



Measuring Destination Image on Tourism River Area the Case of Gua Pindul

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Authors' contributions

This work was carried out in collaboration between all authors. Author HE designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors AS and RNA managed the analyses of the study. Author FXSW managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JESBS/2018/45216

Editor(s):

(1) Dr. Ioannis A. Makedos, Professor, Department of Economic Science, University of Macedonia, Thessaloniki, Greece.

Reviewers:

(1) Cem Işık, Atatürk University, Turkey.

(2) Atilla Akbaba, İzmir Katip Çelebi University, Turkey.

Complete Peer review History: <http://www.sciencedomain.org/review-history/27851>

Original Research Article

Received 26 September 2018

Accepted 01 December 2018

Published 19 December 2018

ABSTRACT

Aims: To measure tourism destination image on tourism river area and to delineate the constructs of destination image on tourist satisfaction

Study Design: This study is Quantitative Research.

Place and Duration of Study: The research was conducted in Goa Pindul (Pindul Cave) Gelaran Hamlet, Bejiharjo Village, Karangmojo District, Gunung Kidul, Yogyakarta, since January until May of 2018.

Methodology: We included 250 respondents (114 men, 136 women; time to visit range one time until more than three times). The analysis methods are Importance Performance Analysis (IPA) to measure destination image and Structural Equation Model to build destination image on motivation, tourist character and satisfaction model.

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Results: t-statistic value determines how far does indicator variable predict its construct. The higher t-statistic value, the bigger impact to construct variable. The minimum limit of t-statistic value is 1,96 on significant level of 95%. 'Pleased that decided to visit again' is the best predictor of 'satisfaction'. 'Visiting familiar places' is the best predictor of 'motivation' through 'relaxation/familiarity' as a dimension variable. The importance of 'reservation service' is the best predictor of 'destination image'. 'Occupation' is the best predictor of 'tourist character'. In this model, 46,80 % of the variance in 'destination image' is explained by tourist satisfaction, and 58,30% of the variance in 'tourist satisfaction' is explained by 'destination image' which shown in their R² value.

Conclusion: This study concludes at this time that importance and performance destination attributes provided some measurements of the 'destination image' which simultaneously influence 'tourist satisfaction'. It appears that 'reservation service', 'river and its surroundings', 'reservation personnel friendliness', and 'scenery of Gua Pindul' are the main indicators of destination image, whereas 'occupation' is the best predictor for 'tourist character'. In the other hand, 'destination image' has the strongest influence on 'tourist satisfaction'. Most tourists expected very much on 'cleanliness of the place'. 'Karst hills phenomena (stalactite, stalagmite)' was appraised as the best performed by most tourists, whereas 'easy of accessibility on premises' had the worst performance. Thus, the results of the study signify the importance of determining a river destination's competitiveness by using different analytical frameworks. Based on the results, theoretical and practical implications, limitations, and suggestions for future research are discussed.

Keywords: Gua Pindul; tourism river area; destination image; satisfaction.

1. INTRODUCTION

River is one of a recreational potential resource in Indonesia. The growing trend of tourism in water-based recreation, makes some rivers and rapids with unique morphology, being developed by the local community as a tourism destination [1].

Rivers also provide a wealth of attractions and aesthetic for tourists and a unique venue in which tourism can take place. In some parts of the world, the physical morphology created by fluvial systems results in amazing natural landscapes that draw visitors from all parts of the globe. Perhaps less impressive, but no less important, most rivers provide solitude, beauty, and interesting history that appeal to local recreation corridors. Rivers are taking on an additional element of commerce and trade – that of transporting tourists on sightseeing cruises. Rivers are important resource for tourist destinations in three ways: to provide drinking and domestic water, to facilitate the development of intense tourism-oriented environments such as landscaping and to fill swimming pools or sports-water tourism [2,1].

Besides of the beauty, rivers have occupied a central place in human history since the dawn of civilisation, and before. They provided water and the fertile alluvial plains that sustained the first human settlement, and in so doing helped foster the accumulation of wealth based on agriculture

and trade. In the modern world, rivers continue to be closely associated with great cities and in the contemporary era have become a significant tourism resource. In some region, cities and their cultural landscapes are interwoven with the fabric of river life to create unique urban environments, while in the rural and other less-developed regions rivers have retained their natural characteristic, creating interest in rivers as ecotourism and nature based resources[2]. A region needs three main factors for attracting tourists: attractions, access and accommodation. Attractions are the geographical sources of the region for occurring tourism. The attractions of the region also build up passion for tourist's visits [3].

Gua Pindul (Pindul Cave) is the newest popular ecotourism site in Yogyakarta, special province of Indonesia, one of the famous tourist destination which has an underground stream. It was officially opened for the public in October 2010. The cave is located in the area of *Gunung Sewu* (Thousand Mountain), a Global Geopark Network that has been established by UNESCO in 2015. The location of this cave is approximately 40s kilometers Southeast of Yogyakarta City. Precisely located in Gelaran hamlet, Bejiharjo village, Karangmojo District, Gunung Kidul, Yogyakarta Special Province.

Gunung Kidul regency has several diverse natural attractions that has been currently experiencing an increase in the number of

tourists in recent years. The increasing amount of tourist visits to Gunungkidul cannot be separated from the massive opening of natural tourist objects like beaches and caves [4], which the most popular cave in Gunung Kidul is Gua Pindul. The cave offers exotic landscapes with the main attraction of tracing the cave using a tube so that this attraction is called cavetubing.

Gua Pindul (pindul cave) is a sinkhole, a collapse hole that forms a vertical cave. This phenomenon

often occurs in the Karst mountain area. The region is formed by the result of tectonic processes (collisions between continental plates) and deposition over millions of years to produce carbonate rocks with variations in the shape of cultural landscapes, deformation structures, fossils, and hydrogeological uniqueness. At the bottom of *Gua Pindul*, there is an underground stream (which is part of the Oyo river basin), whose water currents twist to follow the formation of natural-formed rocks [4].



Fig. 1. Map of Yogyakarta City, the Special region of Indonesia



Fig. 2. Map of Gua Pindul (Pindul cave)

Nowadays, *Gua Pindul* is a tourism potential which has a lot of tourism objects developed by local community. It shows a beautiful landscape scene, unique view, and an amazing atmosphere. It is a tourist site which keeps the charm of natural beauty that is very interesting and can be enjoyed as a natural tourist destination. In 2017, the number of the visitors of *Gua Pindul* amounted to 145.081, increased of 8% from 2016 [4]. The developing tourism activities will also be able to increase the cultural activities in the region, the plateau tourism potential and thermal tourism of the region that focused on and more tourist can be entertained by means of making suitable investments[3]. An increase in tourism demand would cause a raising in these economies [5]

Nevertheless, it is plausible that many tourist destinations, including *Gua Pindul*, rely on repeat business, so the image is perceived to be an important research topic. In this regard, various authors have applied the effect on the choice of destination. Some have argued that destinations with more positive images are more likely to be included and selected in the decision-making process [6]. Destination image also positively influences perceived quality and satisfaction. Studies have shown that a favorable image leads to greater tourist satisfaction [7]. In turn, the evaluation of the destination experience influences the tourists' image of the destination [8,9].

Thus, this study attempts to determine the destination image on *Gua Pindul* tourism area in order to increase tourists' satisfaction. To be more specific, the objectives of this study are (1) to measure destination image on *Gua Pindul* river tourism area by importance performance destination attribute, (2) to delineate the constructs of destination image, motivation, tourist character, and their impact on tourist satisfaction. Measurement practices in business research are conventionally based on reflective measurement. Moreover, practically all established scales in the literature apply the classical test theory, wherein the direction of causality runs from the latent variable (i.e., construct) to its measures (i.e., indicators) [10]. Measurement in this study based on reflective and formative measurements, wherein the direction of causality runs from and to the latent variable (i.e., construct) to and from its measures [11].

2. MATERIALS AND METHODS

2.1 Motivation

Tourist motivation is regarded as 'the combination of needs and desires that affect the propensity to travel in a general sense [12]. Tourist motivation is a result of internal driving needs to get away from the mundane environment [13] the 'push factors', in conjunction with 'pull factors', the external factors that attract tourists to certain places [14,15]. By traveling, individuals escape in order to encounter new people, places, and experiences. Apparently, the two concepts, escape-seeking and pushpull motivation, have subsequently been considered as the focus of a number of tourist motivation studies. Motivations to visit different destinations, for example the adventure destinations and ecotourism destinations in Nigeria, were explored and evidently, tourist destination choices are based on both 'push' and 'pull' factors. For instance, those traveling to parks/ecotourism attractions are mainly attracted by destination features and seek for comfort/satisfaction; while tourists visiting adventure/landform destinations search for achieving self actualisation with 'pull' associated factors being secondary motivation [14]. The nine uncovered push factors are cultural value, utilitarian, knowledge, social, economical, family togetherness, interest, relaxation, and convenience of facilities. On the other hand, safety, activity, beach/sport activities, neighbour/outdoor, historical/cultural, religious, budget, leisure, and upscale are identified as the nine pull motivation factors for visiting Algarve, Portugal, i.e., adventure/sport, knowledge, escape/socialisation, and leisure/recreation, are by some means in harmony with prior studies [16,17]. Evidence also supports that push factors provide major influences on motives to visit cultural attractions [18].

Special interest tourism also has guidelines for setting interest Khusu travel form, such as rewarding: choice of an object, enriching (addition and enrichment of knowledge), adventure (contains the involvement of the rating in adventure activities), learning (there is a learning process that contains aspects education). Special interest tourism is attributed to the efforts enrichment of experience (enriching) for tourists who are travelling to areas of untapped or areas of unspoiled, so not many people who can visit there. the shape of this trip is rewarding high of nature that has uniqueness

usually tourists who have a special interest in this high motivation and great curiosity about something, so that tourists can learn about nature and culture [1].

2.2 Destination Image, and Satisfaction

Destination image is defined as an individual's mental representation of knowledge, feelings and overall perception of a particular destination [7]. Perceived quality in turn determines the consumer's satisfaction. Destination image is formed by both stimulus factors and tourists' characteristic [6]. Motivation, the experience of vacation travel, and social demographic characteristic have a significant relationship with cognitive and affective assessment of image [19]. Kock [7] used the label 'destination image for this overall evaluative construct, defined as an individual's overall evaluative representation of a destination. An evaluation can be defined as "the imputation of some degree of goodness or badness to an entity", thus, destination image is best conceptualized as a single-dimensional reflective construct that exists in an individual's mind and can readily be elicited from memory.

It is hypothesized that tourist satisfaction of a destination is a function of attribute importance, performance, and travel motivation. Destination attribute plays an important role in tourists' evaluation of the attractiveness, image, and satisfaction of a particular destination. The following five attributes were rated by the tourists as the highest importance: the beauty of scenery, the welcome of people, the potential of discovery, good environment, and tranquility [20]. More recent researches have addressed this issue on the importance-performance analysis is to examine the hotel selection [19], tour guiding performance, service quality of tour operation, destination competitiveness [21,22], and destination image [12]. With regards to destination attributes, studies indicate that the mainstream destination's attractiveness attributes, together with generic industry level attributes such as human resources, infrastructure and capital, contribute to the overall competitiveness of a destination. Researchers suggest that destination competitiveness depends on both destination-specific attributes and factors influencing the competitiveness of tourism products and services providers [22,23]. Destination attributes significantly organise travelers' perceptions of experiences, showing the underlying process to enhance travelers' trip satisfaction [24]. Tourist

satisfaction may generate positive consequences for companies in the tourism sector and for agencies in charge of promoting and tourism policies because they create a positive image of the city when they share their experiences with their environment [25]. Destination image, motivation, natural landscape, service and recreational facilities were attributes which affect tourist satisfaction [25].

2.3 Socio-demographics

Using principal component analyses, six motivational factors were extracted: 'exploration', 'escape/relaxation', 'social relationship with family/friends', 'prestige/impression', 'appreciating natural resources' and 'appreciating famous sites/heritages' [28].

Social demographic characteristics are included in this study because it is seen as having an effect on the destination image. Said that in an economic perspective, individuals will try to minimize costs and maximize monetary or physical benefits associated with the actions that will do [19]. Thus, the income and occupation of tourists influence the selection of tourist destinations. The higher the income, the type of occupation and education will result in an increasingly exotic tourism product needs [26].

The demography is a reflection of size, distribution and individual composition so it is seen to be a factor that affects the behavior and attitude of tourists. Age reflects behavioral maturity. Gender causes difference for the desired tourist destination; men will choose activities that are more challenging than women. However, the gender and age of travelers generally provide a disparity in access to fun time and often need a separate socialization process. The types of tourists (foreign and domestic) imply different attitudes and behaviors towards the needs of tourism products, while family size may be an obstacle to commitment for recreation. Differences in marital status are related to emotional states so that it can affect the amount of tolerance to the situation faced by individuals [19].

Some authors like Ma, Dündar & Güçer [19,27], Jensen [28], and Urošević & Milijić [29] make testimonials that the characteristics or demographics of tourists has a significant positive effect on the destination image. The nationality variable has a significant effect on the perceived image of the destination; on the other

hand gender variable has no effect at all. The difference in destination image according to socio-demographic features of tourists, demonstrates that some diversifications are needed in destination marketing and image forming efforts [25].

2.4 Methods

2.4.1 Survey and data collection

This study approached randomly selected tourists at *Gua Pindul* tourism river area during their visiting time and questionnaires were collected. In so doing, tourists might have available time to assess their perceptions of the destination. Survey was restricted on two-weeks period in January 2018. The guidance of minimum sample in structural equation model PLS *wasten time rule of thumb* of the highest reflective indicator variables used, or *ten time rule of thumb* of the highest structural path that leads to the specific construct [11].

2.4.2 Questionnaire design

To measure destination image, respondents were asked to rate the importance performance of the 6 attributes. Respondents were asked to rate how important the attributes were and how well the destination perform did. Each attribute was rated using a 5-point Likert Scale, ranging from 1 = expected to very little to 5 = expected very much.

In total, 32 questions which include of 25 indicator variables and 7 questions exactly at character were asked to generate the structural relationships of the destination image, motivation, character and satisfaction. Motivation attributes were rated using a 5-point Likert Scale, ranging from 1= not at all important and 5 = very important. Satisfaction attributes were rated using a 5-point Likert Scale, ranging from 1 = strongly disagree to 5= strongly agree.

2.4.3 Analysis

Destination image were measured by importance performance attributes, in general, a destination is competitive, if "it can attract and satisfy potential tourists and this competitiveness is determined both by tourism-related and much wider range of attributes that impact the tourism service providers, but existing studies broadly agree on measuring the overall evaluative destination representation as a bi-polar, single-dimensional and reflective construct [8]. Thus, this study measured destination image by both

importance performance attributes and reflective construct.

Specific destination attributes can be grouped either in the input side such as physical resources (tourist facilities, infrastructure, and environment), human capital endowment (services), marketing and promotion expenses; or in the output side such as the number of tourist arrivals, tourism revenues, and productivity [30]. A causal model of destination image on motivation, tourist character and satisfaction were proposed by using structural equation model.

In importance-performance analysis (IPA), a product is expressed in terms of the importance and performance of its attributes. Finally importance and performance scores for each attribute are calculated and formed into a four-cell typology [21] as shown in Fig. 1.

2.4.4. The proposed hypothetical model

The model proposed in this study is shown in Fig. 2.

2.4.5 Hypothesis

- H1 : Destination image influences satisfaction positively
- H2 : Motivation influences destination image positively
- H3 : Motivation influences satisfaction positively
- H4 : Tourist character influences destination image positively
- H5 : Tourist character influences satisfaction positively

2.4.6 Measuring variables

1. Destination image by performance attributes (P) - P, as an endogen variable, was measured by four dimension variables: P1.natural scenery & activity, through two attributes P1a. the river and its surroundings, P1b.scenery of Gua Pindul , P1c. karst hills phenomena (stalactite, stalagmite), P2. outdoor activities, through six attributes: P2a.cave tubing 'Oyo', P2b.outbond activities, P2c.the scenery at river tubing 'oyo', P2d.enjoying cullinary, P2e.'Pengantin' (bridal) waterfall, P2f. Offroad. P3. friendliness, through three attributes: P3a.reservation personnel friendliness P3b. local guide personnel friendliness, P3c. easy of accessibility on

- premises P3d.cleanliness of the place, P4.friendly services/quality, through three attributes, P4a. reservation service,P4b. local guideservice, P4c.restaurant personnel.
2. Destination image by importance attributes (I) - I. as an endogen variable. was measured by four dimation variables: I1.natural scenery & activity, through two attributes I1a. the river and its surroundings, I1b.scenery of Gua Pindul , I1c. Karst hills phenomena (stalactite, stalagmite), as shown at Fig. 7, I2. outdoor activities, through six attributes: I2a. cave tubing 'Oyo' (shown at Fig. 5), I2b. outbond activities (shown at Fig. 8), I2c. the scenery at river tubing 'oyo' (shown at Fig. 6), I2d. enjoying cullinary (shown at Fig. 9), I2e. 'Pengantin' (bridal) waterfall (shown at Fig. 6), P2f. Offroad (shown at Fig. 10). I3. friendliness, through three attributes: I3a.Reservation personnel friendliness, I3b. local guide personnel friendliness, I3c. easy of accessibility on premises, I3d.cleanliness of the place, I4. friendly services/quality, through three attributes, I4a. reservation service, I4b. local guideservice, I4c.restaurant personnel.
 3. Motivation (M), as exogen variable, was measured by three dimation variables; M9. activities for seeing and doing through three indicator variables ; M9a.having, a lot of physical things to do, M9b. fun and enjoyment, M9c. having a restful and relaxing trip, M10.relaxation/familiarity through two indicator variables ; M10a. having time by myself, M10b. visiting familiar places. M11. novelty/romance, through two indicator variables ; M11a. visiting new places, M11b. romance or a romantic setting.
 4. Tourist character (TC), as exogen variable, was measured directly by eight indicator variables of socio-demographic and travel experience ; gender (TC1), marital status (TC2), education (TC3), ethnic group (TC4), occupation (TC5), time to visit (TC6), visit with (TC7), transportation (TC8).
 5. Tourist satisfaction (SAT) as endogen variable, was measured directly by three indicator variables ; (SATA) pleased that decided to visit the tourist destination, (SATb) delighted exactly at this destination, (SATc) Visit to the tourist destination exceeded expectations [28]

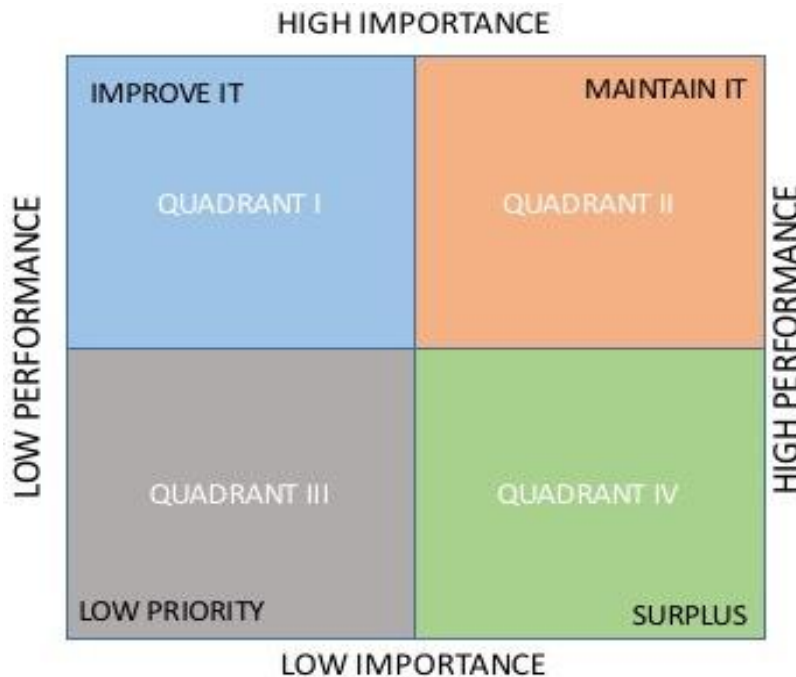


Fig. 3. Cartessian diagram
 Source: Leavy and Daegan, 2005 [12].

Table 1. Underlying dimension of destination image

No	Variables	Dimensions	Indicators	Questionnaire code
1	Destination image - performance attributes			P
		Natural scenery & activity [20]	The river and its surroundings Scenery of Gua Pindul Karst hills phenomena (stalactite, stalagmite)	P1 P1a P1b P1c
		Outdoor activities [20]	Cave tubing 'oyo' Outbond activities The scenery at river tubing 'oyo' Enjoying cullinary 'Pengantin' (bridal) waterfall Offroad	P2 P2a P2b P2c P2d P2e P2f
		Friendliness [20]	Reservation personnel friendliness Local guide personnel friendliness Easy of accessibility on premises Cleanliness of the place	P3 P3a P3b P3c P3d
		Friendly services/quality [20]	Reservation service Local guide service Restaurant personnel	P4 P4a P4b P4c
Likert scale of Destination attributes performance: 1 = performed very poor and 5 = performed very good.				
	importance attributes			I
		Natural scenery & activity [20]	The river and its surroundings Scenery of Gua Pindul Karst hills phenomena (stalactite, stalagmite)	I5 I5a I5b I5c
		Outdoor activities [20]	Cave tubing 'oyo' Outbond activities	I6 I6a I6b

No	Variables	Dimentions	Indicators	Questionnaire code
			The scenery at river tubing 'oyo'	I6c
			Enjoying cullinary	I6d
			'Pengantin' (bridal) waterfall	I6e
			Offroad	I6f
		Friendliness [20]		I7
			Reservation personnel friendliness	I7a
			Local guide personnel friendliness	I7b
			Easy of accessibility on premises	I7c
			Cleanliness of the place	I7d
		Friendly services/quality [20]		I8
			Reservation service	I8a
			Local guide service	I8b
			Restaurant personnel	I8c
Likert scale of Destination attributes importance: 1 = expected to very little and 5 = expected very much				
3	Motivation [20]			M
		Activities for seeing and doing		M9
			Having a lot of physical things to do	M9a
			Fun and enjoyment	M9b
			Having a restful and relaxing trip	M9c
		Relaxation/familiarity		M10
			Having time by myself	M10a
			Visiting familiar places	M10b
		Novelty/romance		M11
			Visiting new places	M11a
			Romance or a romantic setting	M11b
Likert scale of Motivations 1=not at all important to 5 = very important				
4.	Tourist Character			TC
		gender		TC1
		marital status		TC2
		education		TC3
		ethnic group		TC4
		occupation		TC5

No	Variables	Dimentions	Indicators	Questionnaire code
5.	Tourist Satisfaction [31]	time to visit visit with transportation		TC6
				TC7
				TC8
		Pleased that decided to visit the tourist destination Delighted exactly at this destination Visit to the tourist destination exceeded expectations	TS	
			TS1	
			TS2	
		Visit to the tourist destination exceeded expectations	TS3	

Likert -Scale of Satisfaction 1 = strongly disagree to 5 = strongly agree

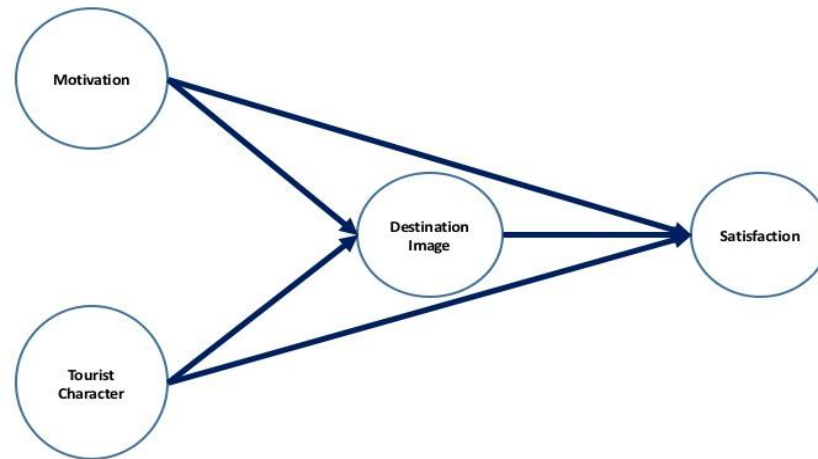


Fig. 4. The proposed hypothetical model



Fig. 5. Cave tubing pindul



Fig. 6. River 'Oya' and 'Pengantin' (bridal) waterfall



Fig. 7. Karst hill phenomena (stalactite, stalagmite)



Fig. 8. Outbound



Fig. 9. Enjoying cullinary



Fig. 10. Offroad

3. RESULTS AND DISCUSSION

3.1 Characteristic of Respondents

A total of 250 respondents were collected and analysed for the current tourists' survey. Demographic characteristics of the tourists were investigated with regards to their gender, marital status, education, ethnic, and occupation. Other related characteristics to their behaviour were

investigated with regards to their 'time to visit', 'with whom they visited', and what 'transportation' they ride on. As shown in Table 2, the majority character of the tourists are married people whose education level are up to high school, Javanese, Professional/businessman, visited Pindul cave for the first time, visited *Gua Pindul* with their Group/friends, took transportation by private car.

Table 2. Tourist characteristics

No	Character	Attribute	Frequency	%
1	Gender	Male	114	46
		Female	136	54
2	Marital Status	Married	127	51
		Single	123	49
3	Education	Up to high school	152	61
		Colleges	90	36
		Master degree or higher	8	3
4	Ethnicity	Javanese	230	92
		Non Javanese	30	12
5	Occupation	Civil servant/ government official	30	12
		Private/ Professional/business	102	41
		Retired	4	2
		Others	114	46
6	Time to visit	First time	193	77
		Second times	27	11
		Third times	4	2
		More than third times	26	10
7	Visited with	Alone	6	2%
		Partner	43	17%
		Couple	21	8%
		Family	73	29%
		Group/friends	107	43%
8	Transportation	Private car	118	47
		Coach	3	1
		Public transportation	50	20
		Rental car/motocycle/taxi	81	32

Source: Survey (2018)

3.2 Performance Importance Distribution

The distribution of respondents on Importance Performance attributes is presented through Table 3. Most tourists expected very much on 'cleanliness of the place' and was followed by 'easy of accessibility on premises', 'karst hills phenomena (stalactite, stalagmite)', 'outbond activities', and the others. 'Karst hills phenomena (stalactite, stalagmite)' was appraised as the best performed by more tourists, followed by 'scenery of Gua Pindul ', 'offroad, 'cave tubing 'Oyo', 'outbond activities', and the others. 'Easy of accessibility on premises' had the worst performance.

3.3 Performance Evaluation of Attributes

The overall performance of destination attributes is presented in Table 4. 'Offroad' topped the attribute list and was followed by 'karst hills

phenomena (stalactite, stalagmite)', cave tubing 'Oyo', scenery of Gua Pindul , 'reservation personnel friendliness, 'Pengantin (bridal) waterfall, 'local guide personnel friendliness', 'enjoying scenery at river tubing 'oyo', 'reservation service', 'outbond activities', 'the river and its surroundings', 'local guide service', 'enjoying 14 ttribut', 'restaurant personnel', 'cleanliness of the place', and 'easy of accessibility on premises'.

3.4 Importance Evaluation of Attributes

The overall importance of destination attributes presented in Table 5. Almost all of performance attributes had lower value than importance attributes except Karst hills phenomena (stalactite, stalagmite), that means that tourists felt dissatisfied..

Table 3. Distribution of respondent on performance importance attributes

No	Importance performance attributes	Performance score					Total	Importance score					Total
		1	2	3	4	5		1	2	3	4	5	
Natural scenery & activity													
1	The river and its surroundings	1	0	52	157	40	250	0	2	26	148	74	250
2	Scenery of Gua Pindul	0	3	47	125	75	250	0	1	45	122	82	250
3	Karst hills phenomena (stalactite, stalagmite)	0	0	45	129	76	250	0	2	23	134	91	250
Outdoor activities													0
4	Cave tubing 'oyo'	0	2	42	137	69	250	0	3	34	128	85	250
5	Outbond activities	0	5	68	108	69	250	0	2	40	127	91	260
6	Enjoying scenery at river tubing 'Oyo'	0	5	53	129	63	250	0	1	34	137	78	250
7	Enjoying cullinary	0	3	69	122	56	250	0	1	37	132	80	250
8	'Pengantin (bridal)' waterfall	0	6	46	133	65	250	0	2	36	124	88	250
9	Offroad	0	6	43	135	66	250	0	3	41	127	79	250
Friendliness													0
10	Reservation personnel friendliness	0	1	47	144	58	250	0	3	36	123	88	250
11	Local guide personnel friendliness	1	1	61	119	68	250	0	1	36	116	97	250
12	Easy of accessibility on premises	2	10	63	119	56	250	0	2	41	125	82	250
13	Cleanliness of the place	1	6	63	129	51	250	0	3	34	115	98	250
Friendly services/quality							0						0
14	Reservation service	0	4	54	134	58	250	0	3	40	138	69	250
15	Local guide service	1	6	66	112	65	250	0	4	48	122	76	250
16	Restaurant personnel	0	10	59	125	56	250	0	2	41	132	75	250

Notes: Likert scale of performance: 1 = performed very poor, 2 = performed poor, 3 = performed fairly, 4 = performed good, 5 = performed very good

Likert scale of Importance: 1 = expected to very little, 2 = expected little, 3= expected enough, 4=expected much, 5 = expected very much

Table 4. Performance ranking of destination attributes

Performance attribute code	Performance attribute	Performance average score
P2f	Offroad	4,13
P1c	Karst hills phenomena (stalactite, stalagmite)	4,12
P2a	Cave tubing 'oyo'	4,09
P1b	Scenery of Gua Pindul	4,09
P3a	Reservation personnel friendliness	4,04
P2e	'Pengantin (bridal)' waterfall	4,03
P3b	Local guide personnel friendliness	4,01
P2c	Enjoying scenery at river tubing 'oyo'	4,00
P4a	Reservation service	3,98
P2b	Outbond activities	3,96
P1a	The river and its surroundings	3,94
P4b	Local guide service	3,94
P2d	Enjoying cullinary	3,92
P4c	Restaurant personnel	3,91
P3d	Cleanliness of the place	3,89
P3c	Easy of accessibility on premises	3,87

Source: Survey (2018)

Table 5. Importance ranking of destination attributes

Importance attribute code	Importance attribute	Importance average score
I5c	Karst hills phenomena (stalactite, stalagmite)	4,256
I7b	Local guide personnel friendliness	4,236
I7d	Cleanliness of the place	4,232
I6e	'Pengantin (bridal)' waterfall	4,192
I7a	Reservation personnel friendliness	4,184
I6a	Cave tubing 'oyo'	4,180
I5a	The river and its surroundings	4,176
I6c	Enjoying scenery at river tubing 'oyo'	4,168
I6d	Enjoying cullinary	4,164
I6b	Outbond activities	4,148
I7c	Easy of accessibility on premises	4,148
I5b	Scenery of Gua Pindul	4,140
I6f	Offroad	4,128
I8c	Restaurant personnel	4,120
I8a	Reservation service	4,092
I8b	Local guide service	4,080

Source: Survey (2018)

3.5 IPA Grids for Destination Attributes

Fig. 2b shows the mean score of destination attributes in relation with importance and performance of Gua Pindul. The data then is transferred to the IPA grids. The four quadrants are constructed based on the mean scores of the importance and performance ratings [20]. The grand means of importance is 4,17 and the grand means of performance is 4,00. All points are plotted to the IPA grid for each attribute.

Variables located in first quadrant are considered very important by tourist but manager has not implemented according to tourist's wish so tourist is not satisfied. Variables located in the first quadrant should be the manager's top priority as they have a high level of importance but low performance [20,21]. Improvements to those variables will have a great impact on destination image. 'The river and its surroundings' and 'cleanliness of the place' are situated in the first quadrant.

There are six attributes situated in the second quadrant in accordance with tourists' expectations which considered to have a high level of importance and performance, so that managers should maintain their performance for better assessment in the future. These attributes are 'karst hills phenomena (stalactite, stalagmite)', 'cave tubing 'Oyo'', 'enjoying scenery at river tubing 'oyo'', 'Pengantin (bridal) waterfall', 'reservation personnel friendliness', 'local guide personnel friendliness'.

and performance are 'outbond activities', enjoying cullinary', 'easy of accessibility on premises', 'reservation service', 'local guide service', and 'restaurant personnel',so that their improvement of them should not become the priority. The other variables such as 'scenery of Gua Pindul' and 'offroad' have low importance but high performance level, so that managers should not require to improve their performance that will be only considered excessive by tourists. The result of IPA grids is summarised in Table 6.

Six attributes which situated in third quadrant which considered to have low level of importance

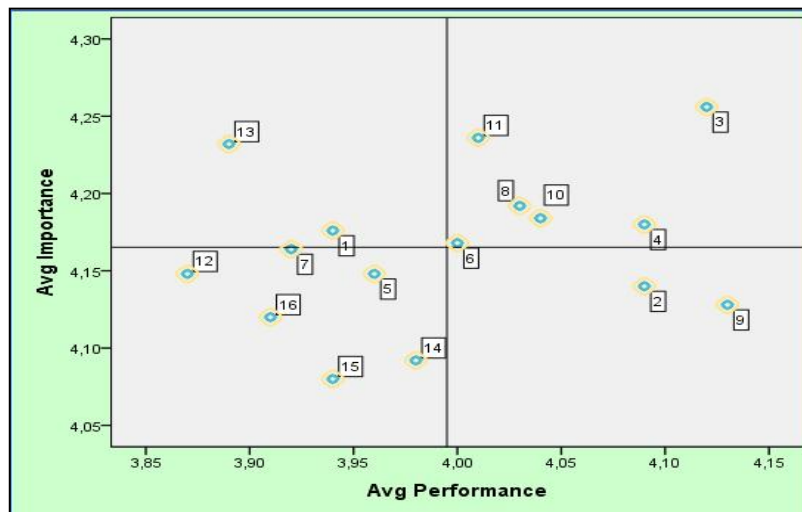


Fig. 11. The result of importance performance analysis
 Source: Results of data processing (2018)

Table 6. Summary for the IPA of destination image attributes

Quadrant	No	Attributes
Quadrant 1 (Improve it) High Importance – Low Performance	1 13	The river 'Oyo' and its surroundings Cleanliness of the place
Quadrant 2 (Maintain it) High Performance – High Importance	3 4 6 8 10 11	Karst hills phenomena (stalactite, stalagmite) Cave tubing 'oyo' Enjoying scenery at river tubing 'oyo' 'Pengantin (bridal)' waterfall Reservation personnel friendliness Local guide personnel friendliness
Quadrant 3 (Low priority) Low Importance – Low Performance	5 7 12 14 15 16	Outbond activities Enjoying cullinary Easy of accessibility on premises Reservation service Local guide service Restaurant personnel
Quadrant 4 (Surplus) High Performance –Low Importance	2 9	Scenery of Gua Pindul Offroad

3.6 Structural Relationship Evaluation

3.6.1 Measurement model

A confirmatory factor analysis (CFA) of the three reflective construct of 'motivation', 'tourist character', 'destination image', and 'tourist satisfaction' was performed. The final model contained three reflective indicators for motivation, destination image and tourist satisfaction presented at Fig. 12. The goodness of fit indicates for the CFA are within an acceptable range. The measure's of the model's fit of standardised root mean square residual (SRMR) = 0,06.

3.6.2 The result of hypothesis testing

The results of hypothesis testing using PLS are presented in Table 7. Indicator variable with loading factor lower than 0,4 must be eliminated. A four-construct with 52 indicator variables were derived, then 42 indicator variables were retained. Seven eliminated indicator variables of tourist character are marital status, education, ethnicity, time to visit, and visited with. Convergent validity is supported given that all t-test of indicator loadings for the two reflective

construct are statically significant. Loading factor of destination image indicators, motivation indicators, and satisfaction indicators whose constructs are reflective $\geq 0,4$ as shown at Table 7, so that the indicators determined valid which can predict their construct well.

Reliability was tested by Cronbach Alpha's value. Cronbach alpha's value of destination image (0,943), motivation (0,851), and satisfaction (0,732) $\geq 0,6$. Constructs determined reliable.

The average variance extracted (AVE) reveals that a higher amount of variance in the indicators is captured by tourist satisfaction, destination image, motivation, and tourist character compared to that accounted for by measurement error. A minimum AVE's value of 0.5 indicates a good convergent validity measure. This means that latent variables can explain more than half of the variance of their indicator(Ahmed, 2018). The limit value of AVE is $\geq 0,5$ (Crisci, n.d.) as shown at Table 8, those are the AVE's value of destination image (0,362), motivation (0,528) and tourist satisfaction (0,650). Indicators whose t-statistic value $\geq 1,96$ determined valid, so that the constructs determined valid.

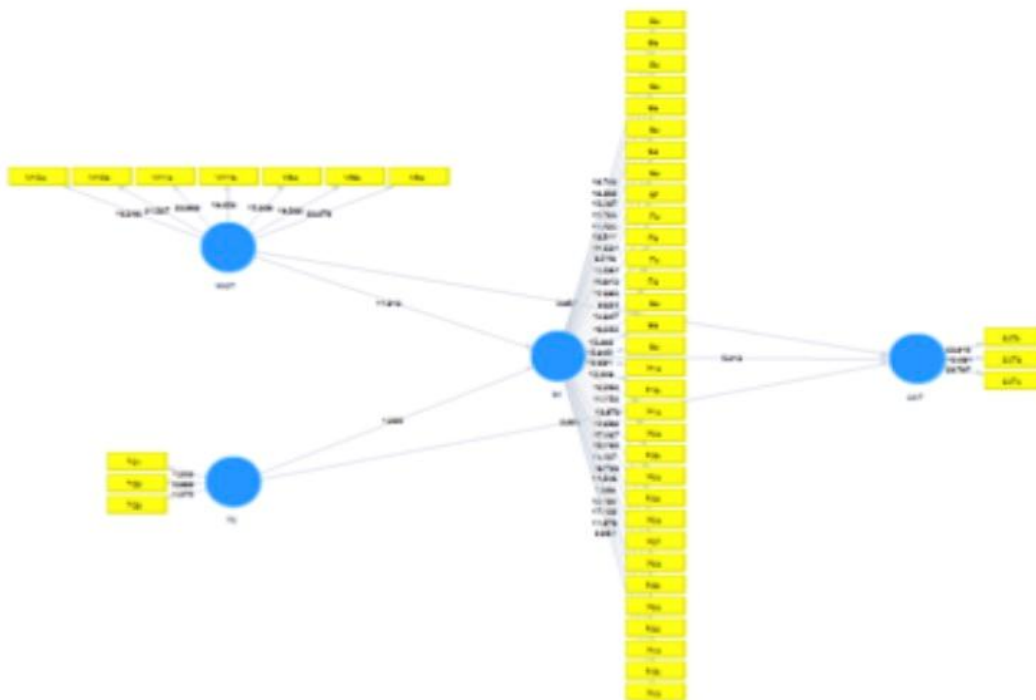


Fig. 12. Result of destination image model
Source: Results of data processing (2018)

Table 7. Results of hypothesis testing

Path	VIF	Cronbach's α	AVE	Loading factor	Standardised path coefficients (t-Statistics)	P Values	Result
H1: DI->SAT	1,578	0,943	0,362		5,313	0,000	Hypothesis supported
I5a <- DI				0,683	18,742	0,000	*
I5b <- DI				0,655	18,393	0,000	*
I5c <- DI				0,621	15,387	0,000	*
I6a <- DI				0,643	15,705	0,000	*
I6b <- DI				0,567	11,130	0,000	*
I6c <- DI				0,572	10,511	0,000	*
I6d <- DI				0,596	11,531	0,000	*
I6e <- DI				0,509	8,518	0,000	*
I6f <- DI				0,581	12,584	0,000	*
I7a <- DI				0,665	14,812	0,000	*
I7b <- DI				0,550	10,683	0,000	*
I7c <- DI				0,557	9,624	0,000	*
I7d <- DI				0,549	10,847	0,000	*
I8a <- DI				0,689	19,552	0,000	*
I8b <- DI				0,619	15,282	0,000	*
I8c <- DI				0,632	15,845	0,000	*
P1a <- DI				0,643	13,681	0,000	*
P1b <- DI				0,538	12,338	0,000	*
P1c <- DI				0,577	12,060	0,000	*
P2a <- DI				0,609	14,153	0,000	*
P2b <- DI				0,579	13,970	0,000	*
P2c <- DI				0,582	12,688	0,000	*
P2d <- DI				0,651	17,367	0,000	*
P2e <- DI				0,621	12,160	0,000	*
P2f <- DI				0,600	14,407	0,000	*
P3a <- DI				0,695	18,728	0,000	*
P3b <- DI				0,555	11,546	0,000	*
P3c <- DI				0,505	7,838	0,000	*
P3d <- DI				0,545	10,199	0,000	*
P4a <- DI				0,675	17,102	0,000	*

Path	VIF	Cronbach's α	AVE	Loading factor	Standardised path coefficients (t-Statistics)	P Values	Result
P4b <- DI				0,582	11,979	0,000	*
P4c <- DI				0,532	9,994	0,000	*
H2: MOT->DI	1,00	0,851	0,528		11,613	0,000	Hypothesis supported
H3: MOT->SAT	1,578				3,957	0,000	Hypothesis supported
M10a <- MOT				0,732	16,246	0,000	*
M10b <- MOT				0,764	21,527	0,000	*
M11a <- MOT				0,711	20,966	0,000	*
M11b <- MOT				0,711	19,453	0,000	*
M9a <- MOT				0,718	15,308	0,000	*
M9b <- MOT				0,719	19,563	0,000	*
M9c <- MOT				0,729	20,078	0,000	*
SAT		0,732	0,650				Hypothesis supported
SATa <- SAT				0,863	43,810	0,000	*
SATb <- SAT				0,716	13,481	0,000	*
SATc <- SAT				0,833	29,797	0,000	*
H4: TC->DI	1,00	-	-		1,00	0,318	Hypothesis not supported
H5: TC->SAT	1,023				2,006	0,046	Hypothesis supported
TC1 -> TC				0,465	1,243	0,215	**
TC5 -> TC				0,809	2,989	0,003	*
TC8 -> TC				0,542	1,575	0,116	**

Notes:

* indicator can reflect latent variable
 **indicator can not reflect latent variable

T-statistic value determines how far does indicator variable predict its construct. The higher t-statistic value, the bigger impact to construct variable. The minimum limit of t-statistic value is 1,96 on significant level of 95%(Crisci, n.d.). 'Pleased that decided to visit again is the best predictor of 'satisfaction'. 'Visiting familiar places' is the best predictor of 'motivation' through 'relaxation/familiarity' as dimation variable. The importance of 'reservation service' is the best predictor of 'destination image'. 'Occupation' is the best predictor of 'tourist character'.

In this model, 46,80% of the variance in 'destination image' is explained by tourist satisfaction, and 58,30% of the variance in 'tourist satisfaction' is explained by 'destination image' which shown in their R² value.

Among the four importance and performance attributes of the destination included in our final model, importance of 'reservation service', importance of 'the river and its surrounding', performance of 'reservation personnel friendliness', importance of 'scenery of Gua Pindul', and performance of 'enjoying culinary' have the strongest influence on 'destination image'.

Among the three influencing variables to satisfaction, 'destination image' has the strongest influence to 'satisfaction' (see Table 8). Motivation has the stronger influence to destination image than tourist character, while tourist character has no significant influence to destination image.

Table 8. Relationship among motivation, tourist character, destination image and satisfaction

Construct variable	Path coefficients (t-statistics)
DI -> SAT	5,31
MOT-> DI	11,61
MOT -> SAT	3,96
TC -> DI	1,00
TC -> SAT	2,01

Source: Results of data processing (2018)

Hypothesised relationships of H1, H2, H3, and H5 in our conceptual model are supported (Table 8). Destination image' weakly influences positively on 'tourist satisfaction; (H1), but influences positively on 'tourist satisfaction' stronger than 'motivation' does (H3), whereas the

influence of 'motivation' to 'destination image' is the strongest (H2). Although 'tourist character' has no significant influence on 'destination image' (H4), it positively influences on 'tourist satisfaction' (H5).

4. CONCLUSION

This study concludes at this time that importance and performance destination attributes provided some measurements of the 'destination image' which simultaneously influence 'tourist satisfaction'. It appears that 'reservation service', 'river and its surroundings', 'reservation personnel friendliness', and 'scenery of Gua Pindul' are the main indicators of destination image, whereas 'occupation' is the best predictor for 'tourist character'. In the other hand, 'destination image' has the strongest influence on 'tourist satisfaction'. Most tourists expected very much on 'cleanliness of the place'. 'Karst hills phenomena (stalactite, stalagmite)' was appraised as the best performed by most tourists, whereas 'easy of accessibility on premises' had the worst performance. The findings corroborates the prior study that perceived quality in turn determines the consumer's satisfaction [6], and that destination image, motivation, natural landscape, service and recreational facilities were attributes which affect tourist satisfaction [25].

To increase destination image of Gua Pindul manager should improve the condition of 'the river and its surroundings' and 'cleanliness of the place', and maintain 'Karst hills phenomena (stalactite, stalagmite)', Cave tubing 'oyo', 'scenery at river tubing 'oyo', 'Pangantin (bridal waterfall', 'reservation personnel friendliness', and 'local guide personnel friendliness'. This study corroborates prior studies that tourist motivation is regarded as 'the combination of needs and desires that affect the propensity to travel in a general sense' [12], tourist satisfaction of a destination is a function of attribute importance, performance, and travel motivation [18]. Destination attribute plays an important role in tourists' evaluation of the attractiveness, image, and satisfaction of a particular destination [32]. Whereas this study sapped that destination image is formed by both stimulus factors and tourists' characteristic. 'Tourist characteristic' has no significant relationship with 'destination image', although it has significant relationship with 'satisfaction'. However, this study found the opposite phenomenon that the tourist characteristics or socio-demographics of tourists

has a significant positive effect on the destination image, this is also sapped the prior study that the characteristics or socio-demographics of tourists has a significant positive effect on the destination image [27] but that gender variable has no effect at all [27] casts light upon the finding that tourist character' has no significant influence on 'destination image. It is indicated that image forming process and marketing mix have to be developed for every single target markets in the marketplace which are segmented according to socio-demographic features, each socio-demographic feature has a difference perception on destination image [27,28]. Although it has a positive relationship with satisfaction, the influence of tourist character to destination image is weak. It might be caused by the fact that *Gua Pindul* is an emerging tourist attraction. Pindul adventure tour that requires people getting down to the bottom of the vertical cave and boating down to the underground river albeit by the car tyre tube, is a new experience for the community. Not all people like adventure activities which Pindul offered. This finding corroborates the research's findings of Ma, Chow, Cheung, & Lee that : 1) gender causes difference for the desired tourist destination, 2) the types of tourists imply different attitudes and behaviors towards the needs of tourism products, and 3) the differences in marital status are related to emotional states so that it can affect the amount of tolerance to the situation faced by individuals [19], in the other words, socio-demographic factors influence tourists' perception of the destination due to the difference of their desire. Traveling to parks/ecotourism attractions are mainly attracted by destination features and seek for comfort/satisfaction; while tourists visiting adventure/landform destinations search for achieving self actualisation with 'pull' associated factors being secondary motivation [12]. The nine uncovered push factors are cultural value, utilitarian, knowledge, social, economical, family togetherness, interest, relaxation, and convenience of facilities [16,14].

Great promotion through electronic media such as facebook, twitter and instagram invites curiosity of society to visit *Gua Pindul*. Visitors consist of all ages, all levels of education, all occupations flock to this tourist attraction. The awareness and enthusiasm of them to come can be seen by the traffic crowd from Yogyakarta to Pindul Cave. In the weekdays, tourists only takes 75 minutes to get to *Gua Pindul*, but in the weekend and holiday tourists must take 3-4

hours traveling from Yogyakarta municipality. The crowd of the traffic caused by the narrow road leads up to *Gua Pindul*.

The results presented in this study come upon several limitations. *First*, survey was taken during four-month, so we can't observe the impact of different season and crowd to destination image. Tourists who travel in different seasons may face the difference crowd, whereupon they have different opinions on destination image. The findings in tourism research often restricted by seasonality. To overcome this limitation, future researchers should conduct similar surveys in different seasons and consider longer study time (e.g for one year), so data collection can be done during low and high season by involving both foreign and domestic tourists, so the findings can be compared to identify the differences and the similarities of different season and crowd. *Second*, fewer number of tourism river area attributes derived, deliver less image of *Gua Pindul*. Future researcher should include more attributes of tourism river area to deliver wider destination image, so the more appropriate strategies for developing tourism river destination can be determined. *Thirdly*, the population of this study was limited to visitors of a tourism river destination in Pindul cave located in Yogyakarta city, therefore, the results from the study may not be generalised beyond this population. Replicating similar studies in other tourism river destinations is important to increase the generalisability of this findings. *Fourthly*, 'motivation' and 'tourist character were studied as antecedents to 'destination image', whereupon 'destination image' was studied as an antecedent to satisfaction. There might be additional factors influencing and interacting with destination image and tourist satisfaction. Future researchers are advised to investigate additional antecedents of destination image and tourist satisfaction. In addition, since the survey was conducted, it was not sure that all respondents have completed their traveling experiences on all sites of *Gua (cave) Pindul* while replying to the survey. It is advisable for future studies to consider tourists' traveling stage when data were collected which might be better on the end of the trip.

In this respect, our study represents an additional step in the study of measuring destination image by importance performance attributes for tourism river destination. Focused on those importance performance destination attributes, which give the highest impact on destination image, and

paid attention in where they situated on cartessian diagram will increase tourists' satisfaction. Those findings would help tourist manager makes appropriate strategies to increase the number of visitors by improving and maintaining importance performance of destination attributes to maximise tourist satisfaction. Tourism destinations today are facing steep competitions and the challenges will be greater in the years to come.

Theoretical Implications: This research offers a number of theoretical contributions. *First*, the significant relationship between destination image and tourist satisfaction although in weakly influence, indicated that high tourist's satisfaction can be obtained by performing well the image of the destination. *Second*, the significant relationship between tourist motivation and destination image, and between motivation and tourist satisfaction, indicated that stronger motivation to get travelling will make higher on both their image of the destination and their satisfaction. *Thirdly*, tourist character has positive relationship on tourist satisfaction, indicated that socio-demographic factor determines tourist satisfaction level. Whereas, tourist character has no significant influence on 'destination image, because not all people like adventure activities that Pindul offered.

Practical implications: The study provides an assessment of tourist satisfaction by perceiving the destination image, and offers useful insights on how to rise it. Understanding the advantages of tourism river destination (in term of Gua Pindul) attributes to develop the most suitable strategy to attract and to serve tourists effectively is proposed to boost up the number of visitors. Then, the manager should understand both what tourists search on the tourism river destination to understand and fill up their needs and what the destination attribute is valuing most important by tourists, which would help to increase their satisfaction and to set marketing strategy appropriately.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
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