

## Conference Paper

# Analysis of Availability of Tourism Infrastructure: Comparative Study in Joglosemar Area

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## Abstract

The main purpose of this research is identifying the availability of tourism infrastructure in supporting the improvement of strategic cooperation area based tourism sector in Joglosemar (Yogyakarta city, Solo, and Semarang) area. The steps taken are by identifying the availability of tourism infrastructure, grouping the infrastructure based on its types, and comparing the availability of tourism infrastructure in three cities in Joglosemar area. The analysis used in this research is Skalogram analysis. The result of research indicates that the city having the highest availability of infrastructure is Yogyakarta city with a number of infrastructure unit amounted 1452. The next one is Surakarta city with a number of tourism infrastructure unit amounted 757 and then Semarang city with a number of tourism infrastructure unit amounted 728. The finding of this research indicates that the more complete the facilities and infrastructure of tourism will influence the high level of tourists' visit in a region. Whereas if an area has many tourism objects without being supported by the facilities and infrastructure, this will not be able to support the increase in tourists' visit.

**Keywords:** infrastructure, tourism, joglosemar, skalogram

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## 1. Introduction

Tourism is the most important sector as a source of economy for a country and its people. The socio-cultural improvement may promote a nation's image in foreign countries. In the era of regional economy nowadays, tourism sector development becomes more important for a region's improvement. It is because the local income may provide contribution in the form of local revenue and increase the local economy. The local government is encouraged to explore either the potential natural resource or the potential human resource owned by each region, including tourism sector as development means of each region.

### OPEN ACCESS

Many international organizations including the United Nations and the World Tourism Organization (WTO) have admitted that tourism is a part inseparable from human life especially concerning the social and economy activities. Initiated by an activity that used to be enjoyed by a few relatively rich people in the early of the 20<sup>th</sup> century, now it has been part of human rights, as stated by John Naisbitt in his book *Global Paradox* as follows, “we here once travel was considered privilege of the moneyed elit, now it is considered a basic human right”. It occurred not only in the developed countries, but the developing countries including Indonesia also have begun to feel that. Gunn (1988) defined tourism as an economy activity that must be seen from two sides those are demand side and supply side. Furthermore, Gunn stated that the success of tourism improvement in a region depends a lot on the planner’s ability in integrating both sides in balance into a tourism improvement plan. To gain the success of tourism target in a region requires some efforts conducted by arranging adequate tourism system in the form of promoting and improving the tourism potential supported by the production design and activities performed by the local government (Getz, 2008).

One potential area in tourism sector is Joglosemar (Yogyakarta, Solo, Semarang) area. It is also a golden triangle area that becomes the center of economy growth. The increasing improvement of tourism sector in this area can be seen from the number of tourists visiting each region (Table 1).

TABLE 1: A Number of Tourists in Yogyakarta, Solo, Semarang in 2014-2016.

Cities	Year		
	2014	2015	2016
Yogyakarta	4,083,605	4,673,336	5,251,352
Solo	2,127,883	2,477,693	2,924,864
Semarang	2,712,442	3,157,658	4,250,351

Source: Central Bureau of Statistics, 2016

The number of tourists visiting Joglosemar Area is increasing year by year (2014 – 2016). Table 1 shows that the number of tourists visiting Yogyakarta City is more than the two other cities those are Semarang and Solo. However, seen from the length of stay of the tourists in Joglosemar area, the data indicates the decrease year by year (Table 2).

The availability of facilities and infrastructure is one factor that influences the level of interest of the tourists in a tourism place, as a research conducted by Alessanro De Nisco in 2017 that a tourism satisfaction is relevant with the aspects of product and tourism of image of the place being visited. If a tourism place has facilities and

TABLE 2: Length of Stay in Joglosemar Area.

Cities	Year		
	2014	2015	2016
Yogyakarta	2.15	2.01	1.61
Solo	2	1.8	1.49
Semarang	1.89	1.69	1.51

Source: Central Bureau of Statistics, 2016

infrastructure that are less than the standard, it may decrease people's interest to visit the tourism place, which later will give impact to the local revenue contribution.

Tourism infrastructure is actually the tourists' need that should be prepared or provided in improving the tourism industry. Infrastructure is all facilities that enable the economy process to run as smooth as possible so that it will facilitate people to meet their needs. Hence, it functions as completing the tourism facility so that it can provide service as well as possible (Yoety, 1996).

A research conducted by Gretzel, et.al., (2014) in Illinois America stated that tourism personal service is one key to increase the volume of the number of tourists visiting to a region. The service meant by Gretzel, et.al includes providing a catalogue of natural nuance or culture in a local place, providing information of indoor entertainment, attractions, family residence, supporting facilities in residence, sport activities, shopping centers, competition activities, histories of the local area, transportation infrastructure, and game tool provision. Other researches of Raden Agusbushro, V.H. Makarau & Amanda Sembel (2011) on the analysis of tourism infrastructure needs in Bunaken National Park Area stated that it requires to provide the tourism infrastructure well and maximally in order to meet the tourists' needs visiting Bunaken National Park Area. Whereas the result of Ugy Soebiyantoro's research (2009) on the influence of infrastructure and transportation on the tourists' satisfaction stated that the provision of infrastructure and the transportation facility in providing the tourists' needs in enjoying the available entertainment tourism or the performed attraction tourism will give satisfaction to the tourists. Considering several problems above, this research aims at identifying the availability of tourism infrastructure in Joglosemar area and comparing the tourism infrastructure in that area.

## 2. Method

The data used in this research is secondary data, which is collected from other sources supporting this research. The data includes data of tourism infrastructure of Joglosemar in 2017 such as accommodation, travel bureau, and other supporting means. This research uses the secondary data sourced from the Bureau of Tourism, the Local Central Bureau of Statistics, the Local Economy Bureau, and other related office. The object of research are Yogyakarta City, Surakarta City, and Semarang City as the comparing analysis. The data is required to explore the strength or the weakness of the tourism industry in Surakarta from the tourism infrastructure side.

The data collection technique of this research is through documentation. The secondary data in this research is collected from various sources among others are the Central Bureau of Statistics, the official website of the Minister of Culture and Tourism of the cities of Yogyakarta, Solo, Semarang.

The research uses comparative method in analyzing the number of tourism infrastructure in Joglosemar (Yogyakarta, Surakarta, and Semarang) area. The data analysis technique of this research uses skalogram analysis technique. The analysis is to find out the hierarchy of improvement centers and development infrastructure in an area. The determination of the hierarchy of the centers of growth and service is based on the number of types and units of development infrastructure or the social economy service facilities provided.

This method gives higher hierarchy or level on the center or growth that has more number of types and units of development infrastructure. The method emphasizes more on the quantitative criteria rather than the qualitative one related to the degree of function of development infrastructure, the population distribution, and the wide range of service of spatial development infrastructure that are not specifically considered.

## 3. Result and Discussion

### 3.1. Condition of tourism facilities and infrastructure in Joglosemar area

The availability of facilities and infrastructure in a tourism object is important for the visitors in supporting the activity tourism visit. After the description conducted by the research in presenting the data of research result, it can be found that the infrastructure

completeness is everything provided including the good condition of infrastructure facilities. The existing facilities and infrastructure will provide comfort and satisfaction to the visitors of a tourism object. A tourism object should provide good condition of facilities and infrastructure to support the activities of visitors coming to the tourism object. The tourists' satisfaction consists of seven dimensions those are lodging and dining facilities, internal accessibility, the closest attraction, external accessibility, provision of safety and emergency system, attraction on site and provision of information service [2]. The followings are the existing facilities and infrastructure based on the analysis conducted:

TABLE 3: Tourism Infrastructure in Joglosemar Area.

Infrastructure	Cities		
	Yogyakarta	Solo	Semarang
Star Hotels	✓	✓	✓
Non Starred Hotels	✓	✓	✓
Banking	✓	✓	✓
Travel Bureau	✓	✓	✓
Restaurants	✓	✓	✓
Meeting Hall	✓	✓	✓
Shopping Centers	✓	✓	✓
Guides	✓	✓	✓

Source: Data processed.

From Table 3 it can be seen that Cities of Yogyakarta, Solo, and Semarang have tourism infrastructure such as Hotel, Banking, Travel Bureau, Restaurants, Meeting Hall, Shopping Centers, or Guides. The availability of these infrastructure indicates that the tourism sector in these three cities are really progressive.

### 3.2. Skalogram analysis of tourism infrastructure in Joglosemar area (Cities of Yogyakarta, Solo, Semarang)

One component in tourism demand is facilities and infrastructure or amenities. Therefore, to improve the strategic area cooperation based tourism in Joglosemar area, the three cities should meet the demand aspect of tourism one of which is the availability of tourism infrastructure. To know the availability of tourism infrastructure in Joglosemar area can be found through the result of skalogram analysis as follows:

Based on the result of skalogram analysis, it can be seen that the one having the highest completeness of infrastructure in Joglosemar area is Yogyakarta City with the

TABLE 4: Result of Skalogram Analysis of Tourism Infrastructure in Joglosemar Area.

Cities	Number of Facilities	Number of Units	Rank of Skalogram
Yogyakarta	8	1452	1
Solo	8	757	2
Semarang	8	728	3

Source: Data processed

number of infrastructure unit amounted 1452. The next is Surakarta City with the number of tourism infrastructure unit amounted 757 and Semarang City with the number of tourism infrastructure unit amounted 728. While the classification of eight facilities used in this skalogram analysis on tourism infrastructure in these cities are as follows:

### 3.2.1. Tourism object

The existence of various tourism objects will give alternative choices to the tourists. The more the tourism objects are owned by a region, the more varied the tourism products will be. The number of tourism objects in the Cities of Yogyakarta, Solo, and Semarang are as follows (Table 5):

TABLE 5: A Number of Tourism Objects in Cities of Yogyakarta, Solo, and Semarang.

A Number of Tourism Objects		
Yogyakarta	Solo	Semarang
10	9	25

Source: Central Bureau of Statistics, 2016

The above table shows that from the side of a number of tourism object, Semarang City is more superior compared with the two cities with the number of tourism objects amounted 25, then it is followed by Yogyakarta City with 10 tourism objects and Solo City with 9 tourism object.

### 3.2.2. Accommodation

Accommodation here means various types of facilities with their completeness that can be used by the tourists to take a rest comfortably and to stay overnight while visiting a destination. The accommodation used in this analysis is star hotels and non-starred hotels. The number of accommodation units in the Cities of Yogyakarta, Solo, and Semarang is as follows (Table 6):

TABLE 6: Accommodation Facility in Joglosemar Area.

Cities	Accommodation		Total
	Non-Starred Hotel	Star Hotel	
Yogyakarta	362	57	419
Solo	144	33	177
Semarang	52	44	96

Source: Central Bureau of Statistics, 2016

Table 6 shows that Yogyakarta City has the highest accommodation facility compared with the two other cities, with the number of unit of non-starred hotels amounted 362 and the star hotels amounted 57 units. Yogyakarta City has a lot of accommodation facilities because the number of hotels increases every year. In 2009 there were only 4 star hotels in Yogyakarta those are Hyatt, Sheraton, Melia, and the Phoenix, with the number of rooms amounted 939. In 2014 it became 7 hotels with the number of rooms amounted 1,603 those are Royal Ambarrukmo, Grand Aston, and Tentrem.

The increase in the number of hotels in Yogyakarta City increasingly reinforces the economy character in Yogyakarta City that is supported by the economy sectors related to the tourism industry such as Trade Sector, Hotel and Restaurant, and Transportation and Telecommunication Sector. However, it is inversely proportional with the occupancy level of most hotels in Yogyakarta City that were decreasing these last several years. Besides triggered by the increase in the new hotels, the low occupancy is also related to the monotonous tourism attractiveness. The lots of hotel development makes the occupancy low but equal. Therefore, it requires the infrastructure improvement to make the tourists more comfortable to stay in the tourism destination.

TABLE 7: Length of Stay of Tourists in Joglosemar Area in 2014-2016.

Cities	Year		
	2014	2015	2016
Yogyakarta	2.15	2.01	1.61
Solo	2	1,8	1,49
Semarang	1.89	1.69	1.51

Source: Central Bureau of Statistics, 2016

From Table 7, it can be seen that the length of stay of the visitors in Yogyakarta City is higher than Surakarta City and Semarang City. However, the average of the length of stay in the three cities in Joglosemar area was decreasing in 2012 – 2014. The decrease

in the length of stay cannot be separated from the monotonous attractiveness of tourism or from the tourism infrastructure in the area.

TABLE 8: Rank of Length of Stay of Visitors in Joglosemar Area.

Cities	LOS (Lenght of Stay) 2016	Rank
Yogyakarta	1.61	1
Solo	1.49	3
Semarang	1.51	2

From Table 8, it can be concluded that Yogyakarta City is more superior in the matter of the length of stay of the visitors. It is also because the number of accommodation facility in Yogyakarta City is more than the other ones in Surakarta City and Semarang City so the visitors have a lot of alternative choices to take a rest comfortably and to stay overnight during visiting a destination.

### 3.2.3. Tourism business

Tourism Business here is the travel and restaurant business. Travel and restaurant are the next components of products that also need to be considered. The tourism business facility in Joglosemar area is as follows:

TABLE 9: A Number of Travel and Restaurant Business in Joglosemar Area.

Cities	Tourism Business	
	Travel Business	Restaurant and Food Stall
Yogyakarta	263	313
Solo	68	320
Semarang	126	225
Number of Units	457	858

Source: Data processed

From Table 9, it can be seen that the travel business in Joglosemar area is progressive enough, with the number of travel business unit amounted 457 and the number of restaurants or food stalls amounted 858 units. Of 458 units of travel business, 263 are located in Yogyakarta City, 68 in Surakarta City, and 126 in Semarang City. While the number of restaurants is 858 units, 313 are located in Yogyakarta City, 32 in Surakarta City, and 225 in Semarang City. Seen from the number of travel business, Yogyakarta City is more superior compared with Surakarta City and Semarang City while in the number of restaurants, Surakarta City is more superior compared with Yogyakarta City and Semarang City.

### 3.2.4. Supporting facilities

Supporting facilities are the meeting hall, the shopping centers, and the guides.

TABLE 10: A Number of Tourism Supporting Facilities in Joglosemar Area.

Cities	Supporting Facilities		
	Meeting Hall	Guides	Shopping Centers
Yogyakarta	21	225	7
Solo	57	30	5
Semarang	88	137	6
A Number of Types	3	3	3
A Number of Units	166	392	18

From Table 10, it can be seen that the number of the meeting hall in Joglosemar area is amounted 166, the number of guides is amounted 392, and the number of shopping centers is amounted 18. In the number of meeting hall, Semarang City, which is 88 units, is more superior compared with Yogyakarta City and Surakarta City. The interesting thing here is shopping centers. The three cities have similarities in opening opportunity to grow and improve the modern shopping centers that are full of investment, opening job vacation, and driving the economy wheels. Moreover, in Semarang City, shopping center is one of the most developed property sector. While Yogyakarta, which is famous as the student city and one of tourism destinations in Indonesia, has seven modern shopping centers until 2015. They are Ambarukmo Plaza, Malioboro Mall, Galeria Mall, Ramai Family Mall, Jogja City Mall, Lippo Mall Jogja, and Jogjatronik Mall.

### 3.3. Comparative analysis based on infrastructure, a number of visitors, length of stay of visitors, and a number of tourism object in Joglosemar area

TABLE 11: Comparison/ Rank of Each Category.

Cities	Skalogram Rank	Rank of A Number of Visitors	Rank of Lenght of Stay	Rank of A Number of Object	Rank of Total
Yogyakarta	1	1	1	2	1
Solo	2	3	3	3	3
Semarang	3	2	2	1	2

Source: Data processed

Based on the result of analysis, from the whole ranks of skalogram, the number of visitors, the length of stay, and the number of tourism object, Yogyakarta City is the most superior among its two coalitions those are Surakarta City and Semarang City (Table 9).

Each city has uniqueness, specialization, and strength that are packed in cultural, natural, and culinary tourism. In Yogyakarta, the tourism objects such as Sultanate Palace, Prambanan Temple, and Borobudur Temple have become the tourism icons of this city. There are also Malioboro area, Vredeburg Fort, and various museums that give more attractiveness to Yogyakarta City. Surakarta City is famous with its cultural tourism, and Semarang City is famous with its unique buildings like Lawang Sewu and other heritages.

Joglosemar Area is a strategic cooperation area in improving its tourism sector, According to Lumpo Lekaota (2015), establishing a partnership with all the stakeholders relating to tourism is one of efforts to promote tourism. Therefore, planning the tourism improvement cannot be separated and should be wholly (holistically) improved.

## 4. Conclusion

Based on the result of analysis conducted, there are some conclusions taken in this research as follows:

1. Cities of Yogyakarta, Solo, and Semarang have similar types of tourism infrastructure such as Hotel, Banking, Travel Business, Restaurant, Meeting Hall, Shopping Center, etc. The availability of these infrastructure indicates that the facilities of tourism sector in the three cities are progressive.
2. A city having the highest equipment of infrastructure in Joglosemar area is Yogyakarta City with the number of infrastructure units amounted 1452. The next are Surakarta City with the number of tourism infrastructure units amounted 757 and Semarang City with the number of tourism infrastructure units amounted 728. Based on the result of analysis, as a whole of the ranks of skalogram, the number of visitors, the length of stay of visitors, and the number of tourism objects, Yogyakarta City is the most superior among its two coalitions those are Surakarta City and Semarang City.
3. The finding of this research indicates that the more the infrastructure facilities of tourism will influence the high level of tourists' visit in a region. While the

number of tourism objects in a region will not be able to encourage the increase in tourists' visit unless there are facilities and infrastructure.

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