

Green tourism during the COVID-19 pandemic: health protocol moderation analysis

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ABSTRACT

The growth rate of green tourism/ecotourism in the province of Yogyakarta, Indonesia decreased drastically because of the government's program in the community activity restriction program to reduce the COVID-19 pandemic. The purpose of this study was to analyze public perceptions of ecotourism conditions during the pandemic by implementing health protocols and maintaining environmental sustainability. The research employed descriptive and quantitative analysis. The research subject was 222 beach ecotourism tourists in the Special Region of Yogyakarta, Indonesia during the pandemic period for a period of seven months (February-August 2021). They were recruited through incidental random sampling method. The analytical tools in testing the research instrument were convergent validity test with mean loading factors and square roots average variable extract, discriminant validity test with average variable extract (AVE), and reliability test with Cronbach's alpha and composite reliability (CR), structural equation modeling analysis (SEM) with Warp partial least square (PLS) 7.0. The results showed that ecotourism concern, ecotourism practices, were not significant on tourist satisfaction. Green promotion had an effect on ecotourism tourist satisfaction, and health protocols strengthened tourist satisfaction on tourists' interest in returning to ecotourism.

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1. INTRODUCTION

The COVID-19 pandemic has made various sectors experience a decline in turnover and consumer purchasing power, including the tourism sector, especially in Indonesia. This decline has a serious impact on the sustainability of a business, in this case the sustainability of ecotourism. Sustainability is one thing that must be done considering the unavoidable primary needs for ecotourism business managers.

The consumer treatise is an important study for ecotourism managers to explore how consumers respond to ecotourism during the COVID-19 pandemic and beyond. In the province of Yogyakarta, Indonesia, ecotourism management from the management point of view (supply) has complied with government regulations and policies regarding health protocols, and always prioritizes ecotourism environmental management so that it remains sustainable, but from the consumer side (demand) it is necessary to explore more deeply the marketability of ecotourism [1] in this endemic period in the eyes of consumers.

Research on satisfaction and return is important because it is the end of the company's goals [2], where consumer satisfaction is strongly influenced by the quality of the product or service [3] so that consumers have

an interest in buying back the product or service. what has previously been done [4] in relation to consumer satisfaction, especially for ecotourism, quality is very important, because managing ecotourism depends on nature and the surrounding environment [5] spearhead of attracting consumers to come to ecotourism objects.

The attraction is not solely on environmental sustainability. It also must prioritize ideally what has been provided and what has been practically done by the manager. Hopefully, consumers have a positive perception regarding ecotourism objects [6].

During this COVID-19 pandemic, the show is a driving force for the increase in tourist arrivals [7] but what is in the spotlight should no longer be done normally, but must be done in a "new normal" way by implementing various policies that have been suggested by the government, so that the transmission of COVID-19 can be reduced. Likewise, this delivery process to consumers is carried out with online information media. Green promotion as a form of online submission will encourage the dissemination of this information [8] and result in an increase in consumer purchasing power parity towards ecotourism interest [9], and this will directly impact the performance of ecotourism management. The quality of ecotourism, during the COVID-19 pandemic, must provide facilities and infrastructure that support health protocols, because the implementation of health protocols will encourage tourists to come back [10] because of the feeling of being safe and comfortable [11] in the ecotourism. The objective of this study was to measure the pandemic condition by implementing health protocols and apply the environmental sustainability via analyze the public perceptions of ecotourism.

2. THEORY AND HYPOTHESIS DEVELOPMENT

2.1. Environmental concerns, ecotourism practices, ecotourism shows, green marketing on the quality of ecotourism

Ecotourism is synonymous with environmental sustainability and the use of the environment as a place for education and conservation in tourism. The use of the environment, which is an absolute advantage, should indeed be preserved because it will improve the world's lungs and will still be known to posterity in the future. Environmental sustainability will attract tourists to visit [12] and become part of education for tourists [13]. Environmental sustainability will affect the quality of ecotourism in the eyes of tourists [14].

H1: Environmental concerns has a positive effect on the quality of ecotourism.

Ecotourism in its management activities will also be very good if it is carried out using environmentally friendly facilities and infrastructure [15], this facility will support the perception of the quality of ecotourism for tourists [16].

H2: The practice of ecotourism has a positive effect on the quality of ecotourism.

The driving force behind the growth of tourists coming to ecotourism places is also influenced by activities in the form of shows to introduce ecotourism [17], both entertainment and educational [18]. Practical activities at these ecotourism locations will encourage tourists' perceptions of the quality of ecotourism [19].

H3: The ecotourism show has a positive effect on the quality of ecotourism.

Green advertising is an effective tool for promoting products, services, ideas and organizational efforts to show concern for protecting and preserving the environment. In introducing environmentally friendly tourism objects, it is certainly wiser to use virtual media that can reduce emissions [20]. The totality of using and utilizing online media will increase the perception of the quality of ecotourism [21].

H4: Green marketing has a positive effect on the quality of ecotourism.

2.2. Health protocols moderate the quality of ecotourism on tourist satisfaction

Directly the quality of ecotourism will encourage tourist satisfaction [22], therefore the quality of tourist sites must maintain the quality of the tourist environment in order to remain leatari [23]. However, along with the COVID-19 pandemic, the quality of ecotourism practices must also implement health protocols in order to achieve and increase ecotourism consumer satisfaction [11].

H5: Health protocol moderates the quality of ecotourism and has a positive effect on tourist satisfaction.

2.3. Tourist satisfaction influences return visits to ecotourism

Tourists' interest in returning to ecotourism is an important goal for business managers to create sustainable ecotourism [24] and at the same time encourage a multiplier effect for businesses around ecotourism [25] such as souvenirs, guest houses, and restaurants. Sustainability must always be strived for so that the environment is sustainable and remains the spearhead of the search for residents around ecotourism [26], [27]. Therefore, souvenirs, a sustainable environment, will encourage tourist satisfaction to return to tourist attractions [28].

H6: Tourist satisfaction has a positive effect on return visits to ecotourism.

3. RESEARCH METHOD

The design of this study was based on previous research by adopting research from Merli *et al.* [29] as well as Meler and Ham [30]. It was developed by researchers by elaborating the health protocol variable as novelty, as shown in Figure 1. This study also investigated the relationship between seven variables, namely environmental concerns, ecotourism practices, ecotourism show, green marketing, as independent variables. Tourist satisfaction as a mediator variable, and the variable of revisit ecotourism as the dependent variable. Health protocol as moderator variable. These variables were measured by 27 indicators.

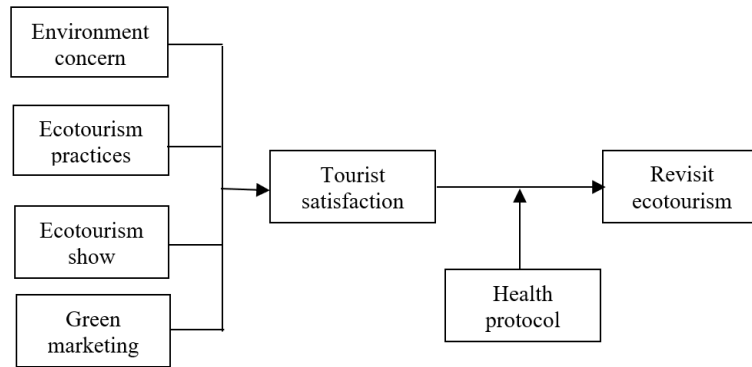


Figure 1. Research design

3.1. Sampling frame and data collection method

The sample of this research is the ecotourism that involved with six locations of coastal ecotourism in the province of Special Region of Yogyakarta, Indonesia. The sampling method was accidental random sampling. The questionnaire was distributed to respondents using a Google Form via WhatsApps and the respondents filling out questionnaires. This activity is carried out directly in the ecotourism locations every day for a period of seven months (February-August 2021).

During the pandemic determination by the government in March 2020-January 2021, the level of ecotourism visits fluctuated due to the implementation of restrictions on community activities, and even closed completely. However, according to data from the Gunung Kidul Regency tourism office of December 2020, tourist visits to beach destinations were only 503 tourists. The calculation of the sample size was using the Slovin formula [31] resulted 222 ecotourists.

3.2. Data analysis

This study employed inferential statistics. The outer model was carried out by testing the quality of the instrument. Reliability test was using the Cronbah's Alpha test. The validity test used convergent validity and discriminant validity. The convergent validity with factor loading is 0.70 and discriminant validity with average variable extrac (AVE). Should be 0.50 [32]. The inner model was carried out by looking at the Goodness-of-fit as shown in Table 1. To produce the output, this research used descriptive statistical analysis and partial least square-structural equation modeling (PLS-SEM) analysis. The test was running by using the PLS warp software version 7.0.

Table 1. Summary of research hypothesis

Hypothesis	Test result	Result of hypotheses
H1: Environmental concerns has a positive effect on the quality of ecotourism	Positive, not significant	Hypothesis is not supported
H2: The practice of ecotourism has a positive effect on the quality of ecotourism	Positive, not significant	Hypothesis is not supported
H3: The ecotourism show has a positive effect on the quality of ecotourism	Positive, significant	Hypothesis is supported
H4: Green marketing has a positive effect on the quality of ecotourism	Positive, significant	Hypothesis is supported
H5: Health protocol moderates the quality of ecotourism and has a positive effect on tourist satisfaction	Positive, significant	Hypothesis is supported
H6: Tourist satisfaction has a positive effect on return visits to ecotourism	Positive, significant	Hypothesis is supported

Source: authors"

4. RESULTS

The research sample amounted 222 respondents, dominated by 59.9% were women, aged 23-27 years at 40.10%, income from 1-2 million to 55.90% as presented in Table 2. The results of the outer model test are in the form of validity tests as shown in Table 3. The convergent validity test with mean loading factors and square roots average variable extracts is all 0.7, and discriminant validity with average variable extract (AVE) is already 0.5. It can be concluded that all variables in this research is valid.

Table 2. Demographic information of the respondent

Variables	Frequency (n)	Percent (%)
Gender		
Male	89	40.10
Female	133	59.90
Age		
18-22	68	30.63
23-27	89	40.10
28-32	42	18.91
33-37	14	6.31
38-42	9	4.05
>43	0	0
Group		
Individual/couple	137	61.71
Family	73	32.88
Community	12	5.41
Income (IDR)		
0-1,000,000	55	24.80
1,000,001-2,000,000	124	55.90
2,000,001- 3,000,000	31	14.00
3,000,001- 4,000,000	7	3.00
4,000,000-5,000,000	5	2.30
>5,000,000	0	0
Total responden	222	100.00

Table 3. Results of validity research test

Variable	Convergent validity		Discriminat validity
	Mean loading factors	Square roots AVE ($\sqrt{AVE^2}$)	AVE
Environmental concerns (KL)	0.944	0.944	0.891
Ecotourism practices (P)	0.857	0.858	0.737
Ecotourism show (PE)	0.869	0.870	0.756
Green marketing (GM)	0.812	0.813	0.661
Health protocol (PK)	0.828	0.830	0.689
Tourist satisfaction (KW)	0.934	0.934	0.873
Revisit ecotourism (MW)	0.949	0.949	0.901

Table 4 shows the data quality test using Cronbah's alpha and composite reliability (CR), both of met the criteria of more than 0.7. It means that all variables are reliable. It can be seen in Table 4 that at the same time the researcher showed the number of questionnaire items, none of which were dropped because they had met the criteria of validity and reliability.

Table 4. Results of variable reliability research test, and number of valid items

Variable	Cronbach's alpha	Composite reliability	Number of questions	Number of valid items
Environmental concerns (KL)	0.878	0.943	2	2
Ecotourism practices (P)	0.940	0.951	7	7
Ecotourism show (PE)	0.919	0.939	5	5
Green marketing (GM)	0.897	0.921	6	6
Health protocol (PK)	0.772	0.869	3	3
Tourist satisfaction (KW)	0.854	0.932	2	2
Revisit ecotourism (MW)	0.949	0.943	2	2

The results of the distribution of respondents' answers to all variables with seven variables and 27 indicators show all factor loadings 0.7. This means that all indicators on all variables are feasible to be continued as the basis for calculating further research. The details are shown in Table 5.

Table 5. Summary of means, and construct loadings

Construct	Item questionnaire	Mean	Loading
Environmental concerns (KL)	Environmental sustainability is one of the main problems for today's society (KL1)	3.896	0.944
	Environmental sustainability is crucial for the long-term success of coastal, marine, lake, mountain, and other ecotourism (KL2)	4.257	0.944
	It is important that ecotourism committed to the reduction and proper management of waste (e.g., separate waste collection, waste on the beach) (P1)	4.167	0.894
Ecotourism practices (P)	It is important that ecotourism adopts water-saving practices (e.g., timing devices in showers) (P2)	3.739	0.786
	It is important that ecotourism adopts energy-saving practices (e.g., automatic switching-off of lights, LED lamps) (P3)	3.991	0.854
	It is important that ecotourism provides organic or seasonal food are available (P4)	3.838	0.841
	It is important that ecotourism is committed to reducing noise (P5)	3.910	0.804
	It is important that ecotourism is committed to the protection of the surrounding natural environment (marine and coastal ecosystems) (P6)	4.288	0.912
	It is important that this Ecotourism implements health protocols (P7)	4.261	0.909
	Performances in ecotourism using green power (PE1)	4.108	0.924
Ecotourism show (PE)	Instructions in ecotourism adopt many stories of local wisdom (javanese traditional shows: ketoprak, wayang kulit) (PE2)	3.563	0.812
	Performances in ecotourism using green product costumes (PE3)	3.815	0.872
	Performances in ecotourism using traditional tools (PE4)	3.712	0.835
	Performances in ecotourism adopt a lot of folk songs (PE5)	4.144	0.900
	I know ecotourism from online media (IG, Fb, dls) (GM1)	3.761	0.748
Green marketing (GM)	It is interesting to me for the promotion given by this ecotourism (GM2)	3.473	0.838
	The application of prices in ecotourism is comparable to what is obtained (GM3)	3.797	0.852
	This ecotourism has implemented a health protocol (GM4)	3.851	0.859
	The location for ecotourism is good and wide (GM5)	3.820	0.819
	There are health facilities at the ecotourism location (GM6)	3.752	0.755
	Ecotourism has provided hand washing facilities, spray disinfectant, masks, signs of social distancing (PK1)	3.532	0.875
Health protocol (PK)	Ecotourism has provided announcements of health protocol rules at ecotourism locations (PK2)	3.577	0.874
	Ecotourism has been maintained by the manager regarding health protocols (PK3)	3.473	0.734
Tourist Satisfaction (KW)	I am satisfied with my experience in this ecorurism (KW1)	3.171	0.934
Revisit Ecotourism (MW)	My expectations have been satisfied (KW2)	4.257	0.934
	I would come back again in this Ecotourism (MW1)	3.991	0.949
	I would recommend this Ecotourism (MW2)	3.473	0.949

The results of the study based on the 5% alpha significance probability show the results as shown in Table 6. The table informs that there are two insignificant effects, namely environmental concerns (KL) and Ecotourism practices (P) have no effect on tourist satisfaction (KW). The rest are all significant.

Table 6. Summary of result of research test

Variabel	β	Prob	Mediator		Moderator		Adj R ²	Remark
			β	Prob	β	Prob		
Environmental concerns (KL)	0.031	0.321						Rejected
Ecotourism practices (P)	0.033	0.310					0.626	Rejected
Ecotourism show (PE)	0.167	0.006						Accepted
Green marketing (GM)	0.664	0.001						Accepted
Tourist satisfaction (KW)			0.738	0.001			0.631	Accepted
Health protocol (PK)					0.190	0.001		Accepted

The inner model carried out in this study looks at the r-squared and Q-square which have met the criteria of greater than 0. The details are in Table 7, where the measurement of Goodness-of-fit has shown a good model. Based on the previous analysis, conclusions can be drawn from the results of the study as shown in Table 1.

Table 7. Goodness-of-fit measures for standard error of measurement (SEM)

Indikator	Resultt	Criteria
Average path coefficient (APC)	0.919	P<0.05
Average R-squared (ARS)	0.904	P<0.05
Average adjusted R-squared (AARS)	0.894	P<0.05
Average Q-squared (AQS)	0.648	acceptable if ≥ 0
Average block VIF (AVIF)	3.521	acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	4.115	acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhaus GoF (GoF)	0.218	small ≥ 0.1 , med ≥ 0.25 , large ≥ 0.36
Sympson's paradox ratio (SPR)	0.833	acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	0.984	acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SSR)	0.900	acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	0.833	acceptable if ≥ 0.7

Sources: wrap PLS 7.0

5. DISCUSSION

5.1. Environmental concerns do not affect the quality of ecotourism services

The results of this study contradict the results of research from [33] where the perception of concern for environmental sustainability of tourists has a significant positive impact on their attitudes. This difference in results is due to the understanding of environmental sustainability which is one of the main problems of the community at this time is not fully good, this can be seen from the answers of respondents who have the lowest mean on this variable. Better and in-depth education is needed on this understanding of environmental sustainability, but that is not enough, clear facilities and infrastructure are needed as well as clear rules that exist at the ecotourism location, so that tourists will understand and comply with these regulations [34]. This behavior will have an educational impact for tourists to increase environmental awareness.

5.2. Ecotourism practices do not affect the quality of ecotourism

The results of this study also showed unexpected results, where the practice of ecotourism, especially on the questionnaire item with the lowest mean, was the cause, namely Ecotourism implementing water-saving practices, which was necessary and important. Most even dominate that almost all tourists if they go to the beach will swim at the beach, after doing that they will certainly clean themselves with clean water. The high frequency of use of facilities and infrastructure requires the use of energy-efficient technology as part of environmental sustainability [35]. The importance of this is not only ultimately saving clean fresh water but will also save energy as a power generator supplier, so there are two advantages. On the other hand, these facilities are not cheap, and require considerable maintenance due to their high frequency.

5.3. Ecotourism show have a positive effect on the quality of ecotourism

Testing the results shows that performances in ecotourism influence the quality of ecotourism. The effect in this study is because ecotourism managers are committed to protecting the surrounding natural environment, this is shown from the questionnaire items with the highest mean in this research variable. The protection of nature around this ecotourism object will indeed extend the life of ecotourism and the social environment around ecotourism locations that aim for a sustainable economy, besides that ecotourism contributes to the discourse of "nature" in a disruptive and productive way in the normative ideas of "nature" and "culture" [15]. The practical approach on the instructions in ecotourism adopt the culture with local wisdom and aware the green power and green product will inculcate the community.

5.4. Green marketing has a positive effect on the quality of ecotourism

It is known that green marketing relies on contributions, interactions, and cooperation between different stakeholders to improve business professionalism [36]. The green marketing strategy collaboration can significantly increase the sales volume of products and services [37]. In its work, green innovation and promotion are needed to realize business and this has a positive effect on business performance [38]. Ecotourism as a tourism management based on nature protection, as well as forming green services has a significant influence on brand image, and also green promotion will have an impact on the influence of brand image [39]. For this reason, ecotourism entrepreneurs must also pay attention to green claims from tourist visitors because it will increase the effectiveness of communication between the two parties, and this will be effective in reducing costs and relevant to increasing education on the environment [40]. So that green marketing in general will affect customer satisfaction [41]. Normally development business tourism will make the place to be crowd and will have more pollution but with the concerned of the ecotourism and green practice will give more satisfaction to the customer to come again because managed to preserve the environment and protect the nature.

5.5. Health protocols moderate the quality of ecotourism and have a positive effect on tourist satisfaction

At the beginning of the COVID-19 pandemic, the implementation of health protocol policies in preventing COVID-19 had not been fully implemented because people did not yet have the awareness to apply them in daily life [42]. There is an influence of self-awareness and environmental support on behavior in the implementation of health protocols as adaptation of new habits. In Indriyanti's [43] research, a less supportive environment has 16 times the risk of crowding behavior, of course this risk is very large, especially in ecotourism locations that have relatively large visitors. During the COVID-19 pandemic in 2021, health protocols are an important activity, and this activity must be carried out in various sectors. Announcement of health protocol rules in ecotourism is also necessary and must be carried out and clearly stated in the corners of the ecotourism environment so that it is easy for visitors to see and read. The announcement must be based on applicable regulations so that there is a common perception in the community [44], and the application is clear so that there is no confusion and confusion in the community [45].

Health protocols that have been disseminated in ecotourism locations will be able to provide a positive perception of tourists on the quality of ecotourism [46], with health protocols as an additional service quality during this pandemic that will increase ecotourism consumer satisfaction [47]. Customers are very concerned on standard operating procedure (SOP) of the health protocols where tourism from all the world will come and easily to spread the disease. Therefore, the SOP of health protocol will block the tourism that may carry the disease and frequently check the status of the health to ensure the safety of the ecotourism sustain.

5.6. Tourist satisfaction has a positive effect on return visits to ecotourism

Tourist satisfaction is not only patterned on attractions, services, and experiences that become an image in the eyes of tourists, but programs or activities are needed to develop and improve the quality of a destination that is more focused and on target [48]. The COVID-19 pandemic period with the application of health protocols is the attraction of an ecotourism, this has a multi-faceted impact, and this will affect satisfaction and affect loyalty. Satisfaction has a significant effect on loyalty [49]. To strengthen the existence of health protocols at ecotourism locations, tourism service providers and institutions from ecotourism and the government are needed, and positive word of mouth is needed so that tourists return to ecotourism [22]. It is hoped that marketing strategies that can be applied in an effort to increase tourist satisfaction and loyalty and provide managerial guidance will prepare positive constructions that lead to consumer satisfaction in the future [50]. Advertise the activities of ecotourism with proper planning and unique of the culture local wisdom via online social media will attract more tourism to have good vacation and fulfill the customer satisfaction needs based on the attractive programs will give positive impact on the customer loyalty. Bali has become the popular tour destination and benchmarking for the tourism development and community empowerment to support sustainable tourism development but still lacking on the preserved land use especially in the agriculture sector [51]. Therefore, ecotourism become vital issue to create the awareness for the local community and the policy makers to have structure planning and action to maintain the environmental sustainability.

6. CONCLUSION

This study revealed that the ecotourism has a positive effect on the quality of ecotourism. Green marketing has a positive effect on the quality of ecotourism. Health protocol moderates the quality of ecotourism and has a positive effect on tourist satisfaction. Tourist satisfaction has a positive effect on return visits to ecotourism. It is important to maintain and even increase the wider use of social media to create a good and positive brand image. Dissemination and strict control of health protocols in ecotourism locations are urgent, so that it will ensure the safety and health of tourists. With a good perception, it will create interest in returning to ecotourism places again.

Ecotourism managers should pay more attention to environmental sustainability by maintaining cleanliness, planting large trees that produce oxygen as well as protection for tourists, on the coast planting mangrove trees so that beach abrasion does not occur and all activities that support environmental sustainability in the long term. The practice of ecotourism is always carried out with the mindset of environmental sustainability. The education process for the community around ecotourism objects and tourists must also be carried out, so that there is a synergy between the community, tourists, ecotourism objects and sustainable ecotourism managers. This is important to increase commitment to protect the natural environment.

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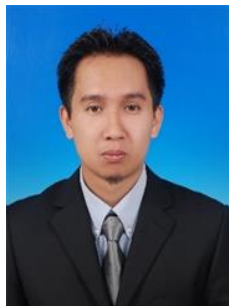
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