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Nama : Sulung Rahmawan Wira Ghani, M.T.
NIY/NIDN : UHA. 01.0583 / 0708078503
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**PATTERN ANALYSIS OF CLUSTER AND MARKET ORIENTATION
(RELIGIOUS TOUR AREA OF GUS DUR'S GRAVE)**

Sulung Rahmawan Wira Ghani¹, Khoirur Rozaq²

Industrial Engineering of Hasyim Asy'ari University of Tebuireng Jombang
Management of Hasyim Asy'ari University of Tebuireng Jombang

Email: surga129ie@gmail.com; krozaq54@yahoo.com

1. Introduction

The area of Gus Dur's Grave (the fourth president of Indonesia) became one of the religious tourism destinations for religious tourists of Indonesia. With its creation, it indirectly makes the wheels of the economy around the grave area.

the development of the informal sector, such as street vendors, is one form of community elasticity in efforts to obtain and meet family needs. However, the development is not in the right location later it will cause some problems like irregularities faces of sharia tourism areas, traffic congestion, garbage buildup and many other problems. In accordance with the economic law, the street vendors tend to take place in a strategic location with consumer crowds, so it tends not to consider the urban spatial layout. They tend to occupy locations that are not intended, such as sidewalks or road bodies that can disrupt traffic flow.

Like the proverb stated that "no sugar no ant", the market as a center of economic activity in a city becomes an attractive space for street vendors to offer goods and services although they have to occupy public spaces and cause problems (Bambang Budiman, 2010).

Many years later, after Indonesia was independent, pedestrian roads were used by traders to sell. In the old days, the name was merchant traders, but now it becomes a street vendor. In the fact, looking up to the history, it should be named as a five-foot trader. In a Presidential Regulation No.125/2012 concerning with Coordination of Structuring and Empowerment of street vendors, explaining about, hereinafter abbreviated as street PKL (Pedagang Kaki Lima), are business actors doing trading business by using the means of moving business or no-moving business, using urban infrastructure, social facilities, public facilities, land, and government or private building that are temporary / non-permanent. **2**

According to McGee and Yeung (1977), street vendors have the same meaning as 'hawkers', which are defined as people who offer goods and services for sale in public places, especially on the roadsides and sidewalks. Similarly, Soedjana (1981) defines street vendors as a group of people offering goods and services for sale on sidewalks or on the edge / side of the road, around shopping centers / shops, markets, leisure / entertainment centers, office centers and centers education, either permanent or semi-permanent, informal or semi-official status and performed either morning, noon, evening or night.

In the proposal written by Supratno (2016) talking about boarding school can be seen as follows:

"As a santri city, Jombang became one of the goals of the youth who want to gain knowledge of religion, not only the science of religion, but also the general science, because the boarding school in Jombang also has undergone many changes not only

salafiyah boarding school, but also many modern boarding schools. There are also boarding schools that implement salafiyah system with modern systems, such as Tebuireng Boarding School, Rejoso Peterongan Boarding School, Denanyar Boarding School, and Tambak Beras Boarding School. According to Nasir (2005: 87) classifies Islamic Boarding School into four, namely (1) salaf, which means an Islamic Boarding School with salaf and classical education system by applying 90% religious curriculum and 10% general curriculum, (2) Developing Islamic Boarding School, which means semi developed islamic boarding schools that applied 70% religious curriculum and 30% general curriculum, (3) Modern Islamic Boarding School (Khalaf), which means developing boarding school that organize general and religion education system from the basic level to the level of university (4) ideal boarding school, which means a boarding school like modern boarding school equipped with various skills that include agriculture, engineering, livestock, fishery, quality banking but still maintain its trademark as a Islamic school that is still relevant to the needs of the community and its development, so that alumnus really have certain title as *khalifah fil ardhi*. "(Supratno, 2016: 6).

A cluster process is a character seen from the manufacturing industry from large, medium and small industries, and households. Cluster is the geographical concentration of the same manufacturing sub-sector. The cluster emerges as a result of the cluster process (clustering process), a cluster process called a network (network) which later developed into industrial district (Kuncoro, 2002). Industrial cluster patterns proposed by Markussen, based on his studies in the United States, the business structure variables and economies of scale, investment decisions, partnerships with suppliers, cooperative networks with employers in clusters, markets and labor migration, linkages of local cultural identity, and the role of government, the Markussen cluster pattern is divided into four. They are the Marshallian district, Hub and Spoke district, satellite district, and Stateanchored district. (Choirunnisa, 2013)

2. Research Benefits.

There are some benefits of this research. They are:

1. To know the pattern of clusters of emerging economies that occur in Islamic tourism
2. As a consideration to manage the economy of Islamic tourism area in Tebuireng Jombang.
3. As a proof between theory and actual practice in the field.

3. Research Method

K-means clustering is one of the non-hierarchical data clustering methods that classifies data in the form of one or more clusters / groups. The data that have the same characteristics are

grouped in one cluster / group and the data having different characteristics are grouped with other clusters / groups, so the data in one cluster / group has a small variation level (Agusta, 2007).

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Based on Santoso (2007), the steps to do clustering by using K-Means method are:

- a. Choose the amount of k cluster.
- b. There are many ways to do k center cluster initialization but the most often done is by doing it in randomly. Cluster centers are assigned initial values with random numbers.
- c. create all data / objects with the closest cluster. determine the proximity of two objects with the distance of the two objects. It is the same as determining the proximity of a particular data cluster, with the distance between the data and the main cluster. In this step, the distance of each data to each main cluster must be calculated. The farthest distance between one data and one particular cluster can determine which data will be included in which cluster. Eucliden distance theory is used to distance all data to each cluster center point so that it can be formulated as follows:

$$D(i,j) = \sqrt{(X_{1i} - X_{1j})^2 + (X_{2i} - X_{2j})^2 + \dots + (X_{ki} - X_{kj})^2} \dots (1)$$

dimana:

$D(i,j)$ = Jarak data ke i ke pusat cluster j

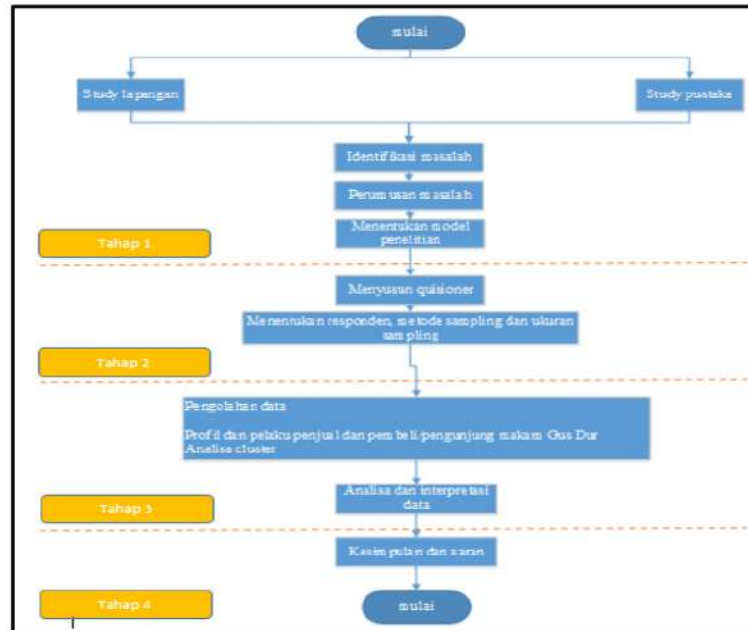
X_{ki} = Data ke i pada atribut data ke k

X_{kj} = Titik pusat ke j pada atribut ke k

- d. recalculate the cluster center with its current members. Cluster center is the average of all data / objects in a particular cluster using the cluster median. so the average value is not the only measure that can be used.
- e. e. each object is set again using a new cluster. clustering will be finished If the cluster center does not change again. for checking, return to step number 3 until the main cluster does not change again.

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The K-Means algorithm is the best algorithm in the Partitional Clustering algorithm which is often used than other Clustering algorithms because it is simpler and more efficient (Budiman, 2012)



Pic. Flow diagram of research

The orientation of Market is one part of marketing which is an activity in providing direction for all activities of business which include the marketing mix where the product is (goods, services, and ideas) marketed are the embodiment of a concept that undergoes a process of development and production aimed at the end user (Hibertus, 2007). While Kotler (1980) stated that marketing is a social and managerial process that makes individuals and groups get what they need and want through the creation and exchange of mutual products and value with others. In some market orientation, it is necessary to know the type of market to enter, including in its characteristics. Those can make clear direction about the market orientation of the resulting product, as for the market orientation is meant for the product.

orientation of customer and competitor include all involved activities in obtaining information about buyers and competitors on the intended market and deploying through the business. Customer orientation is the core of market orientation according to Never and Slater (1994) which also means as an adequate understanding of customer's target by putting customer interest in the first order while not negating other stakeholders such as owners, managers and employees with the aim of creating value superior to buyers continuously. While orientation of competitor is the company's effort to understand the strengths and weaknesses short-term competitors and long-term capabilities and strategies owned by competitors.

The relationship between the Biggest Buyer Network and Market Orientation which is market-oriented are judged to have higher market knowledge and better customer-related capabilities. This ability is seen to guarantee the company to gain higher profits compared to less market-oriented companies (Narver and Slater, 1990). The buyer network has an important meaning to

develop business products. When the marketing network has been obtained, then any product produced by small and medium enterprises is no longer needed to find prospective buyers, even it is possible for prospective buyers to come by itself (Riswidodo, 2007). The buyer is the party that uses the output produced by a company.

Based on Kotler (1980), there are five kinds of buyer. They are:

1. **Konsumen Market**
Individuals and households who buy goods and services for personal consumption.
2. **Industrial Market**
Groups / Organizations that purchase goods and services for their production processes to gain profit or achieve other goals.
3. **Reseller Market**
Groups / Organizations that purchase goods and services to be resold for profit.
4. **Government Market**
bodies that purchase goods and services to produce public services or to move goods and services to others in need.
5. **International Market**
Buyers from overseas include consumers, manufacturers, resellers, and foreign governments

This type of buyer is developed to be an indicator of the strong relationship of the craftsmen's network with the buyers used in this study as measured by the intensity, contract and commitment established. (Choirunnisa, 2012).

4. Result and Discussion

This research used SPSS 20 software to analyze more in the process of research. Here is the interpretation of SPSS 20 analysis. The choosing cluster in religious tourism area of Gus Dur's Grave is taken from SPSS 20 result. the criterion of the most appropriate number of clusters is if the number of clusters has the least ratio value (V^2). The following table results of the ratio value of variance ratio of the cluster results for street vendors, products, visitors Gus Dur tourist area.

4.1 Cluster analysis.

Table of comparison score between ratio variant and the seller.

Jumlah Cluster	Varians within (V^2_w)	Varians between (V^2_b)	Varians (V^2)
2	0.313	0.897	0.349
3	0.285	0.098	2.901
4	0.282	0.143	1.978
5	0.218	0.170	1.283

Table of ANOVA result to analyze the seller cluster.

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
S1.Asal pedagang	.007	1	.100	98	.067	.797
S2.Jenis kelamin pedagang	.007	1	.253	98	.026	.871
S3.Status pernikahan pedagang	1.042	1	.234	98	4.446	.038
S4.Usia pedagang	3.082	1	.407	98	7.567	.007
S5.Pendidikan pedagang	6.407	1	.717	98	8.940	.004
S6.Lama usaha dari pedagang	.282	1	.753	98	.374	.542
S7.Status usaha dari pedagang	3.375	1	.504	98	6.699	.011
S8.Bidang usaha dari pedagang	.282	1	.387	98	.728	.396
S9.Asal modal awal usaha	3.082	1	.167	98	18.462	.000
S10.Nilai modal awal usaha	7.707	1	.380	98	20.257	.000
S11.Jumlah karyawan dari pedagang	13.500	1	.401	98	33.707	.000
S12.Penghasilan bersih perbulan	171.735	1	.820	98	209.394	.000
S13.Status tempat usaha dari pedagang	.602	1	.512	98	1.176	.281
S14.Alat komunikasi yang digunakan pedagang	.882	1	.218	98	4.045	.047
S15.Alat transportasi yang digunakan pedagang	3.082	1	.905	98	3.404	.068
S16.Jaringan listrik yang digunakan pedagang	4.507	1	.487	98	9.253	.003
S17.Kelayakan peralatan usaha yang digunakan	.082	1	.234	98	.349	.556

Table of comparison score between ration variant and the product.

Jumlah Cluster	Varians within (V^2_w)	Varians between (V^2_b)	Varians (V^2)
2	0.549	1.250	0.440
3	0.448	3.980	0.112
4	0.356	1.642	0.217
5	0.282	0.686	0.410

Table of result of ANOVA to analyze product cluster.

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
P1.Jenis produk yang dijual	9.949	2	1.590	96	6.258	.003
P2.Pengetahun asal produk yang dijual	.551	2	.218	96	2.534	.085
P3.Prosentase kandungan produk asli jombang yang dijual	118.604	2	.697	96	170.263	.000
P4.Asal bahan baku produk yang dijual	2.652	2	.202	96	13.107	.000
P5.Asal produk yang dijual pedagang	6.755	2	.512	96	13.188	.000
P6.Jumlah jenis produk yang dijual pedagang	.337	2	.832	96	.405	.668
P7.Daya laku produk per hari	4.084	2	1.165	96	3.505	.034
P8.Cara mendapatkan produk	39.585	2	.838	96	47.228	.000

Table of comparison between ratio variant and the visitor.

Jumlah Cluster	Varians within (V^2_w)	Varians between (V^2_b)	Varians (V^2)
2	0.253	0.083	3.053
3	0.192	0.561	0.342
4	0.154	0.128	1.203
5	0.137	0.158	0.866

Table of ANOVA result to analyze religion tour visitor cluster.

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
V1.Jenis kelamin pengunjung	.089	2	.253	172	.351	.704
V2.Usia pengunjung	.172	2	.384	172	.447	.640
V3.Asal pengunjung	1.875	2	.175	172	10.693	.000
V4.Tipe pengunjung	.029	2	.179	172	.164	.849
V5.Frekuensi kunjungan per tahun	2.580	2	.573	172	4.504	.012
V6.Budget uang yang dimiliki pengunjung	86.529	2	.443	172	195.114	.000
V7.Produk yang sering dibeli pengunjung	92.007	2	.400	172	230.139	.000
V8.Nilai pembelian dari pengunjung	5.196	2	.442	172	11.762	.000
V9.Pengetahuan pengunjung tentang produk asli jombang	.234	2	.122	172	1.922	.149

4.2 Market Orientation

In this research, identification of cluster patterns is based on model variable of Markusen. Based on Markusen's research in US (1996), he stated that there are four cluster system; they are Distrik Industri Marshallian Distrik Hub and Spoke , Distrik Satelit dan Distrik State-anchored.

Table identification of Street Vendors cluster pattern of tebuireng religious tourism area based on variable markusen.

Variable	Explanation
X1.business structure and economic scale	Dominated by small industry
X2. Investment orientation	Domestic industry
X3. Contracts and commitments between business owners and product providers	Local
X4. Level of cooperation among fellow street vendors	Relatively strong
X5. Level of cooperation of street vendors with outsiders	Relatively strong
X6.market and labor migration	Relatively strong
X7.unit to borrow funds	Copious and labor migration
X8.the role of local government	in cluster of religious tourism area of street vendors is quite high.
X9.the role of trade association	No role

reference: Wimba Agung Prasetya, 2011.

variable	marshallia n	Hub & spoke
X1.business structure and economic scale	✓	
X2. investment orientation	✓	
X3. Contracts and commitments between business owners and product providers,	✓	
X4. Level of cooperation among fellow street vendors		✓
X5. Level of cooperation of street vendors with outsiders,		✓
X6.market and labor migration	✓	
X7.unit to borrow funds		
X8.the role of local government		
X9.the role of trade association		✓

From the clarification of the cluster pattern above, it can be determined including which pattern of the four cluster patterns posed by Markusen.

4.3 Logistic regression model.

The testing the significant variables in the model of independent variables that influence the dependent variable will be tested to know whether their influence significantly affects the dependent variable or not.

The following is the test result

		Variables in the Equation					95% C.I. for EXP(B)		
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1*	X1	1.566	.693	5.109	1	.024	4.786	1.231	18.604
	X2	-2.729	.891	9.377	1	.002	.065	.011	.374
	X3	-1.229	.580	4.495	1	.034	.293	.094	.911
	X4	-.698	.655	1.137	1	.286	.497	.138	1.796
	X5	2.149	.813	6.983	1	.008	8.578	1.742	42.238
	X6	.941	.770	1.497	1	.221	2.564	.567	11.584
	X7	-2.317	.785	8.708	1	.003	.099	.021	.459
	X8	-.984	.546	3.244	1	.072	.374	.128	1.091
	X9	.846	.836	1.025	1	.311	2.331	.453	11.995
	Constant	-.046	1.115	.002	1	.967	.955		

a. Variable(s) entered on step 1: X1, X2, X3, X4, X5, X6, X7, X8, X9.

The equation of logistic regression model built from Marshallian variable test result, hub & spoke street vendors of religious tourism area. This equation to predict the value of market-oriented performance

or not based on the independent variables significantly influences the above. The result of logistic regression equation model is:

$$\hat{P} = \frac{(\hat{\beta}_1 X_1 + \hat{\beta}_2 X_2 + \hat{\beta}_3 X_3 + \hat{\beta}_4 X_4 + \hat{\beta}_5 X_5 + \hat{\beta}_6 X_6 + \hat{\beta}_7 X_7 + \hat{\beta}_8 X_8 + \hat{\beta}_9 X_9 + \hat{\beta}_{10})}{1 + (\hat{\beta}_1 X_1 + \hat{\beta}_2 X_2 + \hat{\beta}_3 X_3 + \hat{\beta}_4 X_4 + \hat{\beta}_5 X_5 + \hat{\beta}_6 X_6 + \hat{\beta}_7 X_7 + \hat{\beta}_8 X_8 + \hat{\beta}_9 X_9 + \hat{\beta}_{10})}$$

If all independent variables are given a value of 1, where the value 1 is the coding of the business structure and the large economic scale for X1, the large investment trends for X2, there are contracts and business owner agreements with suppliers for X3, there is cooperation between outsiders and street vendors for X5, and there is a loan unit for X7. Then the prediction value of the logistic regression model on the market orientation performance of street vendors is.

$$\hat{P} = \frac{(\hat{\beta}_1 * 1) + (\hat{\beta}_2 * 1) + (\hat{\beta}_3 * 1) + (\hat{\beta}_4 * 1) + (\hat{\beta}_5 * 1) + (\hat{\beta}_6 * 1) + (\hat{\beta}_7 * 1) + (\hat{\beta}_8 * 1) + (\hat{\beta}_9 * 1) + (\hat{\beta}_{10})}{1 + \{(\hat{\beta}_1 * 1) + (\hat{\beta}_2 * 1) + (\hat{\beta}_3 * 1) + (\hat{\beta}_4 * 1) + (\hat{\beta}_5 * 1) + (\hat{\beta}_6 * 1) + (\hat{\beta}_7 * 1) + (\hat{\beta}_8 * 1) + (\hat{\beta}_9 * 1) + (\hat{\beta}_{10})\}} \quad \hat{P} = 0,933$$

The result of prediction value is 0.933 where > 0,5 then it means close to 1, where prediction = 1 means performance oriented market. Based on the equation model, if the business structure and economic scale of the street vendors are large (X1), then the investment orientation is also large (X2), then there is contract and commitment of business owner with supplier (X3), and there is cooperation between street vendors with outsiders (X5), and there is a lending unit (X7), it is concluded that it will create street vendors with market-oriented performance.

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5. Conclusion and Suggestion.

5.1 Conclusion

Based on the result of data, the conclusion of this research are:

1. The cluster system of religious tourism site in Tebuireng Jombang is the cluster of Marshallian and Hub & Spoke.
2. Based on the logistic regression analysis, there are 5 variables having big influential to the market orientation. They are x1, x2, x3, x5, x7.

5.2 Suggestion

From the result of this research, we can suggest to reanalyze the market orientation system as a consideration to determine the policy of good management in religious tourism site in Tebuireng. For the next researcher, it can be taken as a future consideration to find the solution to manage the development of religious tourism site in Tebuireng.

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