

Tourists Preference Identification in Solo Tourism Destinations A Study of Statistical Factor Analysis

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Abstract

Surakarta or profound with Solo is one of an attractive city in Central Java. Solo beside popular with Batik, also reserves with various tourism destinations and attractions options which incorporate into a tourism cluster. This research identifies the preferred aspects using statistical factor analysis from a survey conducted with 186 respondents by using 50 numbers of questions according to tourism cluster. Factor analysis and non-parametric test synthesize the numbers of questions into 13 factors. The insights of factor analysis will be important to define customer preference in fostering the future quality of Solo tourism services.

Keywords: Factor Analysis, Non-Parametric Test, Cross Tabulation, Tourists Preference, Tourism Cluster

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1. Introduction

Indonesia is the country which rich of natural beauty and cultural heritage. This potency is more than enough to attract the tourist for visiting Indonesia. However, the fact said that the number of tourist who visited Indonesia is lesser than Thailand, Malaysia, and even the small country like Singapore. Indonesia's international tourist is growth 5.15% than in 2011, but the amount of tourist still less than Thailand, Malaysia, and Singapore. Malaysia and Singapore although their potencies of natural beauty and cultural heritage not as varies as Indonesia, but they can brand and maintain their tourism and also the supporting infrastructure well. The tourism sector also played the important role to increase the income for their country thus they put tourism as their development priority [1].

Developed tourism in Singapore and Malaysia make Indonesian citizen tend to visit these countries rather than visit domestic tourism object. In Singapore for example, Indonesia is the greatest visitor of Singapore in 2012, based on the data from Singapore tourism board, the Indonesian visitor is in the first place of Singapore international visitor arrivals for about 2,8 million visitors [2]. The Indonesian visitors come to Singapore for business, meeting, incentive, convention, and exhibition (MICE), and others 65% for leisure. In Malaysia also, about 2,3 million Indonesian visitor visited Malaysia in 2012 (The Malaysian Insider, 2013). For Malaysia, the visitors tend to visit for shopping, enjoying entertainment of theme parks, garden city, unique smart city, and medical treatment. Those facts are surprisingly making us upset and demand to do something to improve Indonesian tourism [3]. The target is not only for the foreign tourist, but also to attract the domestic tourist to spend

their pennies in Indonesian tourism instead of abroad. The tourism agency also can promote not only certain developed tourism area like Bali, but also other potential places [4].

Solo is located in Central Java province of mountainous slope of Merapi and Lawu, approximately the area coverage 44km², supported by the satellite cities Kartasura, Solo Baru, Palur, Colomadu, Baki, and Ngemplak so that become 150 km². Solo potency to be the tourism object is its richness of cultural values and Batik as the prominent commodities of this city [5]. Solo is consisted of 503.421 peoples based on BPS 2010, or about a million people including the satellite cities. Most of the people in Solo are trader. The city has reliable manufactured and commercial commodities, namely: hand-drawn batik, stamped batik, and printed batik. In the early years of the twentieth century at batik villages of Laweyan and Kauman, the hand-drawn batik home industries and stamped batik factories developed [6]. Laweyan is rich of its historical background since 1500s. Laweyan have existed since 1950s from spinning yarn into cloth. Laweyan also related to the history of Brawijaya V from Majapahit. Meanwhile Kauman derives from kaum or abdi dalam related to Keraton (palace) as the center of business and industry. Kauman more stresses in effort to maintain the inheritance of ancestor culture according to Keraton Solo. If Laweyan from the history consist of big entrepreneurs, Kauman is only consisting of one or two big entrepreneurs, with the rest small entrepreneurs. The pattern of Kauman Batik is related to moslem and the pattern which is used by Keraton people [7].

Beside Kauman and Laweyan, Solo also have Batik Keris, Batik Danarhadi, and Batik Semar. For the center market of Batik that less expensive, Solo has

Pasar Klewer, Pusat Grosir Solo (PGS), Beteng Trade Center (BTC) and Ria Batik. The uniqueness of Batik Solo is the brown color fills the space of the motive, which darker than in Batik Jogja. The material for Batik itself is also various from silk and cotton [8]. There are various tourism objects and attractions, which actually can attract tourist from domestic and also international to visit Solo. But these tourism objects and attractions are still less popular than in other location like Bali, or Universal Studio in Singapore and Lego Land in Malaysia. There are some efforts that need to do by some stakeholders to make the tourism object and attractions in Solo become popular [9]. The momentum of Solo branding as the capital city of Batik can be used to support the mission in attracting more tourists to visit Solo. This study will use tourism cluster concept and statistical analysis to explore some ideas in fostering Solo tourism [10].

2. Research Method

The amount of tourist visiting Solo is annually increasing, but still dominated by the domestic tourist about 98% in 2013. Tourism Agency Solo has targeted 3 million tourists will visit Solo in 2014. The tourism agency is focused on event and tourism destination development [11]. So far the tourism destinations and attractions are listed in Table 1 and Table 2.

Table 1. Solo Tourism Destinations and Attractions Part I

Tourism Attractions	Museums and Palace
Sekaten	Pura Mangkunegaran
Kirab Pusaka 1 Suro	Keraton Kasunanan
Grebeg Sudiro	Museum Wuryoningratan
Grebeg Mulud	Museum Radya Pustaka
Solo Batik Carnival	THR Sriwedari (Wayang Orang)
Solo Batik Fashion	Museum Batik Danarhadi

Table 2. Solo Tourism Destinations and Attractions Part II

Shopping and Culinary Venue	Park and Natural Object
Kampung Batik Laweyan	Taman Satwa Taru Jurug (TSTJ)
Kampung Batik Kauman	Water World Pandawa
Batik Keris	Taman Balekambang
Batik Danarhadi	Solo Citywalk and CFD (Car Free Day)

The existing tourism destinations and attractions are very complex, but the stakeholders in the tourism sectors competing interest hinder the potency to improve the service. The integration of stakeholders to foster Solo tourism is still limited [12]. The tourists are reluctant to spend more days in Solo. This case also admitted by the head of Solo Tourism Agency. Enny Tiasni the head of Surakarta Tourism Agency said through [13]. How we can maintain that every year all hotels in Surakarta is occupied. This is the challenge, people come to Solo more than 2 days then confuse to visit another places for the rest of the day. This is the task of tourism agency to find the chance for new tourism object.” This problem will be analyzed in this

paper, by using service science concept to propose the idea for integrated tourism in Solo. As what Budi Sartono, the head of promotion in Solo Tourism Agency, said so far the tourism in Solo has not had clear vision, therefore RIPPARDA (Master Plan of Tourism Development) is in progress to make Solo tourism vision clearer, effective, and efficient in the next 2015-2025 [14]. Now RIPPARDA is still in academic manuscript, and later on will be developed into city rule. In constructing RIPPARDA, there are several important aspects highlighted: accessibility (infrastructure, connectivity of Soloraya region, open-close city gate, amenities, spatial-urban planning), and attractions [15].

In defining the preference of the customer this paper will use statistical model. The objective of this research, firstly to identify the preference of Indonesian people as the potential tourist of Solo to find several factors that influencing their tourism preference. Secondly, examine the most preferable tourism object in Solo based on customer understanding [16]. This research will answer some research question related to statistical analysis from the data gathered by using questioner the relevant factors influencing customer preference in choosing tourism destination? and The insights that can be generated from the statistical analysis for Solo Tourism improvement by using factor analysis [17].

The preliminary concept is industrial cluster until being adopted as tourism cluster. Gave definition to an industrial cluster is the geographic concentration of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions [18]. Industrial clusters are widely considered to be an important means to promote regional innovation, entrepreneurship and high-tech industries [19]. In Indonesia, the agglomeration of manufacturing SME industrial cluster is observed in both rural and urban areas (mostly surrounding big cities). Rural clusters in Indonesia have a seedbed function for the development of rural industries, demonstrating that clustering can improve for rural producers to outside markets, through dense networks of traders. Clusters are important for the development of rural industries because productivity in clusters appears to be higher than in dispersed enterprises. One of the main reasons is that clustering stimulates active involvement of traders and local entrepreneurs in agglomeration of SMEs. A more interesting finding is shows that enterprises in clusters are in a better position to adopt innovations in products as well as production process than dispersed enterprises [20].

Most clusters in Indonesia were established naturally as traditional activities of local communities whose productions of specific products have long been proceeding. Based on comparative advantages of products they made, at least with respect to the

abundance of local raw materials and workers who have special skills in making such products, many of these clusters have a large potential to grow. Take for example the clusters of batik producers that have long been existence in various districts in Java (e.g. Yogyakarta, Pekalongan, Cirebon, Surakarta, and Tasikmalaya). Various studies show the importance of clustering not only for the development of SMEs in the clusters, but also for the development of villages/towns in Indonesia.

Tourism cluster is using the concept of industrial cluster in tourism sector. The several stakeholders who are included in Tourism Cluster. The stakeholders are inside the system and outside the system. Inside the system are Lodging, tourism product, travel agencies, traders, restaurants, tour guides, and craftsman. In the external system, the stakeholders are universities and research institutions; Government; Tourist; and Federation-Association.

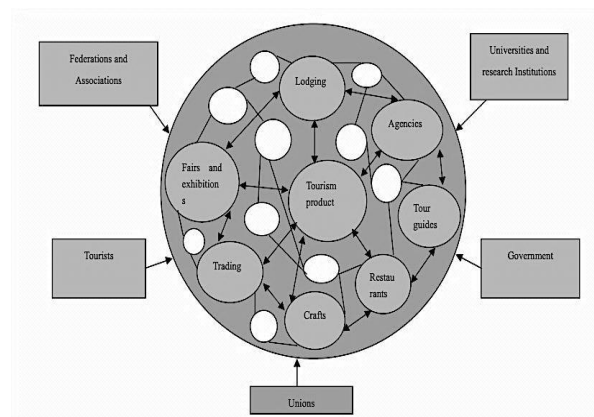


Figure 1. Tourism Cluster Representation

The tourism cluster has four influencing factors: core resources and attraction; destination management; complementary condition; and demand condition. Core resources and attraction represents the main resources that attract tourist to visit the destination, and main factor that creating the tourism products. Core resources and attraction is also classified into two, endowment resources and created resources. Endowment resources are the resource, which already available as it is like mountain, lakes, beaches, rivers, cultural and heritage. Created resources are the resources, which made by the people, like festival, special events, and exhibitions. Destination management factor focus on activities that can enhance the appeal of core resources; strengthen the quality and effectiveness of complementary factors; and best adapt to constrain imposed by the qualifying determinant. This including the DMO (Destination Management Organization) activities like marketing the destination, service dimension, information and technology, human resources management, and environment management. The complementary factor consists of the contribution to add value of core resources. Complementary factor can be categorized into tourism superstructure and

supporting elements. Tourism superstructures are accommodation facilities, food services, transportation facilities and other resources, which may view as the private sector component of the tourism industry. Supporting elements are general infrastructure, accessibility to a destination beyond the physical facilities such as regulation and entry visas, hospitality, and market ties. The demand condition is the conditions of tourist demand, including demand awareness, perception, and preferences. The concept of tourism cluster helps to construct the questioner for the survey.

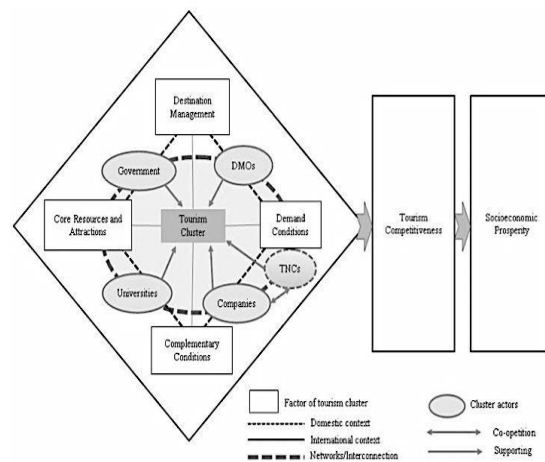


Figure 2. Tourism Cluster Development Model for Global Competitiveness

3. Result and Discussion

The contribution of this research is to give insights from the customer point of view about their opinion, tendency, and preference toward tourism destinations. Moreover, the previous research in Batik Solo project is still not covering the perspective from the customer of Batik Solo and tourism. Most of the available literatures are only emphasized on one of cluster in many kinds of topic, like stressing in the networking, stressing in service science and agent base simulation for cluster industry Batik Solo. The literatures about tourism cluster are mainly about the benefit of tourism cluster and take place not in Batik Solo case. Using statistical method in this topic will be a novel study and complete the insight about the topic. The practical contribution is for the researcher itself, to increase the understanding about conducting research by using statistical tools, named factor analysis.

This research will use quantitative research methodology for testing the theory and specify them into hypotheses, then testing the hypotheses to accept or reject the hypotheses after we collect and analyze the data. Quantitative is the research test a theory by specifying narrow hypotheses and the collection of data to support or refute the hypotheses. Quantitative is also help the researcher to find relation between variables by using relevance statistical method, check

the validity, and find the valid factors. In this research, the theory is using tourism cluster and service science perspective, to test the hypotheses. For the method, this research will use survey by distributing questioner to the people in random sample.

This study is using questioner to collect the data. The questioner consisted of four parts; the first part is about identities, second part about the traveling frequency for several options. The third part is about respondent preference toward several tourist destinations and attractions in Solo. The last part is fifty questions related to tourism preference with likert scales from 1 until 5. One represents very disagree and 5 represents very agree. The first and second parts will be analyzed by using cross tabulation. Using nonparametric test will sequence the third part, and the last part of likert scale questions will be analyzed by using factor analysis.

Table 3. Operationalization of Concept

Concept	Variable	Variable	Category	Scale
Tourism Destination in Solo	Mention the tourism destination in Solo that will attract the tourist	Choose one of 12 tourism destinations in Solo	The three more preferred by the respondent	First Choice Second Choice Third Choice
	The opinion of respondent about their preferences in choosing or deciding for travelling	•The Source of information •Means of transportation •Amenities •Infrastructure •Facilities •Attractions •Resources	Strongly Disagree Disagree Neutral Agree Strongly Agree	Likert 1-5, 1 for very disagree and 5 for very agree

The data is obtained from questioners, which are spread online by using Google Form Survey and offline by spreading the hard copy. From online questioners are gathered 78 questioners with four not valid data. From offline questioners are gathered 112 responses with one non-valid questioner. Therefore the entire valid questioners to be processed are 185 responses (111 offline and 74 online responses). Based on reliability test, only 185 of the questionnaire can be processed after reliability check with Cronbach's alpha 0.943, above 0.6 stated reliable and acceptable. The descriptive analysis of cross tabulation data are mentioned in the figure below:

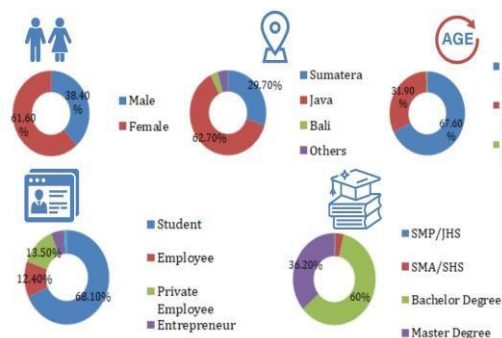


Figure 3. Cross Tabulation Data of The Responses

Table 4. Reliability Check Case Processing Summary

Ket	N	%
Valid	185	100.0
Excluded ^a	0	.0
Total	185	100.0

Table 5. Reliability Statistics

Cronbach's Alpha	N of Items
.943	50

From the Kaiser-Meyer-Olkin measure sampling, it shows that the factor analysis data is significant because shows 0.852 adequacy, which is more than 0.6. Bartlett's Test of Sphericity also shows the significant 0.0, which is less than 0.05. So, it can conclude that Ho is refuted so the variables from SPSS are valid to be analyzed further. From the anti-image correlation also shows that entire diagonal (a) is greater than 0.5, so all the variables can be analyzed. From all 50 questions then, can be reduced into 13 variables using principal component analysis rotation method Varimax with Kaiser Normalization converged in 16 iterations.

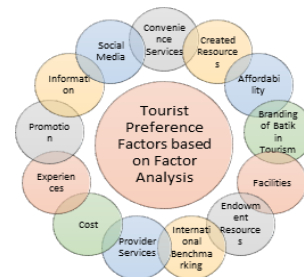


Figure 4. Tourist Preference Factors Based on Factor Analysis

Table 6. Factor Analysis Validity Check

KMO and Bartlett's Test	Number
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.852
Bartlett's Test of Sphericity Approx. Chi-Square	5023.672
df	1225
Sig.	.000

Non-Parametric test is used to rank the most preferable tourism destination in Solo. There are 12 options, and the respondent is asked to choose three most preferable places. From the chi-square 0.000, which is less than 0.05, it means that the test is significant. Based on the test, the most preferable tourism destinations are Pasar Klewer, Kauman, and Serabi Notosuman-Galabo (Culinary places).

Table 7. Non Parametric Test Rank

Location	Mean Rank
Klewer	1372.61
Kauman	1247.76
Serabi Galabo	1227.58
PGS	1214.08
Laweyan	1137.06
Pandawa	1072.26
Kerat On	1058.24
SBC	1045.71
Sriwedari	1021.71
Vast Enberg	999.67
Museum	976.66
TS TJ	952.67

Table 8. Test Statistics^{a,b}

Ket	Preference
Chi-Square	146.086
Df	11
Asymp. Sig.	.000

4. Conclusion

Based on the factor analysis, the factors that reflect the tourist preferences are convenience services, created resources, affordability, branding of batik tourism, facilities, endowment resources, international benchmarking, provider services, Cost, experiences, promotion, information, and social media. From the 12 tourism destinations in Solo, the most preferable destinations based on non-parametric test are Pasar Klewer, Kauman, and Culinary Places. The strategy for improving Solo Batik Tourism need to highlights these factors by the supporting stakeholders in tourism cluster. The limitation of this study is the number of respondents which can be improved in further research. Statistic only deal with current condition, meanwhile to see the prediction of future times, the research can be equipped with other tools such as: system thinking tools, which are more complex like system dynamic, agent-based modeling, and others.

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