia.

Ade Parlaungan Nasution (Indonesia), **Muhammad Yasir Arafat Pohan** (Indonesia), Denny Ammari Ramadhan (Indonesia), **Christine Herawati Limbong** (Indonesia), **Nova Jayanti Harahap** (Indonesia)

FACTORS AFFECTING ADVENTURE TOURIST SATISFACTION: EVIDENCE FROM INDONESIA

Abstract

Adventure tourism has received significant attention recently because it offers unique sensations. Managers of adventure tourism objects need to understand the determinants of satisfaction in adventure tourism. This study aims to examine the effect of intrinsic motivation and flow theory on extreme and non-extreme adventure tourists' satisfaction in Indonesia. This study uses a quantitative approach. The sample includes 405 tourists engaged in adventure tourism activities (extreme adventure tourism activities – 200 respondents, and non-extreme adventure tourism activities – 205 respondents). Structural Equation Modeling-Partial Least Square (SEM-PLS) was used to analyze the data. The results show that autonomy and competence influence flow experience (p-value < 0.05). This applies to extreme adventure and non-extreme adventure tourism. Furthermore, flow experience has a positive effect on adventure tourist satisfaction. In the context of extreme adventure tourism, autonomy does not affect the satisfaction of extreme adventure tourists (path coefficients = 0.025 and p-value = 0.761). In the context of non-extreme adventure tourism, competence does not affect the satisfaction of non-extreme adventure tourists (path coefficients = –0.036 and p-value = 0.682). This study recommends that managers of non-extreme tourism spots add challenging aspects to tour packages because they are believed to increase tourist satisfaction.

Keywords	adventure tourism, tourist satisfaction, flow experience, autonomy, competence, Indonesia
JEL Classification	M31, L83

INTRODUCTION

Adventure tourism has grown globally with adventure locations in many regions, as evidenced by the increasing number of participants and the intensive growth of adventure tourism products (Adventure Travel Trade Association & George Washington University, 2013). The growth of the adventure tourism sector in the last two decades is closely related to the increase in all types of tourism based on nature. As a result, adventure tourism often equates with outdoor recreation and adventure (Pomfret & Bramwell, 2016). However, research in adventure tourism is relatively modest, especially compared to many other special-interest tourism studies (Buckley, 2012).

The elements of risk, danger, and the natural environment are indispensable components of adventure tourism from a theoretical perspective (Janowski et al., 2021). Deci and Ryan (1985) mention that intrinsic motivation drives an individual to participate in an activity. Meanwhile, intrinsic motivation is related to affective satisfaction obtained from activities to benefit individuals who do it themselves (Davis et al., 1992). Beckman et al. (2017) state that intrinsic motiva-

tion forces someone to do adventure tourism. Therefore, intrinsic motivation is relevant for research motivation in adventure tourism. One theory that focuses on discussing intrinsic motivation is the cognitive evaluation theory (CET). The fundamental idea underlying CET is that intrinsic motivation is based on people's need to be competent, self-determined, or autonomous.

Bilgihan et al. (2015) state that autonomy and competence positively influence the flow experience. And the flow condition is triggered by deep involvement in an activity (Kowal & Fortier, 1999). For example, when someone experiences flow, that person will be focused on the work being done at that time and not feel any distractions. In the context of entertainment technology, Vella et al. (2015) found that psychological needs for autonomy and competence are related to the experience of flow. Subsequently, Mills and Fullagar (2008) investigated the influence of autonomy on flow experience, showing that autonomy positively influences flow experience.

However, there is a research gap, namely, limited studies tested the relationship between intrinsic motivation (autonomy and competence) and flow in the context of adventure tourism. Csikszentmihalyi (2000) stated that flow affects customer satisfaction and can be used to predict future behavior, such as intention to repurchase and recommend. Gao and Bai (2014) and Liu et al. (2016) showed that experiencing a flow triggers customer satisfaction and behavioral intentions. Therefore, flow influences satisfaction.

Adventure tourism activities can be divided into extreme and non-extreme (Schneider & Vogt, 2012; Schott, 2007). This fundamental difference is fascinating for researchers to compare tourists' motivation and satisfaction in the two categories. Beckman et al. (2017) also state that "future research could examine the motivation of adventure travelers for extreme versus non-extreme activities."

Thus, it is quite evident to investigate the difference in satisfaction between extreme and non-extreme adventure tourists in Indonesia. A study based on a developing country like Indonesia in particular is also scarce. Thus, examining the various factors influencing adventure tourist satisfaction, as well as comparing both extreme and non-extreme tourism types, can yield further understanding beyond the existing literature.

1. LITERATURE REVIEW

Indonesia is a country that has a huge tourism destination, as evidenced by the role of Indonesia's tourism, which is the second largest source of state revenue after the oil and gas industry. Adventure tourism is one of the most developed tourism categories. Wulandari et al. (2021) showed that in 2021 there were 59 million adventure tourists.

Adventure tourism is a type of tourism that has been snowballing in recent years. It is adventure travel in the form of any tourism activity, including three components: physical activity, cultural exchange or interaction, and involvement with nature (Adventure Travel Trade Association & George Washington University, 2013). Adventure tourism has two categories: extreme adventure tourism and non-extreme adventure tourism. This study analyzes predictor factors that can lead to tourist satisfaction in extreme and non-extreme adventure tourism, especially in Indonesia.

This study adopted the constructs of autonomy and competence that are components of intrinsic motivation from cognitive evaluation theory (CET). Cognitive evaluation theory is a motivational theory that explains the conditions that generate, sustain, and strengthen intrinsic motivation. According to CET, individuals enjoy activities to the extent that they fulfill basic human needs for competence and autonomy (Deci & Ryan, 1985). Perceived competence refers to a person's beliefs about his or her ability to succeed in attaining. Self-determination refers to people's perceptions of autonomy and having choices, and those choices determine one's actions. Autonomy is defined as a sense of self-direction and authen-

tic will and is the origin of independent behavior and a determinant of self-determination (Ryan & Deci, 2017). For example, someone who is independent can resist social pressure and think and act in the right way (Yu et al., 2018). Autonomous people have positive traits emphasizing independence and a deterministic way (Ritpanitchajchaval et al., 2023). Mackenzie et al. (2011) claimed that autonomy results from experience or free will in individual behavior. Autonomy fails when individuals feel controlled (Ryan & Deci, 2001). On the other hand, competence results from a feeling of being able to achieve a personally determined goal. Competence fails due to doubts about an individual's ability (Ahn et al., 2019).

Intrinsically motivated people will maximize effort and persistence in optimally challenging activities and experience interests and pleasures that increase or maintain participation (Ryan & Deci, 2000). Intrinsically motivated behavior is the behavior of people whose motivation is based on the inherent satisfaction of doing the current work. When intrinsically motivated, people engage in activities freely, supported by experiences of interest and pleasure (Ryan & Deci, 2000).

Autonomy and competence, dimensions of intrinsic motivation, are positively related to flow experience (Xu, 2021). The term "flow" defines a situation in which the individual acts with a sense of concentration, total control, and pleasure in doing the activity; the flow condition is triggered by deep involvement in an activity (Bilgihan et al., 2015). Someone in a flow state finds a pleasant experience and has high control over his behavior when performing a task (Lee & Wu, 2017). As a result, a person in a flow state is immersed in his activity and obtains high concentration and pleasure because the actor filters out unpleasant psychological experiences. The action is carried out without distraction. It gives actors a state of control over actions involving certain activities requiring skills and challenges.

Scientific references on the influence of autonomy and competence on flow experiences are minimal, especially in the context of adventure tourism. Vella et al. (2015) discussed the relationship between the constructs mentioned above in the context of online games. Mills and Fullagar (2008) found inconsistent findings regarding the rela-

tionship between intrinsic motivation and flow experience in psychology.

Gheitani et al. (2019) state that intrinsic motivation (autonomy and competence) affects satisfaction, which means that when intrinsic motivation increases, satisfaction will also increase. Lee et al. (2014) researched the relationship between intrinsic motivation and satisfaction in the context of patriotism. It was found that intrinsic motivation acts as a predictor of satisfaction. Reeser et al. (2005) found a strong positive correlation between intrinsic motivation and satisfaction at the 2002 Winter Olympics and Paralympics. However, there is still limited research examining the motivation of adventure travelers for extreme versus non-extreme activities (Beckman et al., 2017).

Satisfaction results from a consumer's cognitive comparison between expectations and the actual performance of an item or service after making a purchase (Howard & Sheth, 1969). When the performance of the goods or services consumed is under consumer expectations, the consumer will feel satisfied. Contrary, if a consumer feels that the goods or services consumed are not in line with expectations, he/she will feel dissatisfied (Chen et al., 2017; Jasin & Firmansyah, 2023; McAlexander et al., 2003). Westbrook and Oliver (1991) highlight that satisfaction is an evaluative assessment that varies "along a hedonic continuum from dissatisfied to pleasant." Thus, after a consumer evaluates that there is pleasure in the experience, he/she feels satisfied (Woodruff, 1985). Hsu et al. (2012), Kim and Thapa (2018), and Tiganis et al. (2023) evidenced positive and negative consequences related to consumer experiences and travel satisfaction, such as effects on tourist satisfaction and loyalty. Nazir et al. (2023) and Wang et al. (2017) showed that satisfaction results in behaviors such as loyalty, recommending, and intention to revisit.

Satisfaction has been described as an important variable in the post-consumption stage (Westbrook & Oliver, 1991). According to Bowen and Clarke (2002), satisfaction is an important evaluation made by tourists for the services they consume. Especially for outdoor recreational activities, achieving high visitor satisfaction has been considered the main goal for managers who provide such recreational services (Herrick & McDonald, 1992).

Various studies have shown the importance of flow in adventure tourism. For example, Chhetri et al. (2004) stated that flow conditions are essential in understanding customer satisfaction. Subsequently, Ali et al. (2016) and Dodds and Jolliffe (2016) strengthened evidence that positive experiences felt by tourists have a positive relationship with subsequent behavior, such as behavioral intention, satisfaction, and memory. Then, concerning adventure tourism which is generally in direct contact with nature, this is in line with Chua et al. (2015), Hwang et al. (2018), and Jin et al. (2015), who state that experiences formed through interaction with the environment produce further factors such as perceived value and satisfaction. Therefore, based on the literature review and following the advice of Janowski et al. (2021), it is recommended to research the relationship between the flow experience and the behavior of adventure tourists.

This study aims to investigate the effect of autonomy and competency on flow experience and the effect of autonomy and competency on the satisfaction of extreme and non-extreme adventure tourists. Finally, the study examines the effect of flow experience on the satisfaction of extreme and non-extreme adventure tourists. Based on the literature review and empirical evidence, the following hypotheses are developed (Figure 1):

H1a: *Autonomy positively influences the flow experience of extreme adventure tourists in Indonesia.*

H1b: *Autonomy positively influences the flow experience of non-extreme adventure tourists in Indonesia.*

H2a: *Competence positively influences the flow experience of extreme adventure tourists in Indonesia.*

H2b: *Competence positively influences the flow experience of non-extreme adventure tourists in Indonesia.*

H3a: *Autonomy positively influences the satisfaction of extreme adventure tourists in Indonesia.*

H3b: *Autonomy positively influences the satisfaction of non-extreme adventure tourists in Indonesia.*

H4a: *Competence positively influences the satisfaction of extreme adventure tourists in Indonesia.*

H4b: *Competence positively influences the satisfaction of non-extreme adventure tourists in Indonesia.*

H5a: *Flow experience positively influences the satisfaction of extreme adventure tourists in Indonesia.*

H5b: *Flow experience positively influences the satisfaction of non-extreme adventure tourists in Indonesia.*
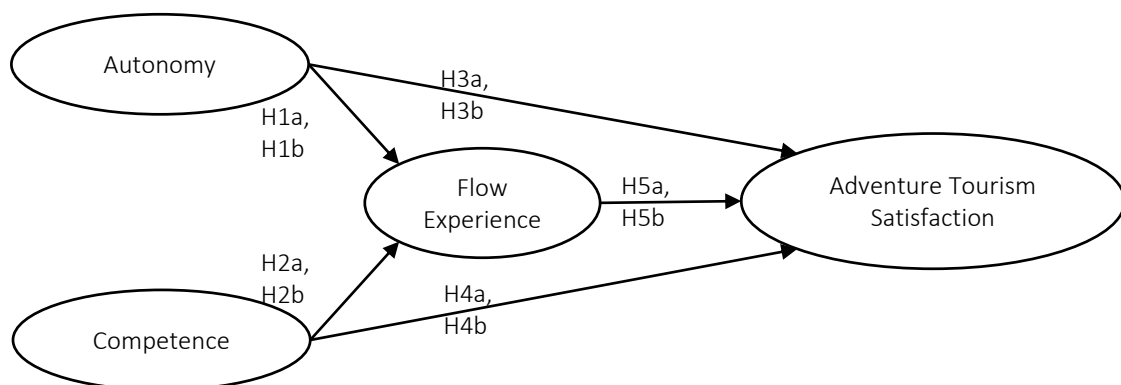
2. METHODOLOGY

This study uses a quantitative approach. The main emphasis of this study is to determine the factors that are predictors of adventure tourist satisfaction.

Figure 1. Conceptual framework

The population includes Indonesian tourists undertaking extreme and non-extreme adventure tourism activities. The paper used a purposive sampling technique in collecting data because specific criteria were applied to the respondents to obtain representative data. The criteria for the respondents were tourists who had undertaken extreme and non-extreme adventure tourism activities in Indonesia in the past year. In addition, respondents were asked to remember events and details of experiences while doing adventure tourism activities because good and bad feelings about adventure experiences affect respondents' satisfaction with the tour.

Primary data in this study were collected on June 6-21, 2022, through groups of tourist destinations, nature lovers, and mountain climbers on social media; respondents were asked to fill out an online questionnaire via Google Forms. The questionnaires were distributed outside of tourist destinations because the fatigue factor experienced by respondents could reduce the quality of the data obtained. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) measures respondents' perceptions.

The questionnaire contains statements the respondents fill out according to their experience of extreme and non-extreme adventure tourism. Before the respondent filled out the questionnaire, he/she was required to read the definitions of extreme and non-extreme adventure tourism. Then, the respondent chose to fill out one of the questionnaires, either an extreme or a non-extreme questionnaire. The instruments in this study were adopted from relevant previous research and had been tested for validity and reliability.

The questionnaire was in the Indonesian language, produced while translating the original English questionnaire. The translation was carried out according to the context in Indonesia, making it easier for respondents to understand and answer the questions. This study also conducted a face validity test by following the translator procedure through consultation with a person with expertise in his field, specifically in behavioral research. Furthermore, convergent and discriminant validity tests were performed using statistical tools.

The sample includes 405 respondents: 200 respondents for extreme adventure tourism and 205 respondents for non-extreme adventure tourism in Indonesia. Data analysis used the structural equation modeling method with SMART PLS software. Data screening was carried out in the early stages to avoid missing data, sample bias, and outliers. In the next stage, the study tested the outer model, which consisted of convergent validity, discriminant validity, AVE values, and construct reliability. Then the next stage is testing the inner model to analyze the relationship among constructs.

3. RESULTS

Table 1. Questionnaire return rate

Information	Amount	Percentage
Total questionnaires	423	100%
Inappropriate questionnaires	18	4.3%
Questionnaires that can be analyzed	405	95.7%

Table 1 shows the respondents who filled out the questionnaire on the distributed link. The total number of filled questionnaires was 423, but only 405 responses were deemed valid. Some respondents did not enter the criteria in the research data due to incomplete filling, namely, respondents filled out only part of the questionnaire and then left, closing the questionnaire. Another reason was filling out the questionnaire beyond the deadline so that questionnaires were received but cannot be accepted as responses to be analyzed in this study.

The study tested the research instruments to ensure that the instrument used is valid as a measuring tool in the research. The validity tests used in this study are construct validity, namely convergent validity and discriminant validity.

Table 2 shows the loading values. The results demonstrate that the loading value for each indicator of the research variable ranges from 0.601 to 0.895, with the AVE value of all indicators > 0.5. These results indicate that each variable's loading value requirements for convergent validity have been fulfilled. A construct is convergently valid if the AVE value is 0.50 or more (Hair et al., 2014) and the factor loading value is more than 0.50 (Hair et al., 2019).

Table 2. Convergent validity results for extreme adventure tourism

ITEMS	FL	SF	CM	AU	AVE
FL1	0.696	0.351	0.281	0.406	
FL11	0.621	0.284	0.471	0.393	
FL2	0.642	0.338	0.260	0.357	
FL4	0.683	0.393	0.369	0.353	0.506
FL5	0.781	0.406	0.343	0.414	
FL6	0.825	0.472	0.513	0.551	
FL8	0.749	0.434	0.452	0.432	
FL9	0.668	0.293	0.297	0.406	
CM1	0.511	0.420	0.895	0.433	
CM2	0.366	0.328	0.702	0.373	0.713
CM3	0.408	0.436	0.867	0.396	
CM4	0.512	0.485	0.897	0.444	
SF1	0.436	0.731	0.338	0.269	
SF2	0.305	0.715	0.237	0.183	0.516
SF3	0.317	0.681	0.366	0.253	
SF4	0.429	0.745	0.446	0.346	
AU1	0.309	0.196	0.333	0.736	
AU2	0.390	0.306	0.371	0.664	
AU 3	0.506	0.336	0.423	0.748	
AU4	0.531	0.325	0.380	0.866	0.594
AU5	0.529	0.320	0.454	0.794	
AU6	0.437	0.245	0.333	0.752	
AU7	0.407	0.279	0.314	0.817	

Note: FL = Flow, CM = Competence, SF = Satisfaction, AU = Autonomy.

Table 3. Convergent validity results for non-extreme adventure tourism

ITEMS	FL	CM	SF	AU	AVE
FL1	0.782	0.786	0.280	0.560	
FL2	0.837	0.497	0.302	0.498	
FL3	0.676	0.274	0.255	0.383	
FL4	0.680	0.388	0.232	0.401	0.512
FL5	0.751	0.448	0.298	0.474	
FL7	0.691	0.367	0.273	0.439	
FL8	0.559	0.266	0.217	0.344	
CM1	0.597	0.914	0.232	0.452	
CM2	0.655	0.940	0.221	0.512	0.841
CM3	0.545	0.909	0.204	0.481	
CM4	0.571	0.905	0.224	0.498	
SF1	0.360	0.198	0.822	0.260	
SF2	0.124	0.084	0.699	0.135	0.643
SF3	0.327	0.242	0.874	0.343	
AU2	0.407	0.402	0.162	0.658	
AU3	0.517	0.481	0.212	0.736	
AU4	0.450	0.352	0.286	0.764	
AU6	0.391	0.298	0.190	0.704	0.515
AU7	0.448	0.264	0.277	0.706	
AU1	0.487	0.465	0.290	0.732	

Note: FL = Flow, CM = Competence, SF = Satisfaction, AU = Autonomy.

Convergent validity refers to the extent to which different measures of a construct are positively correlated. It is used to establish the similarity of two or more measures of the same construct. The goal of convergent validity is to show that different measurements or assessments of a particular construct are related in the way they are supposed to be. This helps to establish the reliability and validity of a particular measurement tool or assessment. For example, research items are considered valid when the loading value ranges from 0.4 to 0.7 (Hair et al., 2014).

Another evaluation is by looking at the AVE value, and an item declared convergently valid must have an AVE value > 0.5. Table 3 shows that all the research items are convergently valid, reflected in the loading and cross-loading values that meet the minimum prerequisites.

Table 4. Testing the discriminant validity of extreme and non-extreme adventure tourism (Fornell-Larcker criterion)

Extreme Adventure Tourism			
	FL	**SF**	**CM**	**AU**
FL	0.711			
SF	0.529	0.718		
CM	0.538	0.499	0.844	
AU	0.589	0.379	0.488	0.77
Non-extreme Adventure Tourism			
	FL	CM	SF	AU
FL	0.716			
CM	0.648	0.917		
SF	0.372	0.241	0.802	
AU	0.632	0.530	0.334	0.717

Note: FL = Flow, CM = Competence, SF = Satisfaction, AU = Autonomy.

The results of discriminant validity (Table 4) testing in the categories of extreme adventure tourism and non-extreme adventure tourism both meet the criteria of discriminant validity, namely the construct value has a higher value compared to other constructs in the study, which means that the construct cannot be used as a measuring tool in other constructs.

Based on the results of reliability testing (Table 5), the constructs used in this study all meet the reliability criteria; namely, when the composite reliability value is > 0.7, the construct has good reliability (Bagozzi, 1992; Jöreskog, 1971).

Table 5. Parameter value of extreme and non-extreme adventure tourism reliability

Construct	Cronbach's Alpha	Composite Reliability
Extreme Adventure Tourism		
FL	0.859	0.890
KP	0.693	0.810
KM	0.863	0.908
OT	0.885	0.910
Non-extreme Adventure Tourism		
FL	0.840	0.879
KP	0.740	0.843
KM	0.937	0.955
OT	0.811	0.864

Furthermore, the study conducted a path analysis test on ten research hypotheses. The path analysis test is carried out by looking at the p-value. The hypothesis is supported when the relationship between constructs has a p-value < 0.05 (Hair et al., 2014). The results of hypothesis testing are shown in Table 6 for extreme adventure tourism and Table 7 for non-extreme adventure tourism.

4. DISCUSSION

In the tourism literature, tourist satisfaction is an important factor because of its impact on customer behavior and loyalty (Dodds & Jolliffe, 2016). In line with this, this study aimed to examine the factors that can lead to tourist satisfaction, both from extreme and non-extreme adventure tourism.

First, the analysis found that in the category of extreme adventure tourism, autonomy increas-es flow experience. The findings mean that when extreme adventure tourists feel they have freedom regarding how to carry out extreme tourism activities and are involved in making decisions, these feelings can increase the tourist flow. This finding is consistent with Fave et al. (2003), who found that intrinsic motivation consisting of autonomy and competence has a positive and significant influence on the flow experience. Research by Schüler et al. (2016) in the educational context found that someone with a high perception of autonomy gains more flow experience from autonomy than someone with weak autonomy. Hofferber et al. (2016) also state that teachers with autonomy-supportive behavior led students to experience flow compared to teachers with controlling teaching behavior.

In the context of non-extreme adventure tourism, the perception of autonomy positively affects the flow experience. The findings for H1b are similar to those in the extreme adventure tourism category; this shows the importance of autonomy in adventure tourism activities. Tourists need freedom in making decisions and how to carry out adventure tourism activities. The results confirm Mills and Fullagar (2008), who state that the perception of autonomy positively affects the flow of experience and engagement with activities. Xu (2021), discussing student performance, found similar results, namely teaching behavior that supports autonomy triggers students' flow experiences. In the end, students enjoy the learning process more and get higher test results.

Table 6. Path coefficient and p-value of extreme adventure tourism

Construct	Path Coefficients	*P*-values	Information
Autonomy → Flow	0.429	0.000	Supported
Competence → Flow	0.328	0.000	Supported
Autonomy → Satisfaction	0.025	0.761	Rejected
Competence → Satisfaction	0.296	0.000	Supported
Flow→ Satisfaction	0.355	0.000	Supported

Table 7. Path coefficient and p-value of non-extreme adventure tourism

Construct	Path Coefficients	*P*-values	Information
Autonomy → Flow	0.401	0.000	Supported
Competence → Flow	0.436	0.000	Supported
Autonomy → Satisfaction	0.173	0.024	Supported
Competence → Satisfaction	−0.036	0.682	Rejected
Flow → Satisfaction	0.286	0.003	Supported

Second, the results of the analysis show that competence influences flow experience. In this case, both categories of adventure tourism (extreme and non-extreme) have the same results. Csikszentmihalyi (1990) states that perceived competence refers to a person's belief about his ability to be successful in the achievement domain. In adventure tourism, perceived competence is a tourist's belief about his ability to complete adventure tourism activities. According to Valenzuela et al. (2018), competence has the strongest influence on the emergence of flow experience in music education. The role of feelings of competence is that when tourists focus on adventure tourism activities and use their abilities, they will feel the flow of adventure tourism. This result aligns with Schüler et al. (2013), who state that high achievement motivation and competency are significantly related to flow.

Third, interesting results were found in the relationship between autonomy and satisfaction in extreme adventure tourism: autonomy did not affect the satisfaction of extreme adventure tourists in Indonesia (H3a). In contrast, H3b states that the perception of autonomy positively affects the satisfaction of non-extreme adventure tourists in Indonesia. The logical analysis of H3a results is that the concept of autonomy, which discusses individual freedom in completing extreme adventure tourism activities, contradicts the concept of prerequisites for extreme adventure tourism. Mandatory requirements must be met before doing extreme adventure tourism; tourists must have the skills and physical abilities to complete extreme adventure tourism activities. This is why extreme adventure tourists do not feel utterly autonomous in carrying out extreme adventure tours. Of course, this logic must be tested further and can be an opportunity for further research.

Abuhamdeh (2012) provides that intrinsic motivation in specific contexts cannot trigger positive emotions such as satisfaction. The study conducted experiments on chess players and found that chess players do not feel that autonomy triggers satisfaction. However, the result of the activity is a determinant of individual satisfaction. In addition, when players win, they feel satisfied, increasing their motivation for the next game.

Robert and You (2018) state that autonomy is a weak predictor in virtual teams. It was found that autonomy negatively affects employee satisfaction in virtual teams, but the joint leadership variable indirectly affects the relationship between autonomy and satisfaction. In line with this study, the relationship between autonomy and satisfaction may be indirectly influenced by experience flow or other variables.

Fourth, following the use of competency in completing the adventure in the category of extreme adventure tourism, respondents agreed that the higher the perceived competence, the higher the satisfaction with the tour. These results confirm the findings of Gheitani et al. (2019), which state that intrinsic motivation, namely the perception of autonomy and competence, positively affects satisfaction. Furthermore, the results of H4a are also consistent with Reeser et al. (2005) related to the influence of intrinsic motivation and satisfaction in the 2002 Winter Olympics and Paralympics. The findings in H4b align with Huang et al. (2019), who found that competency did not affect the positive emotions of respondents. To address these findings, they suggested that service providers add an element of an optimal challenge but not excessive. This study considers this suggestion very appropriate since the non-extreme tourism category does have a low level of risk and does not endanger the lives of tourists. The challenges given can increase satisfaction (Huang et al., 2019).

Fifth, the result from the structural model found that the experience of flow has a positive effect on the satisfaction of extreme adventure tourists. H5b states that the experience of flow positively affects the satisfaction of non-extreme tourists. Based on these results, the greater the experience of flow experienced by adventure tourists, the greater the satisfaction of their trip. This study confirms Chhetri et al. (2004), who showed that flow conditions are essential in understanding customer satisfaction. Similarly, Bilgihan et al. (2015), in the context of online ticket ordering, stated that experience flow was related to satisfaction and loyalty.

This finding is helpful for tourism service providers, as tourist satisfaction has been considered a significant driver of loyalty goals (Wu & Liang, 2011) and revisit intentions (C.-F. Chen &

F.-S. Chen, 2010). In addition, Pine and Gilmore (2011) found that offering a unique experience is the key to winning the minds and hearts of customers. They believe customers value the experience more than any other aspect of the offering. Therefore, experience is crucial to the overall service/product (Bharwani & Jauhari, 2013; Morosan et al., 2014).

CONCLUSION

The purpose of this paper is to determine the determinant of tourist satisfaction in the context of adventure tourism (extreme and non-extreme). The study uses autonomy, competence, and flow experience as predictor variables. The analysis results show that for both categories of adventure tourism (extreme and non-extreme), autonomy and competence can encourage the experience of adventure tourists. Thus, when tourists feel freedom and can freely use their abilities and knowledge in their tourism activities, they will feel a flow experience. The study also found that flow experience has a positive and significant effect on the satisfaction of tourists with extreme and non-extreme adventures. These results show that when the flow experience has been felt, tourists will feel a deep focus and a feeling of enjoyment that ultimately encourages satisfaction in carrying out adventure tourism activities.

The unique finding of this study is that in the category of extreme adventure tourism, autonomy does not affect satisfaction. This is under the concept of autonomy; tourists want to feel free to carry out adventure tourism activities, contrary to the prerequisites for extreme adventure tourism. However, tourists who wish to carry out extreme adventure tourism must have sufficient knowledge and skills to complete extreme tourism activities. If tourists do not meet the requirements for extreme travel, it can threaten their safety.

Contrary to these results, the perception of competence positively and significantly influences the satisfaction of extreme adventure tourists. This result is undoubted because extreme adventure tourism can only be done if tourists have qualified competence. Furthermore, in the category of non-extreme adventure tourism, it was found that competency does not affect the satisfaction of non-extreme adventure tourists. This result is in accordance with the concept of non-extreme tourism, which does not require high competence to carry out non-extreme adventure tourism. Therefore, competencies are not overly tested in this tourism category.

This study offers implications for managers of adventure tourism destinations in Indonesia to provide appropriate treatment in serving tourist adventure. It is proven that extreme adventure tourists have different characteristics from non-extreme adventure tourists (differences in skills, knowledge, and physical abilities). Thus, extreme adventure tourists will feel satisfied if they can use their competencies, while non-extreme adventure tourists do not feel that competence is a driving force for their satisfaction. These findings are valuable insights for the management of adventure tourism in Indonesia.

AUTHOR CONTRIBUTIONS

Conceptualization: Ade Parlaungan Nasution, Muhammad Yasir Arafat Pohan, Denny Ammari Ramadhan, Christine Herawati Limbong, Nova Jayanti Harahap.
Data curation: Ade Parlaungan Nasution, Muhammad Yasir Arafat Pohan, Christine Herawati Limbong, Nova Jayanti Harahap.
Formal analysis: Nova Jayanti Harahap.
Investigation: Ade Parlaungan Nasution, Nova Jayanti Harahap.
Methodology: Ade Parlaungan Nasution, Muhammad Yasir Arafat Pohan, Christine Herawati Limbong.
Project administration: Denny Ammari Ramadhan, Nova Jayanti Harahap.

Resources: Denny Ammari Ramadhan.
Software: Muhammad Yasir Arafat Pohan, Denny Ammari Ramadhan, Christine Herawati Limbong.
Supervision: Ade Parlaungan Nasution, Christine Herawati Limbong, Nova Jayanti Harahap.
Validation: Denny Ammari Ramadhan.
Visualization: Christine Herawati Limbong.
Writing – original draft: Ade Parlaungan Nasution, Muhammad Yasir Arafat Pohan.

REFERENCES

1. Abuhamdeh, S. (2012). A conceptual framework for the integration of flow theory and cognitive evaluation theory In S. Engeser (Ed.), *Advances in flow research* (pp. 109-121). New York: Springer. https://doi.org/10.1007/978-1-4614-2359-1_6

2. Adventure Travel Trade Association & George Washington University. (2013). *Adventure tourism market study 2013.* Retrieved from https://cdn.adventuretravel.biz/docs/research/adventure-tourism-market-study-2013-web.pdf

3. Ahn, I., Patrick, H., Chiu, M. M., & Levesque-Bristol, C. (2019). Measuring teacher practices that support student motivation: Examining the factor structure of the teacher as social context questionnaire using multilevel factor analyses. *Journal of Psychoeducational Assessment, 37*(6), 743-756. https://doi.org/10.1177/0734282918791655

4. Ali, F., Amin, M., & Cobanoglu, C. (2016). An integrated model of service experience, emotions, satisfaction, and price acceptance: An empirical analysis in the Chinese hospitality industry. *Journal of Hospitality Marketing & Management, 25*(4), 449-475. https://doi.org/10.1080/19368623.2015.1019172

5. Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly, 55*(2), 178-204. https://doi.org/10.2307/2786945

6. Beckman, E., Whaley, J. E., & Kim, Y.-K. (2017). Motivations and experiences of whitewater rafting tourists on the Ocoee River, USA. *International Journal of Tourism Research, 19*(2), 257-267. https://doi.org/10.1002/jtr.2109

7. Bharwani, S., & Jauhari, V. (2013). An exploratory study of competencies required to co-create memorable customer experiences in the hospitality industry. *International Journal of Contemporary Hospitality Management, 25*(6), 823-843. https://doi.org/10.1108/IJCHM-05-2012-0065

8. Bilgihan, A., Nusair, K., Okumus, F., & Cobanoglu, C. (2015). Applying flow theory to booking experiences: An integrated model in an online service context. *Information & Management, 52*(6), 668-678. https://doi.org/10.1016/j.im.2015.05.005

9. Bowen, D., & Clarke, J. (2002). Reflections on tourist satisfaction research: Past, present and future. *Journal of Vacation Marketing, 8*(4), 297-308. https://doi.org/10.1177/135676670200800401

10. Buckley, R. (2012). Rush as a key motivation in skilled adventure tourism: Resolving the risk recreation paradox. *Tourism Management, 33*(4), 961-970. https://doi.org/10.1016/j.tourman.2011.10.002

11. Chen, C.-F., & Chen, F.-S. (2010). Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management, 31*(1), 29-35. https://doi.org/10.1016/j.tourman.2009.02.008

12. Chen, X., Huang, Q., & Davison, R. M. (2017). Economic and social satisfaction of buyers on consumer-to-consumer platforms: The role of relational capital. *International Journal of Electronic Commerce, 21*(2), 219-248. https://doi.org/10.1080/10864415.2016.1234285

13. Chhetri, P., Arrowsmith, C., & Jackson, M. (2004). Determining hiking experience in nature-based tourist destinations. *Tourism Management, 25*(1), 31-43. https://doi.org/10.1016/S0261-5177(03)00057-8

14. Chua, B., Lee, S., Goh, B. K., & Han, H. (2015). Impacts of cruise service quality and price on vacationers' cruise experience: Moderating role of price sensitivity. *International Journal of Hospitality Management, 44,* 131-145. https://doi.org/10.1016/j.ijhm.2014.10.012

15. Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* Harper & Row.

16. Csikszentmihalyi, M. (2000). The costs and benefits of consuming. *Journal of Consumer Research, 27*(2), 267-272. https://doi.org/10.1086/314324

17. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology, 22*(14), 1111-1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

18. Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Springer. https://doi.org/10.1007/978-1-4899-2271-7

19. Dodds, R., & Jolliffe, L. (2016). Experiential tourism: Creating and marketing tourism attraction experiences. In M. Sotiriadis & D. Gursoy (Eds.), *The handbook of managing and marketing tourism experiences* (pp. 113-129). Emerald Group Publishing Limited. https://doi.org/10.1108/978-1-78635-290-320161005

20. Fave, A. D., Bassi, M., & Massimini, F. (2003). Quality of experience and risk perception in high-altitude rock climbing. *Journal of Applied Sport Psychology, 15*(1), 82-98. https://doi.org/10.1080/10413200305402

21. Gao, L., & Bai, X. (2014). Online consumer behaviour and its relationship to website atmospheric induced flow: Insights into online travel agencies in China. *Journal of Retailing and Consumer Services, 21*(4), 653-665. https://doi.org/10.1016/j.jretconser.2014.01.001

22. Gheitani, A., Imani, S., Seyyedamiri, N., & Foroudi, P. (2019). Mediating effect of intrinsic motivation on the relationship between Islamic work ethic, job satisfaction, and organizational commitment in banking sector. *International Journal of Islamic and Middle Eastern Finance and Management, 12*(1), 76-95. https://doi.org/10.1108/IMEFM-01-2018-0029

23. Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

24. Hair, J., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling*. Sage Publishing. https://doi.org/10.1007/978-3-030-80519-7

25. Herrick, T. A., & McDonald, C. D. (1992). Factors affecting overall satisfaction with a river recreation experience. *Environmental Management, 16*(2), 243-247. https://doi.org/10.1007/BF02393829

26. Hofferber, N., Basten, M., Groß-mann, N., & Wilde, M. (2016). The effects of autonomy-supportive and controlling teaching behaviour in biology lessons with primary and secondary experiences on students' intrinsic motivation and flow-experience. *International Journal of Science Education, 38*(13), 2114-2132. https://doi.org/10.1080/09500693.2016.1229074

27. Mackenzie, S. H., Hodge, K., & Boyes, M. (2011). Expanding the flow model in adventure activities: A reversal theory perspective. *Journal of Leisure Research, 43*(4), 519-544. https://doi.org/10.1080/00222216.2011.11950248

28. Howard, J. A., & Sheth, J. N. (1969). *The theory of buyer behavior*. John Wiley & Sons.

29. Hsu, C.-L., Chang, K.-C., & Chen, M.-C. (2012). The impact of website quality on customer satisfaction and purchase intention: Perceived playfulness and perceived flow as mediators. *Information Systems and E-Business Management, 10*(4), 549-570. http://dx.doi.org/10.1007/s10257-011-0181-5

30. Huang, Y., Backman, S. J., & Backman, K. F. (2019). An investigation of motivation and experience in virtual learning environments: A self-determination theory. *Education and Information Technologies, 24*(2), 1-21. https://doi.org/10.1007/s10639-018-9784-5

31. Hwang, J., Park, S., & Woo, M. (2018). Understanding user experiences of online travel review websites for hotel booking behaviours: An investigation of a dual motivation theory. *Asia Pacific Journal of Tourism Research, 23*(4), 359-372. https://doi.org/10.1080/10941665.2018.1444648

32. Janowski, I., Gardiner, S., & Kwek, A. (2021). Dimensions of adventure tourism. *Tourism Management Perspectives, 37,* 100776. https://doi.org/10.1016/j.tmp.2020.100776

33. Jasin, M., & Firmansyah, A. (2023). The role of service quality and marketing mix on customer satisfaction and repurchase intention of SMEs products. *Uncertain Supply Chain Management*, *11*(1), 383-390. https://doi.org/10.5267/j.uscm.2022.9.004

34. Jin, N. P., Lee, S., & Lee, H. (2015). The effect of experience quality on perceived value, satisfaction, image and behavioral intention of water park patrons: New versus repeat visitors. *International Journal of Tourism Research, 17*(1), 82-95. https://doi.org/10.1002/jtr.1968

35. Jöreskog, K. G. (1971). Simultaneous factor analysis in several populations. *Psychometrika, 36*(4), 409-426. https://doi.org/10.1007/BF02291366

36. Kim, M., & Thapa, B. (2018). Perceived value and flow experience: Application in a nature-based tourism context. *Journal of Destination Marketing & Management, 8,* 373-384. https://doi.org/10.1016/j.jdmm.2017.08.002

37. Kowal, J., & Fortier, M. S. (1999). Motivational determinants of flow: Contributions from self-determination theory. *The Journal of Social Psychology, 139*(3), 355-368. https://doi.org/10.1080/00224549909598391

38. Lee, C.-H., & Wu, J.-J. (2017). Consumer online flow experience: The relationship between utilitarian and hedonic value, satisfaction and unplanned purchase. *Industrial Management & Data Systems, 117*(10), 2452-2467. https://doi.org/10.1108/IMDS-11-2016-0500

39. Lee, C.-K., Reisinger, Y., Kim, M. J., & Yoon, S.-M. (2014). The influence of volunteer motivation on satisfaction, attitudes, and support for a mega-event. *International Journal of Hospitality Management, 40,* 37-48. https://doi.org/10.1016/j.ijhm.2014.03.003

40. Liu, H., Chu, H., Huang, Q., & Chen, X. (2016). Enhancing the flow experience of consumers in China through interpersonal interaction in social commerce. *Computers in Human Behavior, 58,* 306-314. https://doi.org/10.1016/j.chb.2016.01.012

41. McAlexander, J. H., Kim, S. K., & Roberts, S. D. (2003). Loyalty: The influences of satisfaction and brand community integration. *Journal of Marketing Theory and Practice, 11*(4), 1-11. https://doi.org/10.1080/10696679.2003.11658504

42. Mills, M. J., & Fullagar, C. J. (2008). Motivation and flow: Toward an understanding of the dynamics of the relation in architecture students. *The Journal of Psychology, 142*(5), 533-556. https://doi.org/10.3200/JRLP.142.5.533-556

43. Morosan, C., Bowen, J., & Atwood, M. (2014). The evolution of marketing research. *International Journal of Contemporary Hospitality Management*, *26*(5), 706-726. https://doi.org/10.1108/IJCHM-11-2013-0515

44. Nazir, S., Khadim, S., Ali Asadullah, M., & Syed, N. (2023). Exploring the influence of artificial intelligence technology on consumer repurchase intention: The mediation and moderation approach. *Technology in Society*, 72, 102190. https://doi.org/10.1016/j.techsoc.2022.102190

45. Pine, B. J., & Gilmore, J. H. (2011). *The experience economy* (359 p.). Harvard Business Review Press.

46. Pomfret, G., & Bramwell, B. (2016). The characteristics and motivational decisions of outdoor adventure tourists: A review and analysis. *Current Issues in Tourism, 19*(14), 1447-1478. https://doi.org/10.1080/13683500.2014.925430

47. Reeser, J. C., Berg, R. L., Rhea, D., & Willick, S. (2005). Motivation and satisfaction among polyclinic volunteers at the 2002 Winter Olympic and Paralympic Games. *British Journal of Sports Medicine*, 39(4), e20. https://doi.org/10.1136/bjsm.2004.015438

48. Ritpanitchajchaval, N., Ashton, A. S., & Apollo, M. (2023). Eudaimonic well-being development: Motives driving mountain-based adventure tourism. *Journal of Outdoor Recreation and Tourism*, 42, 100607. https://doi.org/10.1016/j.jort.2023.100607

49. Robert, L., & You, S. (2018). Are you satisfied yet? Shared leadership, individual trust, autonomy, and satisfaction in virtual teams. *Journal of the Association for Information Science and Technology, 69*(4), 503-513. https://doi.org/10.1002/asi.23983

50. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78. https://doi.org/10.1037/0003-066X.55.1.68

51. Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness.* The Guilford Press. https://doi.org/10.1521/978.14625/28806

52. Ryan, R., & Deci, E. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52,* 141-166. https://doi.org/10.1146/annurev.psych.52.1.141

53. Schneider, P. P., & Vogt, C. A. (2012). Applying the 3M model of personality and motivation to adventure travelers. *Journal of Travel Research, 51*(6), 704-716. https://doi.org/10.1177/0047287512451134

54. Schott, C. (2007). Selling adventure tourism: A distribution channels perspective. *International Journal of Tourism Research, 9*(4), 257-274. https://doi.org/10.1002/jtr.610

55. Schüler, J., Brandstätter, V., & Sheldon, K. M. (2013). Do implicit motives and basic psychological needs interact to predict well-being and flow? Testing a universal hypothesis and a matching hypothesis. *Motivation and Emotion, 37*(3), 480-495. https://doi.org/10.1007/s11031-012-9317-2

56. Schüler, J., Sheldon, K. M., Prentice, M., & Halusic, M. (2016). Do some people need autonomy more than others? Implicit dispositions toward autonomy moderate the effects of felt autonomy on well-being. *Journal of Personality, 84*(1), 5-20. https://doi.org/10.1111/jopy.12133

57. Tiganis, A., Grigoroudis, E., & Chrysochou, P. (2023). Customer satisfaction in short food supply chains: A multiple criteria decision analysis approach. *Food Quality and Preference, 104,* 104750. https://doi.org/10.1016/j.foodqual.2022.104750

58. Valenzuela, R., Codina, N., & Pestana, J. V. (2018). Self-determination theory applied to flow in conservatoire music practice: The roles of perceived autonomy and competence, and autonomous and controlled motivation. *Psychology of Music, 46*(1), 33-48. https://doi.org/10.1177/0305735617694502

59. Vella, K., Johnson, D., & Hides, L. (2015). Playing alone, playing with others: Differences in player experience and indicators of wellbeing. *Proceedings of the 2015 annual symposium on computer-human interaction in play* (pp. 3-12). London, United Kingdom. https://doi.org/10.1145/2793107.2793118

60. Wang, T.-L., Tran, P. T. M., & Tran, V. T. (2017). Destination perceived quality, tourist satisfaction and word-of-mouth. *Tourism Review, 72*(4), 392-410. https://doi.org/10.1108/TR-06-2017-0103

61. Westbrook, R. A., & Oliver, R. L. (1991). The dimensionality of consumption emotion patterns and consumer satisfaction. *Journal of Consumer Research, 18*(1), 84-91. https://doi.org/10.1086/209243

62. Woodruff, J. (1985). A spate of words, full of sound & fury, signifying nothing: Or, how to read in Harlequin. *The Journal of Popular Culture*, 19(2), 25-32. https://doi.org/10.1111/j.0022-3840.1985.00025.x

63. Wu, C., & Liang, A. (2011). The relationship between white-water rafting experience formation and customer reaction: A flow theory perspective. *Tourism Management*, 32(2), 317-325. https://doi.org/10.1016/j.tourman.2010.03.001

64. Wulandari, H., Ruslani, A., Pravitasari, C., Apresziyanti, D., & Muin, M. F. (2021). *Domestic Tourism Statistics 2021*. BPS-Statistics Indonesia.

65. Xu, S. (2021). The effects of autonomy-supportive and controlling teaching behaviors on primary students' stem learning performance and flow. *Journal of Baltic Science Education*, 1(1), 942-955. https://doi.org/10.33225/jbse/21.20.942

66. Yu, S., Levesque-Bristol, C., & Maeda, Y. (2018). General need for autonomy and subjective well-being: A meta-analysis of studies in the US and East Asia. *Journal of Happiness Studies, 19,* 1863-1882. https://doi.org/10.1007/s10902-017-9898-2