

An Analysis of Activity Preferences and Motivation for Outdoor Recreation

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Abstract:

Hiking is one of the popular sport tourism activities in Indonesia, especially in West Java Province. It's not only favored by professionals but also amateurs who are eager to spend their leisure time outdoors. These participants do the activity based on various motivations and preferences. Activity preferences are activities chosen by sport tourism participants and can be used as a basis for conducting market segmentation. This study aimed to investigate dominant factors of participants' outdoor recreation motivation and its influence on outdoor activity preferences. Quantitative research was used in this study. Data were collected from 411 respondents who hiked Ciremai Mountain and Papandayan Mountain in West Java Province. Data were analysed using Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM). Results showed that achievement, learning and sociality, independent and personal development, and relaxation formed outdoor activity motivation. The most dominant factor was learning and sociality, while the least dominant was relaxation. Motivation was also proven to have a significant influence on activity preference. Most of the hikers were willing to explore and learn new things when they hiked, which can be an opportunity for the management to socialize sustainable behaviour aspects around the area.

Keywords: Sport tourism, outdoor recreation motivation, activity preferences, hiking, recreation, leisure

Introduction

Sportstourism is a growing type of tourism, which is defined as trips of tourist to participate in activities of sports (means an active sports tourism), to visit sports attraction (nostalgia/sentimental sports tourism) or to watch sporting events (event sports tourism) further explained that sports tourism is all forms of active and passive engagement in physical activity and similarly, both occasionally or regularly, which is undertaken for non-business or non-

commercial purposes, and additionally, which requires traveling outside the own residence and work place. It includes travel away from one's primary residence to take part in a sports activity either for to recreation, to redesign or competition purposes, travels to observe sports at the grassroots level; and visit others sports attraction places such as a sports hall of fame or water park (Asan, 2019). Similarly, certain types of sport tourism are practiced outdoors (Kim, 2023), such as hiking, trail running, hunting, biking, kayaking and rafting, skiing and backpacking.

Of all the sport tourism types above, hiking is one of the most famous types since it can be enjoyed by almost everyone due to its mostly low cost. Hiking is also considered to be of high interest since it combines fun, exercise, and self-mastery and is adapted to participants' physical skill (Chang, 2020). Besides being closely related to physical benefits, hiking also contributes to mental benefits (Sidi, 2019). Hiking also provides moments to create a sense of continuity and affiliation with their own lives and their close family.

Review of Literature

Similarly, Motivations are also key concepts to understand and determine the reasons for free time activities of individuals and the leisure time process (Manfiedo, 2016). Mills (2019) studied visitors' motivation to Tantra National Park, Poland, and found cathartic, activity, health, social, emotional, ambition, and cognitive as their motivations. Another study included learning and sociality, relaxation, independence, achievement, and personal development as motivations for participants in nature activity (Sidi, 2019). However, Chang (2020) discovered that motivations of hikers in South Korea also belonged to enjoying the natural environment and escaping from daily life, pursuing a healthy life, pursuing a new type of travel, and pursuing intimacy, while Manfiedo (2016) opined that motivations of doing physical activities were physical fitness, interpersonal interaction, weight control, and release. Another study of whale safari, fishing, and hiking in Norway by Chang resulted in novelty, prestige, and physical activity as the main motivation for participation.

Most studies on tourist motivations focus on their influence on destination choice but less on activity preferences. However, the purpose of this research study is to investigate the dominant factors of hikers' outdoor recreation motivation and to analyse the influence of outdoor recreation motivation on activity preferences in two mountains in West Java Province, Indonesia, namely Ciremai and Papandayan Mountains. The two mountains were chosen because of their popularity and the high number of visitors.

This study is important from a practical point of view since it will allow management to provide a variety of activities for their visitors. Moreover, they can also improve the facilities that support those activities. Knowledge of activity preferences can also help management to design effective promotions and create visitor experiences.

Method

According to Chang (2020), motivation is a critical concept in determining and understanding the reasons individuals do certain activities in their spare time. Motivation is an internal factor that guides, stimulates, and integrates a person's behaviour and thus influences travel behaviour (Xiao, 2015) and it is created by the conditions of the inner struggle. It is described as desires, impulses, and mental states that activate the individual to fulfil them. Outdoor recreation, according to Manfredo (2016) is a recreational activity that requires voluntary participation in leisure time and occurs outdoors and involves interaction with resources and the natural environment. has also provided the classified reasons for participating in recreational activities, which have four main categories: intellectual, stimulus avoidance, social, and competence/mastery. Intellectual involved learning and creativity, while stimulus avoidance consisted of relaxing and avoiding pressing situations. Social regarded with friendship and other people's self- esteem.

Competence/mastery was related to achievement, ability, challenge and competition, and often physical. Chang (2020) conducted a study of 5217 people regarding their motivation for outdoor recreation activities. The results showed that the most important motivations were experiencing scenic beauty and nature, recreation, relaxation, wellness, and fitness. The least important motivations were adventure, thrill and saving costs. Many other studies

on outdoor sports motivation (Chang, 2020; Manfiedo, 2016; Kim, 2019) are in line with the recreational experience preference (REP) theory, which was first proposed by [2], which consisted of achievement, learning and sociality, independent and personal development, satisfaction, and relaxation.

Preference is about a behavioural choice of one product/service over another (Chang, 2020; Manfiedo, 2016; Kim, 2019). In the adventure tourism context, preference is a choice of activity in irregular, exotic, remote or wild destinations and usually it involves a high level of participation, most of it outdoors. In their study, Kim (2019) stated that there were 25 nature-based activity preferences which they categorized into 4 seasonal quadrants, namely passive winter, active winter, passive summer and active summer. While Chang (2020) categorized activity preferences as outdoor activities, cultural, and entertainment. Preference has been considered as one of the most important elements in understanding tourist behaviour in tourist destinations.

The tourism industry players continue to strive to understand more about tourist activities. This can be done by segmenting the market based on activity preferences that divide visitors based on visiting behaviour patterns. For example, certain tourists may prefer to see sights or visit historical places, while others prefer different activities such as sports or sunbathing. Preference-based segmentation is often associated with motivation, values, group characteristics, and socioeconomic/demographic factors, whereas activity-based segmentation assumes that different types of tourists are addressed by different tourism products. Similarly, it also defines groups of tourists by their behavior, activity preferences, or visitation patterns. Activity-based segmentation can be used in conjunction with psychographic, demographic, and/or other social variables to be more productive.

Study Area

The study was conducted in two mountains in West Java, namely Ciremai Mountain and Papandayan Mountain. Both were famous among hikers and had the most visitors, especially during long holidays. Ciremai Mountain is the highest mountain in West Java Province of Indonesia. Its altitude reaches 3.078 Mdlp. On the other hand, Papandayan Mountain is well known for its crater, which is the largest in Southeast Asia. The population

consists of hikers, both amateurs and professionals, who hiked Ciremai and Papandayan Mountains in July 2018.

Measurement

The questionnaire was developed based on previous studies. To measure outdoor recreation motivations, we adapted the measurement, which consisted of achievement, learning and sociality, independent and personal, and relaxation. There were 17 question statements. In this study, activity preferences were only focused on hiking as a form of outdoor activities, adapted from [10] with necessary adjustments. There were 4 question statements for activity preferences, making the total 21 question statements. Using a Likert Scale from 1 to 5, respondents were requested to give their response to the statements given.

Data Collection

Observation was done by visiting the two mountains in July 2018. The population was derived from the total number of visitors to Ciremai and Papandayan Mountains, about 383.970 in 2017 or 32.000 per month in average. Using the Slovin formula, the minimum sample was 399,58. Direct questionnaires were distributed to all hikers in both mountains on the weekends (Saturday and Sunday), for a total of 200 sets. The rest of the questionnaires were distributed online (with Google Form) to hiking communities. The convenience sampling technique was employed in the distribution. Out of 425 questionnaires distributed, 411 were usable and provided good data. This showed the response rate of 97%.

Data Analysis

Collected data were then analyzed with confirmatory factor analysis (CFA) and structural equation model (SEM) using the AMOS program. CFA was used to examine the dominant factors of outdoor recreation motivation. The validity and reliability of the construct were also measured. The standard value to measure validity was 0.50, and the value to measure reliability was >0.70 . P-value, RMSEA, CFI, and GFI were used as measurements to test model fit, with standard value at <0.05 , <0.08 , >0.90 , and >0.90 ,

respectively. To analyse the influence of outdoor recreation motivation on activity preferences, the structural equation model (SEM) method was used with the level of significance below 0.05.

Results and Discussions

Descriptions of Samples

The respondents in this study were mostly male (71%), while females were 29%. The majority age was 18-25 years old (69%), followed by 26-30 years old (22%), 31-35 years old (6%), and >35 years old (3%). The highest proportion of occupation background fell into student (47%), followed by employee (32%), entrepreneur and government officer (8% each), and others (5%). For average expenses while hiking, the majority of respondents spent <Rp 1.000.000 (87%), followed by Rp.1.000.000–Rp.2.000.000 (12%), and >Rp.2.000.000 (91%), respectively. Respondents spent time mostly 1 night (75%), followed by 2 nights (20%) and only 5% spent more than 2 nights. The purpose of hiking was mainly because of holiday (90%), participating in the event (6%), conservation (2%), and others (2%). A variety of sources of information were reported by the respondents; most of them was from family and friends (63%), followed by the internet (28%), management of the site (38%), print media (1%), and others (1%).

Testing Result

This study uses Structural Equation Model (SEM) in measuring outdoor recreation motivation towards activity preferences. Data analysis was carried out with two stages of measurement. The first stage was testing the unidimensionality, validity, and reliability of the proposed measurement model. Confirmatory factor analysis (CFA) with the help of AMOS software was used in this stage. Results obtained from the calculation were expected to meet the criteria of the congeneric measurement model. The second stage test was the research model and hypothesis through estimation of model parameters, fit model test, and research hypothesis test. Measurement of estimation and testing model parameters are presented in Figure 1. Table 2

presents multivariate test which indicates that the data were not normally distributed since the value of M was greater than ± 2.58 , or equal to 14,334. Based on the determinant of the covariant matrix, a value of 4,851 is greater than zero. This means the dataset was still feasible to be used in subsequent analysis.

Table 1.
Statistical Assumption Test Results

Var	min	ma x	ske w	c.r.	Kur to- sis	c.r.	Detof Cov Matr ix
ap4	2.0 00	5.00 0	- .892	- 7.38 3	- .035	- .143	
ap3	2.0 00	5.00 0	- .631	- 5.22 5	- .336	- 1.39 1	
ap2		5.00 0	- .579	- 4.79 2	- .455	- 1.88 5	
ap1	2.0 00	5.00 0	- .701	- 5.80 4	- .039	- .160	
re	8.0 00	15.0 00	- .496	- 4.10 3	- .672	- 2.78 1	4.851
ip	5.0 00	20.0 00	- .927	- 7.67 2	2.59 9	10.7 55	
ls	8.0 00	25.0 00	- .716	- 5.92 4	1.53 6	6.35 6	
ac	12. 000	25.0 00	- .377	- 3.11 7	- .240	- .995	
Mul tiva riate					17.8 86	14.3 34	

The results of the fit model test obtained the value of P-value with a degree of freedom 19 of 0,000 smaller than the required value. However, based on the values of GFI and CFI, each represents the score of 0.952 and

0.934, respectively. The value is above the required value, which is 0.90. The RMSEA value is greater than the specified value, which is equal to

0.08. It can be concluded that the results of testing the fit model on the proposed model are a good fit with the data. That means the estimation results can be used on the population. In Table 3, the test results of each weighing factor coefficient show that all have significant values, where the P value is below

0.05. The estimated factor weights for all indicators above the standardized value of 0.5. This indicates that each indicator is valid and reliable in measuring each variable in this study.

Summary of the Overall Measurement Parameter Estimation Model Standardized RegressionWeights: (Group number 1 - Default model)

	Estimate	P	R ²	Error	CR _i	VE _i
Outdoor (X1)						
Ac□ X1	.680		.463	0.537		
Ls□ X1	.802	***	.642	0.358		
Ip□ X1	.726	***	.527	0.473	0.797	0.424
Re□ X1	.580	***	.337	0.663		
Act Pref (Y1)						
Ap1 □ Y1	.636		.404	0.596		
Ap2 □ Y1	.636	***	.503	0.497		
					0.724	0.722
Ap3 □ Y1	.538	***	.405	0.595		
AP4 □ Y1	.702	***	.290	0.71		

Table 3 also shows that the estimation results for all research variables have coefficient values (CR) above the minimum limit of 0.70. This means that the indicators of all variables were reliable in measuring each variable in this study. Therefore, it can be concluded that the measurement model meets the criteria for the congeneric measurement model. The dominant indicators in forming the construct of outdoor recreation motivation were learning and sociality, with a validity value of 0.802 and a reliability of 0.642. The

construct activity preference was dominated by AP4 with a validity value of 0.702 and a reliability value of 0.290. The parameter estimation results of the structural model of this research model with a sample of 411 participants are presented in Table 4. It provides information that the results of the significance test for the estimated path coefficients for variables have a significant probability value. The amount of path coefficient estimation for outdoor recreation motivation towards vacation activities preferences is equal to 0.624 or in other words outdoor recreation motivation affects vacation activities preferences by 62.4%.

Table 3.
Summary of Estimated Structural Model Parameter Results

Mode I	Estimate		SE	Cr	P	R ²
	RW	SRW				
AP □ OUT 6	0.15 6	0.624	0.019	7.99	***	0.389
				1		

This study revealed that learning and sociality was the predominant indicators in outdoor activity motivation. A similar result was obtained by [32], who mentioned that the most significant motive for hiking was "spending time with friends". Hikers desired to appreciate the natural environment and escape from day-to-day life and to pursue intimacy. They portrayed pursuing intimacy as "increase intimacy with family and friends" and "have conversation with family and friends while walking", which can be categorized as socializing.

However, different studies demonstrated different outcomes. In the investigation by [10], relaxation was positioned first in terms of significance, while learning and sociality were ranked second, followed by achievement and independence and personal development, respectively.

Focusing on activity preference, enjoying natural scenery appeared to have the highest score. Hikers mentioned that hiking was one of their ways to feel close to nature; therefore, they did not feel the rush to finish the trail and did not mind making a few stops along the way and going back without reaching the top. However, other hikers considered getting to the top their

main priority and focused their effort to achieve the objective. Camping was also mentioned as one of the activities they liked doing while hiking, although not many hikers did that and hiking alone was the activity they preferred the least. This finding was different from previous studies [29], [30], [24] which focused not only on outdoor activities but also on cultural and entertainment activities.

Results also showed that outdoor recreation motivation influenced activity preferences. This is in line with the study of [10], which stated that there was a connection between outdoor motivation and activity preferences. Further study by [33] also revealed that motivation influenced the selection of activities. There is a significant relationship between motivation and preferences for activities, where tourists are more likely to be involved in activities that meet their motivations [14]. This notion is supported by the study of [34], which stated that recreational activity is influenced by both situational and motivational factors. The two most important motivations in the study were pleasant surroundings and to be with family, while socialization and recognition were not considered to be important. Understanding motivations will lead to understanding the needs, goals, and preferences of tourists, which is important to plan better products and services.

Conclusion

Most of the hikers spent their time between one and three days in the mountains with the main objectives of learning about nature and its surroundings. Spending quality time with their family and friends is also one of the objectives. Motivations behind that could be seen from achievement, learning and sociality, independent and personal development, and relaxation. Results revealed that learning and sociality are the dominant factors that formed motivation. This showed that hikers' willingness to learn about nature, find information about places that other hikers have been to, hiking with family and friends, explore new things, and willingness to share with other hikers are things that motivated them in doing the hiking. This was followed by the second dominant factor, which was independent and personal

development, which consisted of willingness to be in the likable place, self-freedom, willingness to think one self, and willingness to raise self-confidence. Looking at those two dominant factors, hikers, whether professionals or amateurs, had a strong will to keep learning. By finding out more information about new place that have been visited by other hikers, they explored and acquired new knowledge. However, they didn't want to miss this moment without sharing it with other hikers. Therefore, their willingness to hike with friends was high.

Research showed that outdoor recreation motivation influenced activity preferences. It demonstrated that motivation will determine what kind of activity to do. The more frequently the hikers hike, the more specific the activity that they do. This means that the more focused a person's motivation is, the more specific the activity that he or she will do. From a marketing perspective point of view, this is an indication for management to formulate differentiate marketing strategy for different types of activities.

The implication of this research was for the management to provide a better family-friendly facility with a comfortable gathering space. Considering that one of the hikers' objectives in hiking was to spend time with family and friends. Furthermore, providing an information board about hiking tracks, hiking safety measures, and any additional information at several points along the track will be useful. Information about an adequate number of posts is also important to give hikers a chance to take a rest. Facts and figures about the mountain should also be displayed informatively and attractively to increase the attention of the hikers. This can also be added by educating hikers on how to protect the environment and to behave sustainably.

This study has some limitations. First, it doesn't differentiate between professional and amateur hikers, who will probably have different motivations and preferences in mountain hiking. Second, this study only focused on activity preferences in hiking, without exploring other types of outdoor activities in the mountain.

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