

BUILDING A GREEN BRAND IMAGE TO INCREASE CUSTOMER'S DECISION-MAKING THROUGH GREEN DESIGN AND ENVIROMENTAL CONCERNS

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Abstract: Adopting the concept of eco-airport requires a green brand image and the realization of a green environment, which is expected to increase the customer's decision-making in using the airport. The purpose of this study is to determine the impact of green designs and environmental issues on the green brand image and its impact on customers' decision to use Soekarno Hatta Airport. The population of this study is passengers using Soekarno Hatta Airport, and the sample used is 209 respondents with purposive random sampling, and the data obtained is processed using SEM-PLS. The result of this study shows that the green design affects the green brand image. The green brand image affects customer's decision-making, and the green brand image can mediate the relationship between the green design and the customer's decision-making. Environmental issues influence customer's decision-making. The green design has no effect on the customer's decision-making, this is because the user does not pay much attention to the design of Soekarno Hatta Airport.

Keywords: *Green Brand Image, Eco Airport, Green Design, Environmental Concern, Customer's Decision-Making*

1. Introduction

Soekarno-Hatta International Airport is known as the largest and busiest airport in Indonesia and one of the major air transportation hubs in Southeast Asia. The number of tourists coming to Jakarta through Soekarno-Hatta International Airport increases every year. As the number of tourists grow, the operation of the airport will have a significant impact on the environmental quality itself. Airports have the potential for the environmental pollution, such as air pollution caused by airport operations and carbon dioxide emitted by airport vehicles. The Tokyo International Airport terminal defines an eco-airport as an airport that takes measures to protect the environment and to promote a healthy environment inside and outside the airport. Eco-airports have several objectives, such as realizing airports with a global perspective, implementing integrated and

harmonious airport management for environmental quality that affects the surrounding environment, and organizing airports that can support the achievement of good environmental quality. We need to adapt the eco-airport concept that can provide problem-solving to create a good environment and a good brand image for Soekarno-Hatta International Airport .

Soekarno Hatta International Airport is one of the flight gateways of the Indonesia's capitals. This is the object of research because Soekarno-Hatta International Airport is not included in the eco-airport category. The Terminal 3 at Soekarno-Hatta International Airport adopts the eco-airport concept, which is environmentally friendly and modern. The building of Terminal 3 at Soekarno-Hatta International Airport is very supported by energy-saving system. The walls and roofs are made of glass, so the incident light can be optimized, and it looks bright during the day without using a lot of lights. It uses the environmentally friendly refriger R 134 A for air conditioner and saves water by using an automatic faucet and a high-pressure closet flush so that waste is pushed out in one pressure. By the application of the green design and the environmental concerns, it is hoped that it will improve customer's decision-making to use the airport and will add more value to the brand image of the airport itself. Quantitative research on eco-airports is still rarely done. It is hoped that this research can build a green brand image and can improve consumer's decision-making through the green design and the environmental concerns.

2. Literature Review

Green Design

The green design for buildings is a design that is made with reference to the environment and the environmentally friendly resources that are managed and applied with environmentally friendly principles. The green design has a broad scope and includes the use of energy efficient lighting technology or the adaptation of recycling systems to the building design if it is possible. (Wiley et al., 2008).

In an effort to implementing the building by adapting the green design, it aims to minimize the impact on the natural environment and human health. In principle, buildings

that implement the green design are required to be able to increase efficiency in the use of energy, water, and materials and to reduce the impact that can be generated from a building on health through the layout, construction, and maintenance of buildings. (Rachmayanti & Roesli, 2014). The application of the green design to Soekarno Hatta airport, especially at the passenger terminal, will produce a very important impression for passengers or visitors. The existing designs in environmentally friendly airport buildings include the addition of green items or plants, natural-lighting sources, open green spaces that can produce fresh air, and so on. The indicators of the green design in this study refer to the research by (Wibowo et al., 2019) .

Environmental Concerns

Environmental concerns are an attitude and concern for one's own behavior or the others' behavior with consequences for the environment (Heo & Muralidharan, 2017). Current environmental problems encompass illegal logging, water pollution caused by industrial waste, air pollution in urban areas due to the amount of smoke from vehicles, the burning of garbage, many conservation areas, and declining quality of biodiversity (Chen, 2011). Concerns for the environment are a determinant of consumer's behavior that is sensitive to the environment, which has a positive effect on consumer's behavior itself (Albayrak et al., 2013). This study uses indicators for Environmental Concerns with reference to the research by (Kencanasari et al., 2019).

Green Brand Image

The definition according to Huang (2010) that associates brand image with customers is the thoughts, feelings, and expectations by customers. Hence, one of the best ways to build a brand image is to establish good relationships with customers (Cho & Fiore, 2015); (Setiawan et al., 2016). The green brand image is a set of consumer's perceptions related to the brand, the commitment, and the concern for the environment (Cretu & Brodie, 2007). This definition is supported by Chen (2009) which states that a green brand image is a perception of a brand that exists in the minds of consumers related

to the concerns and the commitment to the environment. The indicator used for this green brand image refers to the research by (Chen, 2009) and (Astini, 2017).

Customer's Decision-Making

Consumer's decision-making is a basic purchase decision-making attitude that consumers adhere to, even when they apply it to goods and services which there will be different purchasing decisions (Mohsenin et al., 2018). Decision-making as a problem-solving process is directed at the target (Desma Erica Maryati Manik, 2018). Decision-making by consumers to differentiate a product begins with an awareness of the fulfillment of needs and desires (Sutisna, 2002). The indicator used for customer's decision-making refers to the research by (Maniatis, 2015)

Conceptual Framework

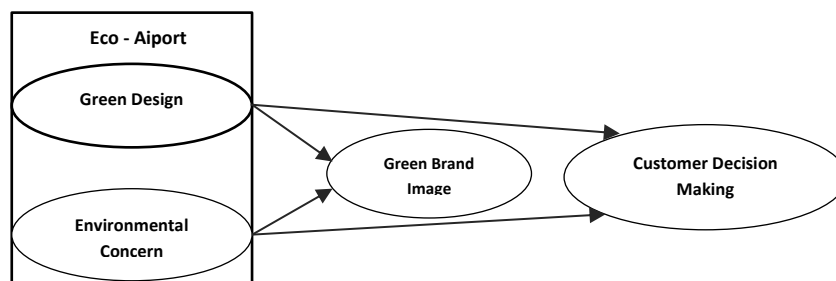


Figure 1

3. Methods

The participant of this research was the passengers who passed through Soekarno Hatta airport, the sample was taken using purposive random sampling with 209 respondents of according to the Hair formula. Data was obtained through questionnaires using 5-Likert scales. The following was the hypothesis that was developed for this study and was

conducted by using SEM PLS analysis approach through data processing tools of Smart PLS 3.

Table 1. Indicators

Variable	Indicator
Green Design	There is an access to workspaces for construction, cleaning, maintenance and repairs in airport building design
	Using a layer of sun protection or other media so that the room does not absorb direct sunlight and reduces energy for air conditioning
	Using mirrored channels or light shelves for artificial lighting and reduce energy consumption
	Adapting a good ventilation system to produce better air circulation
Environmental Concern	Knowing the classification of types of waste disposal
	Knowing things that can pollute the environment
	Knowing the protected environmental area
	Knowing about the function of reforestation
	Have high credibility in maintaining its good commitment to the existing environment.
Green Brand Image	Have a good reputation for environmental protection.
	Have success in protecting the environment
	Have a high sense of care for the environment
	Can be trusted in an effort to contribute to protecting the environment
Customer's Decision-Making	Have knowledge about environmental benefits
	Have principles to protect the environment
	Have knowledge of environmental issues that can have an impact
	Commit to your own health benefits for now and in the future
	Have awareness of the application of non-polluting materials

4. Discussion and Result

4.1 Validity and Reliability Testing

From the Smart PLS-assisted calculation, the results are obtained:

Table 2. Square Root of AVE and Correlation Between Variable

Variable	AVE	Root of AVE
Green Design	0.547	0.740
Environmental Concern	0.613	0.783
Green Brand Image	0.717	0.847
Customer's Decision-Making	0.654	0.809

Based on Table 2, the square root of AVE of each variable is higher than the coefficient of its correlation with another variable. This measurement will be acceptable if each variable has a good validity determinant. From the discriminant validity testing, all of the variables, the green design, environment concern, green brand image, and customer's decision-making are declared valid as the AVE value of each variable exceeds 0.50

4.1.1 Reliability Testing

The construct will be considered reliable if the composite reliability value exceeds 0.70. The results of the reliability testing in this research can be seen in Table 3.

Table 3. Reliability Indicator

Variable	Composite Reliability	Cronbatch's Alpha
Green Design (X1)	0.828	0.720
Environmental Concern (X2)	0.863	0.790
Green Brand Image (Y)	0.927	0.901
Customer's Decision-Making (Z)	0.904	0.868

It can be concluded then that the construct has good reliability as the value obtained is > 0.70.

4.1.2 Validity Testing

Based on the convergent validity testing results as presented in Figure 1, all of the indicators measuring the construct are declared valid for having outer loading factor of > 0.70

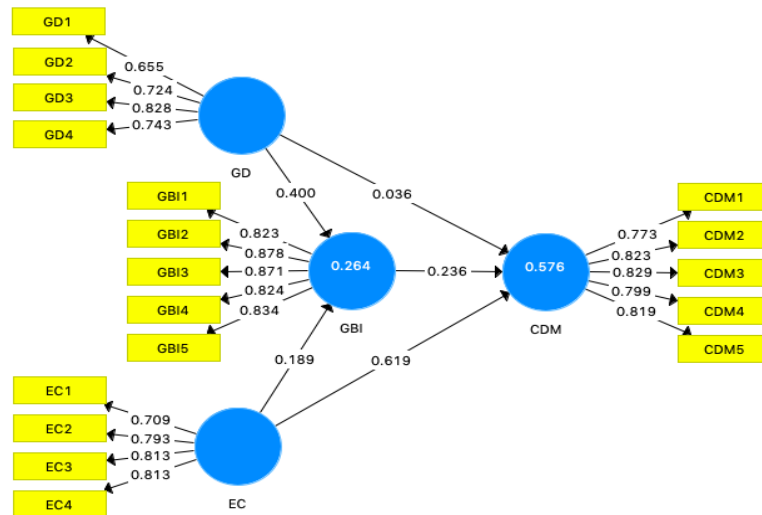


Figure 1. PLS Algorithm

4.2 Direct Effect

Figure 1 shows the direct relationships between variables. Hypothesis testing is carried out at a significance level of 5%, and a hypothesis will be accepted if the T_{count} is > 1.98, and the p-value is < 0.5. The hypothesis testing results obtained by Smart PLS 3 bootstrapping are presented in Table 4.

Table 4. Path Coefficients and T-values

Path	Original Sample (O)	T- statistic	P- values	Result
Green Design → Green Brand Image	0.400	5.418	0.000	Accepted
Green Design → Customer's Decision-Making	0.036	0.566	0.571	Reject

Environmental Concern $\square$ Green Brand Image	0.189	2.266	0.024	Accepted
Environmental Concern $\square$ Customer's Decision-Making	0.619	11.200	0.000	Accepted
Green Brand Image $\square$ Customer's Decision-Making	0.236	3.431	0.001	Accepted

The Effect of Green Design on Green Brand Image

From the results of calculations in Table 4 shows that the green design has an effect on green brand image, with a loading factor of 0.400. The application of the green design to airport buildings creates a person's perception of an airport itself. With the implementation of this environmentally friendly design, the airport will also get its benefits because it will be related to the system of implementing the airport's environmentally friendly concept. It will also affect the reduction in energy consumption used by the airport after the implementation of eco-design that uses glass as a substitute for walls and energy catchers. Sunlight with the installation of a solar energy is used so that the sunlight which is absorbed by the system can produce energy for the sustainability of the airport. With a design like this, the airport can also get a better image in the eyes of someone. The results of this study are in line with the research of Han *et al* (2020) which states that the green design has a positive effect on green brand image.

The Effect of Green Design on Customer's Decision-Making

Based on the results of the calculations in Table 4, it shows that the effect of green design on customer's decision-making is not significant with a loading factor of 0.036. The insignificant condition of green design on customer's decision-making is because users pay less attention to the design applied at Soekarno Hatta airport, so it has no effect on customer's decision-making. The results of this study are different from the research of Han *et al* (2020) which states that the green design affects consumer's decision-making.

The Effect of Environmental Concern on Green Brand Image

Based on the results of the calculations in Table 4, it shows that environmental concerns have an effect on the green brand image with a loading factor of 0.189. The implementation of environmental concern at the airport will create an environmentally friendly view and attitude towards the airport itself. The concern for consumers who have awareness of the environment and feel changes in environmental quality will tend to pay more attention to the environment at the airport. Therefore, the environmental concerns of an airport is expected to help create an environmentally friendly image in the eyes of consumers. The results of this study are in line with the research by Azhar et al (2014) which states that environmental concern has a positive effect on green brand .

The Effect of Environmental Concern on Customer's Decision-Making

Based on the results of the calculations in Table 4, it shows that the environmental concerns have an effect on customer's decision-making with a loading factor of 0.619. The existence of awareness of one's environment and knowledge of the environment in their decision to make a purchase shows that consumers care about environmental conditions in accordance with the features, criteria, characteristics of the airport that they will choose. The results of this study are in line with the research by Azhar *et al* (2014) which states that the environmental concerns have a positive effect on customer's decision-making.

The Effect of Green Brand Image on Customer's Decision-Making

From the results of calculations in Table 4, it shows that green brand image has an effect on customer's decision-making with a loading factor of 0.236. An airport that has a good reputation in protecting the environment and implementing an eco-airport can make consumers decide to choose and use the airport. According to consumers, airports that implement eco airports and have a good green brand image are better and higher in quality than airports in general that have not implemented eco airports yet.

4.3 Indirect Effect

Table 5 shows that there is an indirect relationship between price and purchase intention through perceived quality as an intervening variable.

Table 5. Indirect Effect

Path	Coefficient	T-Statistic	P-Values	Result
Green Design → Green Brand Image → Customer Decision Making	0.095	3.059	0.002	Significant
Environmental Concern → Green Brand Image → Customer Decision Making	0.045	1.742	0.082	Not Significant

It can be concluded that the green design affects customer's decision-making although green brand image and environment concern do not affect customer's decision-making through green brand image.

4.4 Goodness of Fit Test

Table 6 shows the criteria for R-squared values, with 0.75 which is strong, 0.50 which is moderate, and 0.25 which is weak.

Table 6. R Square

Variable	R Square	Result
Green Brand Image	0.264	Moderate
Customer Decision Making	0.576	Moderate

The structural model fit can be seen from the Q-squared as follows:

$$Q^2 = 1 - (1 - 0,264) (1 - 0,668) = 0,76$$

The Q-squared obtained is 0.76. Because Q-squared is higher than 0, the model is proven to have predictive relevance with a strong value.

Conclusion

This study shows that the green design has an impact on green brand image, and the green design even influences customer's decision-making through green brand image. This shows that creating a green brand image of Soekarno Hatta Airport will improve customers' decision-making to use Soekarno Hatta Airport. This study also shows that environmental issues affect the green brand image and the results of customer's decision-making. It means that due to environmental issues, Soekarno Hatta Airport can gain a positive image in the context of being one of the airports implementing the concept of ecological airport. Of course, it can improve the customer's decision-making.

Managerial Implications

According to this research, it is expected to provide useful information for Soekarno Hatta Airport and to manage the airport by implementing the green design and environmental issues to create a good view and to increase customer's decision-making on using Soekarno Hatta Airport as an environmentally friendly airport.

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