

A PLS-SEM Structural Equation Model Analysis of Causes and Effects for Formula E Car Racing in Jakarta Tourism Destinations

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Abstract. Tour Formula E electric car racing in Jakarta, Indonesia has contributed to the growth of the sports and tourist industries in Indonesia, particularly in Jakarta's Special Capital Region. As the host city, Jakarta attracts a large number of awe-inspiring travelers. This study aims to examine the causes and outcomes of tourist destinations in Jakarta, Indonesia, as a tourist destination for Formula E electric car racing among tourists. An online questionnaire was utilized to collect data from 382 respondents in order to evaluate the relationship hypothesis. Using PLS SEM software based on SMART PLS Version 3.3.2, the data were analyzed using a structural equation modeling technique. The results indicate that state knowledge, safety and security, accessibility, price reasonableness, word-of-mouth, and social media are significant predictors of Jakarta, Indonesia's image as a tourist destination for Formula E electric car racing, which in turn influences perceived value and intention to return. We have examined the theoretical and managerial consequences of research. A lucrative market that contributes significantly to the tourism industry.

Keywords: Tourist Attractions, Formula E, Jakarta, Visitor Intention

1 Introduction

The development of the Formula E championship, the world championship for individual electric drivers, will provide the impetus to promote environmental sustainability through technology, management, and logistics. Furthermore, as the first category in motor sport certification in 2019 (the highest award for a sustainable event), Formula E is pioneering a new trend in global motor-sport. Formula E has acquired the exclusive right to host a fully electric formula-based world championship from the Federation Internationale de automobile (FIA), the world governing body of motor sport) until 2038 (no electric F1 for the time being). Innovation, technology, and concern for the environment are messages that many companies want to associate themselves with, which makes the Formula E championship so exciting. This study aims to examine the relationship between the influence of event quality, destination image, perceived value, tourist satisfaction, and destination loyalty among sports tourists based on the Formula E championship as an example of environmentally conscious behavior. Since the early 2000s, organizations have increasingly utilized sports (teams, clubs, associations) and events (national football leagues, world championships, or individual events) to adopt social responsibility initiatives. The City of Jakarta, Indonesia has legitimized business activities in an environmentally friendly context that can give back to society as one of its administration's goals. Therefore, Jakarta faces stiff competition to become a tourist destination of choice for Formula E electric car racing. The development of a positive and understanding tourist destination image with consequence antecedence will be an effective strategic choice for Jakarta to compete with other cities. Knowledge, safety and security, accessibility, a fair price, word of mouth, and social media are key factors in how people see Jakarta, Indonesia as a tourist destination for Formula E electric car racing, which affects perceived value and the likelihood that people will come back.

Literature Review and Hypothesis Development

An examination of the literature on tourism reveals that an image destination is comprised of various characteristics. These characteristics, which include tourist attractions, public infrastructure, reputation for service quality, facilities, social environment, transportation services, accommodation, support services, food, personal safety, and communication, are defining characteristics of tourist destinations. A review of the literature on tourism shows that an image of a destination consists of several attributes. These attributes include tourism attractions, public infrastructure, reputation for service quality, facilities, social environment, transportation services, accommodation, support services, food, personal safety, and communication are common elements that shape the image of tourist destinations. [1]

Antecedent Factors

Knowledge

Knowledge is a collection of human-collected facts and principles about a domain, and it may be categorized into two contexts: procedural knowledge and declarative knowledge. Knowledge of procedures refers to the ability to conduct [2]. Declarative knowledge refers to mental models of concepts, connections, things, and facts that may be vocally articulated. In the context of tourism, knowledge about locations is frequently declarative and can be received through personal experience, family/colleagues' experiences, and information available through various media, such as magazine articles, newspapers, and television commercials. Previous research has repeatedly reported that a person's knowledge of a location greatly influences their perception of it [3]. These findings show that individuals will be able to create perceptual pictures of locations depending on the knowledge they have gained. Consequently, the following hypothesis has been developed:

H1: Knowledge has a direct and positive effect on how a place is seen as a tourist destination.

Safety and security

Safety and security against criminal activity (e.g., pick pocketing), natural disasters (e.g., earthquakes), and physical violence are factors that tourists typically take into account while selecting a destination. Safety and security are essential for the tourism business. In this study, safety and security refer to settings that are relatively devoid of threats linked to crime, terrorism, food, transportation, and natural disasters [4]. How safe and secure tourists feel will have a positive effect on how they think the destination looks. Consequently, according to hypo H2. Safety and security have a direct positive effect on a region's image as a tourist destination.

Accessibility

Accessibility has been characterized in a number of different ways. Accessibility refers to the convenience of entering tourist locations due to the availability of transport options. Accessibility in tourism encompasses all modes of transportation that connect travelers to and from tourist locations, beginning with air, land, and sea travel. Accessibility is frequently cited as one of the primary elements that attract tourists to a particular location. The country's competitiveness can be bolstered by the availability of efficient transportation, which also has a significant impact on the way tourists view the place. Accessibility has also been connected to the choice of tourist destinations, satisfaction with destinations, and travel plans [5]. H3. A place's reputation as a tourist destination is directly affected by how easy it is to get to.

Reasonable price

Price is widely recognized as an influential factor in customer product or service selection and purchasing decisions. Prior to making a purchasing choice, consumers frequently compare prices offered by competing firms and assess the reasonableness or acceptability of a product or service's price [6]. In this study, pricing fairness refers to the customer's view of the appropriateness of a product or service's price relative to that of competitors. Customers' perceptions of price fairness influence their attitudes toward vendors and serve as a benchmark for evaluating product and service experiences. Consumer behavior, customer decision formation, intention development, and decision making are all thought to have a significant impact [7]. Moreover, H4. The influence of a reasonable price on the region's image as a tourist destination is immediate.

Word of mouth communication

Word of mouth (WOM) refers to individual communication with family members, friends, and coworkers regarding the provider's services. WOM is widely recognized as a source of communication and information that influences the attitudes and behaviors of consumers. WOM is regarded as one of the most potent drivers for recruiting customers since consumers view this information source as credible when it comes to influencing their purchasing decisions [8]. In addition, WOM has been proven to have a significant influence in the service industry. This can reduce the uncertainty and perceived risk associated with WOM purchases of services by customers. Previous research has shown that WOM has a direct favorable effect on the image of a destination [9].

H5. Word of mouth has a favorable effect on the image of a place as a tourist destination.

Social media communication.

Social media websites have succeeded in drawing millions of users by providing a forum for the public to communicate, discuss, chat, video conference, and exchange ideas. Social media refers to a collection of Internet-based apps built on the technological and ideological foundations of the World Wide Web that enable the creation and exchange of user-generated content, ability to give tailored information, promote marketing tactics, and influence consumer behavior in the service business. Social media's ability to enable tourism operators to provide customized information to visitors has been proven to increase marketing operations in a tourism context. Two types of social media communication exist: company-generated social media and customer-generated social media (user-generated social media). Corporate social media is a modern web-based program that a corporation or service provider uses as a communication tool and marketing channel to reach clients that cannot be reached through traditional media. The social media that have been developed make it possible to have complete control over the subject of communication and to concentrate on the intended audience. Social media produced by the firm can boost customer purchases, enhance the company's market share, and expedite the purchasing decision

process for consumers [10]. It is believed that user-generated social media through e-WOM plays a significant role in supporting travelers in molding the destination's image. Travelers have more faith in content created by users than in content generated by travel businesses. User-generated content on social media can also have a big effect on how travelers see a place [11]. H6. Social media has a substantial effect on the image of a place as a tourist destination.

Destination image

The destination image and attitude concept encompasses the beliefs, ideas, and impressions that travelers have about a location. The destination's image is related to the subjective feelings and beliefs of tourists. The intricate process by which travelers form perceptions, ideas, beliefs, impressions, identities, and feelings about a destination determines the destination's image. Destination image is a crucial term in tourism research for two primary reasons. First, the image of a resort is unquestionably one of the most crucial deciding criteria for travelers. Second, the location's image influences the amount of tourist satisfaction based on the destination experience [12]. Multiple images are frequently used by tourists to build their views, thoughts, beliefs, impressions, and emotions about a particular area. If a traveler intends to visit a particular destination, he or she will actively seek out commercial and non-commercial travel information about that location. Individuals can organize against a certain place even if they have no intention of getting there. Promotion of the destination and its brand is crucially dependent on its growth and expansion. Destination image makes tourists more aware of a place, which has a direct effect on how tourists choose where to go[13].

Consequence Factors

Intention to travel

The desire to revisit a previously visited location within a specified time frame. Rather than searching out new tourists, economic gains might be acquired by luring existing tourists to return to the same destination [14]. The entire image of a destination influences the likelihood that tourists will return. H8. Destination Image has a direct beneficial effect on visitor return intentions.

Perceived Value

Perceived value is the visitors' overall evaluation of the trip based on their perception of what they received in exchange for what they gave up. Customer value is the difference between the perceived benefit of a product or service and the perceived cost of receiving it. Perceived value may have a positive effect on the likelihood of a customer's return. Multiple studies have indicated that the perception of tourism value is positively associated with the intent to revisit previously visited sites [15]. In tourism, the relevance of the customer's perceived value has been emphasized in order to determine whether the traveler's journey is valuable in comparison to the costs incurred. Several steps in the process of creating value Prior to making a purchase, the consumer must have a specific idea of value. Second, the customer will perceive the value as a result of the transaction. Third, the customer will assess the value of the transaction as a result of the exchange or acquisition that has taken place. It is suggested that buyers will consider a transaction valuable if the value they obtain after purchase replaces their consumption expectations. It has been suggested that the image of a destination has a substantial effect on the perceived value of a vacation by tourists [16]. H8. Positive direct effect on destination image to the valuation of tourist

Structural models and hypothesis testing

Data analysis

The analysis of the data was conducted using PLS SEM and SMART PLS software version 3.3.2. There are three phases to the testing procedure: internal consistency reliability, convergent validity, and discriminant validity. Cronbach Alpha was utilized to determine the outcomes of the internal consistency reliability test. The outcomes of the performed data analysis are displayed in the table below.

Table 1. Internal Reality Consistency

Variable	Cronbach Alpha	Information
Knowledge	0.931	Very good
Safety and security	0.928	Very good
Accessibility	0.946	Very good
Reasonable price	0.818	Very good
Word of mouth communication	0.889	Very good
Social media communication	0.880	Very good
Destination image	0.869	Very good
Value perception	0.863	Very good

Intention to visit again	0.916	Very good
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The test results shown in the table above indicate that a Cronbach alpha score of greater than 0.7 indicates very strong dependability. In conclusion, the internal consistency reliability test is passed by all variables. Convergent validity is determined by comparing the Indicator Reliability (Outer Loading) and AVE values (Average Variance Extracted). The standard outer loading value is excellent if its score is greater than 0.70, and the standard AVE value is excellent if it is greater than 0.5 [17]. The outcomes of the convergent validity test are presented in the table below.

Table 2. Convergent Validity

Variable	Indicator	Loading Factor	Composite Reliability	AVE
Knowledge	Pen1	0.866	0.946	0.777
	Pen2	0.891		
	Pen3	0.846		
	Pen4	0.904		
	Pen5	0.899		
Safety and security	Kk6	0.806	0.956	0.754
	Kk7	0.879		
	Kk8	0.884		
	Kk9	0.898		
Accessibility	Ak10	0.866	0.892	0.734
	Ak11	0.837		
	Ak12	0.866		
Reasonable price	Kh13	0.822	0.918	0.692
	Kh14	0.801		
	Kh15	0.868		
Word of mouth communication	Kmm16	0.883	0.919	0.792
	Kmm17	0.883		
	Kmm18	0.904		
	Kmm19	0.927		
Social media communication	Ms20	0.853	0.918	0.736
	Ms21	0.871		
	Ms22	0.934		
Value perception	Pn23	0.908	0.947	0.856
	Pn24	0.928		
	Pn25	0.939		
	Pn26	0.917		
	Pn27	0.943		
	Pn28	0.964		
	Pn29	0.986		
Intention to visit again	Nbk30	0.833	0.907	0.710
	Nbk31	0.831		
	Nbk32	0.889		
	Nbk33	0.914		
	Nbk34	0.901		

The results of the convergent validity test shown in the table above indicate that both the outer loading value and the AVE value are more than 0.5. Therefore, it can be argued that each variable and its corresponding indicators have excellent convergent validity. Using the Fornell-Larcker criterion, the discriminant validity test with the highest cross-loading correlation is determined. The test results are shown in the table below:

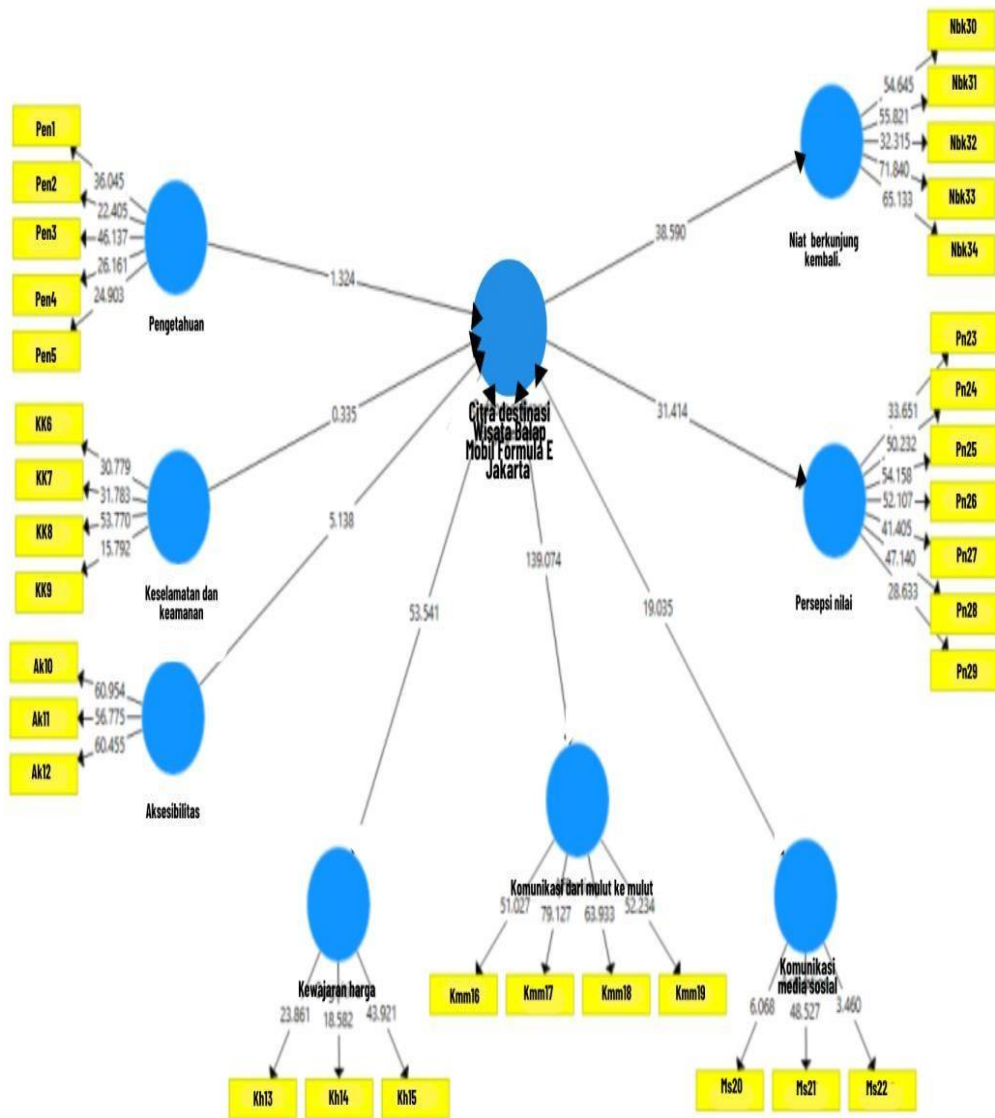
Table 3. Discriminant Validity

Variable	1	2	3	4	5	6	7	8	9
Knowledge	0.672								

Safety and security	0.621	0.910							
Accessibility	0.664	0.771	0.881						
Reasonable price	0.653	0.787	0.834	0.869					
Word of mouth communication	0.630	0.780	0.809	0.763	0.857				
Social media communication	0.499	0.636	0.720	0.694	0.677	0.832			
Destination image	0.504	0.678	0.707	0.682	0.656	0.811	0.648		
Value perception	0.648	0.666	0.760	0.696	0.708	0.666	0.890	0.858	
Intention to visit again	0.528	0.676	0.712	0.702	0.687	0.838	0.696	0.777	0.842

Structural Model Evaluation

Evaluation of the Structural Model The next phase, following the evaluation of the measurement model, is the structural model analysis to test the previously provided hypothesis. This analysis examined the direct or indirect relationship between the hypothesized variables. The results of the PLS-SEM analysis are as follows. Figure 1: Structural Model Testing



The results of testing the complete hypothesis can be seen in the following table:

Table 4. Hypothesis Testing Results

Hypothesis	Sample Mean	Standard Deviation	T-Test	p Value	Status
Knowledge→Destination image	-0.132	0.100	1.324	0.186	Not significant
Safety and security→Destination image	0.027	0.079	0.335	0.738	Not significant
Accessibility→Destination image	0.357	0.069	5.138	0.000	Significant
Reasonable price→Destination image	0.223	0.066	53,541	0.001	Significant
Word of mouth communication→Destination image	0.391	0.068	139,074	0.001	Significant
Social media communication→Destination image	0.427	0.052	19,035	0.000	Significant
Destination Image→Intention to visit again	0.845	0.022	38,590	0.000	Significant
Destination image→Value perception	0.835	0.027	31.414	0.000	Significant

The influence of knowledge on the image of the destination was examined using a t-test, which yielded a value of 1,324 and a p-value of 0.186. The standard for the t value is 1.96 at a 95% confidence level. Because the t-test value is less than 1.96 and the p-value is greater than 0.05, the hypothesis can be rejected. Knowledge has no effect on the perception of a location. The findings of the hypothesis test examining the effect of safety and security on the destination's image yielded a t-test value of 0.335 and a p-value of 0.738. The standard for the t value is 1.96 at a 95% confidence level. Because the t-test value is less than 1.96 and the p-value is greater than 0.05, the hypothesis can be rejected. Safety and security have little impact on the destination's image. The t-test value for the hypothesis examining the effect of accessibility on the image of the destination was 5.138, with a significance level of 0.000. The standard for the t value is 1.96 at a 95% confidence level. The hypothesis can be accepted because the t-test value is greater than 1.96 and the p-value is less than 0.05. Accessibility influences the perception of a destination. The t-test test value is 53,541 with a p-value of 0.001 for the results of testing the hypothesis that examines the effect of pricing fairness on the image of the destination. The standard for the t value is 1.96 at a 95% confidence level. The hypothesis can be accepted because the t-test value is greater than 1.96 and the p-value is less than 0.05. The fairness of the price impacts the destination's reputation.

The t-test test value for the examination of the effect of word-of-mouth communication on the image of the destination is 139,074 with a p-value of 0.001. The standard for the t value is 1.96 at a 95% confidence level. The hypothesis can be accepted because the t-test value is greater than 1.96 and the p-value is less than 0.05. The reputation of a destination is affected by word of mouth communication. The t-test test value for the examination of the effect of social media communication on the image of the destination is 19,035 with a p-value of 0.001. The standard for the t value is 1.96 at a 95% confidence level. The hypothesis can be accepted because the t-test value is greater than 1.96 and the p-value is less than 0.05. Communication via social media affects the destination's image. The results of an examination of the relationship between destination image and the intention to return The t-test yielded a value of 38,590 and a p-value of 0.000. The standard for the t value is 1.96 at a 95% confidence level. Because the t-test value is greater than 1.96 and the p-value is less than 0.05, it may be stated that the hypothesis is supported and that the image of the destination has an effect on the intention to return. The t-test score for the examination of the effect of destination picture on perceived value is 31,414 with a significance level of 0.000. The standard for the t value is 1.96 at a 95% confidence level. The hypothesis can be accepted because the t-test value is greater than 1.96 and the p-value is less than 0.05. The perception of a location's value is affected by its image.

Conclusion

The results show that state knowledge, safety and security, accessibility, reasonable prices, word-of-mouth, and social media are important predictors of Jakarta, Indonesia's image as a tourist destination for Formula E electric car racing, which in turn affects perceived value and intention to return.

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