Analysis of Optimization of the Number of Foreign in Indonesia

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Abstract: This study aims to analyze the optimization of the number of tourist visits in Indonesia when there are various obstacles in the development of tourism sector. The analytical method used is a static Linear Programming model developed from Mexico Steel. Model for producing goods which then developed for the services of foreign tourists. The results of data processing explain the number of tourist visits can be achieved optimally on a global level. The entrance of foreign tourists is concentrated in Ngurah Rai and Cengkareng. The motives of foreign tourists are mainly on holiday. The optimal tourist object is culture. The process of tourist arrivals and service products offered in tourism businesses is not a determinant in this modeling. Transportation costs are also not a barrier of foreign tourists in traveling to Indonesia.
Keywords: Linnear programming, Mexico Steel Model, foreign tourists, culture.

INTRODUCTION

Increased foreign exchange is needed to raise state revenues from expenditure side of the consumption of foreign tourists in Indonesia. The number of foreign tourist arrivals to Indonesia generally shows an upward trend of 8.39 percent per year (Table-1).

Table-1: Growth of the Number of Foreign Visitor Visits to Indonesia

Visitor Type	Jan-Agt 2015 (Visitor)	Jan-Agt 2016 (Visitor)	Trend (%)
Wisman through 19 main gates	6 184 513	6 826 435	10,38
Foreign tourists outside the 19 main gates	602 393	529 875	-12,04
Sum	6 786 906	7 356 310	8,39

Source: Central Bureau of Statistics, 2016

However, the number of foreign tourists entering outside the 19 main gates experienced a downward trend of minus 12.04 percent per year. The phenomenon of the decline in foreign tourist arrivals such as this is really not expected, so it is necessary information about what can be done to improve the optimization of the number of tourists visiting the country to the country.

The results of Wang and Chen [1] stated that to accelerate tourists in choosing tourist sites than traditional methods that can be obtained by using information management inquiry. In addition to improvements in information management, it turns tourists visiting a tourist destination that has a specific purpose. Foreign tourists and tourists visiting the archipelago tourist destinations such as for the purposes of vacation, business, and MICE (meeting, incentive, conference, and exhibition) [2]. Furthermore, Frias *et al*., [3] identifies the characteristics of tourists based on their time allocation, preferences, knowledge of tourist

sites, and attractions in tourist attractions. Vacation is used among other tourists to enjoy the beauty of natural scenery and the beauty of art.

Tourists in making visits to tourist destinations require facilities and infrastructure of tourism include: transportation facilities, accommodation, and restaurants [4, 3]. Accommodation is a necessary means by tourists. Then in the development of accommodation business other than the hotel is also known other accommodation facilities, such as: jasmine hotels, cottage tours, homestay, youth hostel and camping.

Tourism industry that developed from the side of human resources proved able to create new jobs, so the role of the growing tourism industry is also expected as a source of economic growth in the region. The development of these tourist destinations leads to the creation of local professions and employment. New professions formed from the new job field for example for the type of public relations, sales and marketing

jobs, house keeping, front office, ticketing, waitresses, flight attendants, drivers, and tour guides.

Tourist destinations in Indonesia are concentrated in certain areas only. For the tourist destination in Bali Island, the growing tourist destination is concentrated in Bandung regency, Denpasar city and Gianyar [5]. In addition to the concentration problem of tourist destination areas, Kontogeorgopoulos [6] identifies the activities of tourist visits occur in a massive and tourists who visit on the basis of looking for an alternative tourist destination. Such alternative tourism is influenced by political stability and national security. When a destination area of foreign tourists is in a state of unstable from the political and security, then tourists are then looking for new tourist destination location.

Based on the above background, the main objective of this research is to analyze the optimization of the number of tourist visits in Indonesia when there are various obstacles in the development of the tourism sector. Furthermore, the specific objectives of this study are as follows:

1) Analyze the number of main entrance cities of foreign tourists and domestic tourists who are concentrated in 19 major cities and entered through 27 provinces in Indonesia.
2) Analyze the number of major domestic tourist destinations concentrated in specific cities and districts in 27 provinces in Indonesia.
3) Analyze the travel motives that distinguished on vacation, business, and MICE.
4) Analyze the number of attractions consisting of nature tourism, special tours, artistic performances, culture, and MICE.
5) Analyzing the arrival process of tourists consists of modes of transportation (aircraft, ships, trains, buses, cars, and motorcycles), accommodation, and tourist types.
6) Analyze the number of service products offered in tourism businesses identified as 1 to 5 leveling star hotels, motels, homestays, camping, night clubs, steam baths, casinos, restaurants and souvenirs.

LITERATURE REVIEW
Tourism
Tourism according to Law number 9 Year 1990 is all something related to tourism including exploitation, attraction and tourist attraction as well as efforts related to the implementation of tourism. This understanding includes: all activities related to travel, before and during the trip and return to the place of origin, the exploitation of attraction or tourist attraction (natural scenery, recreation park, historical relic, art and cultural performances). Business and tourism facilities in the form of: business services, travel agencies, tourist guides, business facilities, accommodation and other businesses related to tourism.

Traveler
Tourists are consumers or users of products and services. Tourists have various motives, interests, expectations, social characteristics, economics, culture, and so on [7, 8]. With different motives and interests they become the party that creates the demand for tourism products and services.

The Model of Mass Tourism Development
Global tourism is growing very rapidly driven by the mass tourism. According to Sudana [5], mass tourism involves a large number of tourist arrivals, group arrivals and groups from various socio-economic levels. Mass tourists are divided into two types, namely organized mass tourists and individual mass tourists.

Special Interest Tourism Development Model
Quality tourism or so-called new tourism is said to be: (1) more sophisticated and experienced travelers, (2) very fond of planning their own travel, and (3) traveling independently. Other traits are spontaneous, flexible in arranging travel arrangements, more driven to find attractions with special interests such as tirta tours, adventures, and generally rich and looking for a genuine experience and short trips to a single tourist destination. Special interest tourism form is translated from Special Interest Tourism. This form of tourism when viewed from tourists is tourism with tourists with groups or small groups. Special interest tourism can focus on two aspects:

1) Cultural aspects. In the cultural aspect, tourists will focus attention on dance, music, art, kerajianan, patterns of community tradition, specific economic activities, archeology and history.
2) Natural Aspect. In the natural aspect, tourists can focus on the flora, fauna, geology, national parks, forests, rivers, lakes, beaches, marine and certain ecosystem behaviors. In principle, special interest tourism has to do with adventure, where tourists are physically exhausted and there are elements of challenge that must be done, because this form of tourism is widely available in remote areas, such as activities: tracking, hiking, mountain climbing, rafting in the river, and others. This special interest tourism is also associated with enriching experiences or enriching experiences for travelers traveling to unspoiled areas or to unspoiled areas.

Linear Programming
The linear programming sense according to Heizer and Rander [9] suggests that a mathematical technique is designed to help operations managers plan and make decisions necessary to allocate resources. According to Dimyati *et al*., [10] that Linear Programming (LP) is the planning of activities to obtain an optimum result, which is a result that

achieves the best goal among all the fissile alternatives.

Previous Research

The results of previous research are presented in Table-3. The use of Linear Programming method is the most widely used researcher for the analysis tool of tourists.

Table-2: Previous Research

Researcher	Title	Method	Result
Rivera, 2016.	A Dynamic Linear Model to Forecast Hotel Registrations in Puerto Rico Using Google Trends Data.	Dynamic Linear Model	Only 1 model that perform better performance.
Gulsun et al. 2015.	An Example Study of Tourism Logistics for Touristic Places in Turkey.	Optimization route	The optimal route is achieved in the third scenario.
Leitao, 2015	Portuguese Tourism Demand: A Dynamic Panel Data Analysis.	Econometrics	The dynamic model of tourist demand is affected by relative prices, per capita income, and government spending and human capital.
Wang dan Chen, 2015.	Application of Travel Management System Based on Route Inquiry.	MAP technology	Inquiry information is faster than other methods.
Gavalas et al. 2014	A Survey on Algorithmic Approaches for Solving Tourist Trip Design Problems.	Tourist Trip Design Problem	Calculations can be done in parallel.
Karagiannis dan Apostolou, 2010.	Regional Tourism Development using Linear Programming and Vector Analysis.	Linear Programming and VAR	Only 2 developing tourist areas are losers from all samples.
Frias et al, 2015.	Modeling Movement of Tourists: Tools and Application in São Miguel Island, Portugal.	Footpaths.	Tourist mobility is identified.
Kontogeorgopoulos, 2009.	The Temporal relationship Between Mass Tourism and Alternative Tourism in Southern Thailand.	Model of the movement of tourists	Ecotourism is an alternative for tourist development.
Lord et al. 2013	Linear Programming & Optimizing the Resources.	Linear Programming	A complicated problem can be explained using Linear Programming method
Scherbina and Shembeleva. 2012.	Modeling recreational systems using optimization techniques and information technologies.	Goal Programming	The problem of tourism planning management can be calculated using operations research.

Framework

The framework used in this study is presented in Figure-1. The dependent variable as a goal in the model and the independent variable as the constraint in the model.
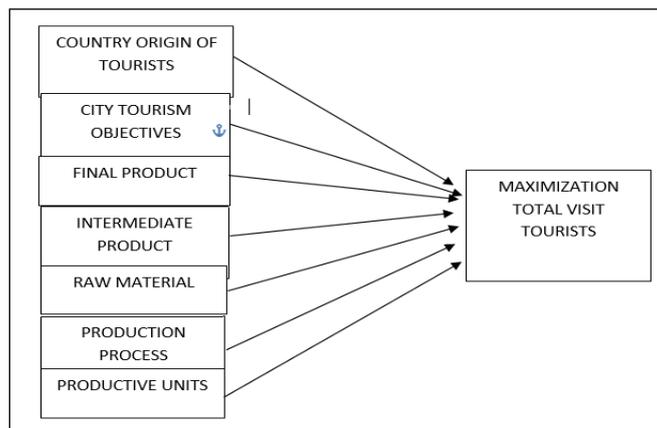

Fig-1: Framework

The independent variable consists of the variable of the tourist entrance city, the city variable or the tourist destination district, the final product variable, the intermediate product variable, the raw material variable, the production process variable, and the variable productive unit. The dependent variable in this study is the number of tourist visits.

RESEARCH METHODOLOGY
Research design
The research design used is quantitative research design using Linear Programming approach. The relationship used is a causal relationship between the constraint function and the objective function in the model.

Data and Data Collection Methods
The data used is secondary data. The secondary data consists of: (1) the name of the tourist entrance city; (2) the name of the city or district of the tourist destination; (3) tourism end product / tourist type, ie foreign tourists and domestic tourists, (4) product between tourism / tourism motive, ie vacation, business, and MICE; (5) tourism raw materials / tourist objects, namely nature tourism, special tours, artistic tourism, cultural tourism, and MICE; (6) tourism production process / production stages, namely modes of transportation, accommodation, and tourism; (7) productive unit of tourism / tourism product, hotel, motel, homestay, camping, restaurant, nightclub, steam bath, casino, and souvenir. The data collected comes from the Central Bureau of Statistics and the Ministry of Tourism. Data collected for the last 10 years. Secondary data collected using data collection exploration method.

Population and Sampling Method
The population of this study are the cities that become the main entrance of foreign tourists and domestic tourists. The population of 19 main gates in the provincial capital with sufficient data availability. The number of samples selected as many as 19 cities of tourist entrance. The sampling technique used was census [11].

Analysis Method
The analytical method used is Linear Programming operations research using cost minimization. Software used is Lingo version 11. Model optimization of the number of tourists visit Indonesia was developed model of Mexico Steel Problem [12] which is a static model.

RESULTS AND DISCUSSIONS
Data Construction
To calculate the demand of the number of visits by foreign tourists to Indonesia, then used data Table-5. Based on the data in Table-5 it is known that the average growth of foreign tourists to Indonesia in 2000-2016 amounted to 5.54 percent. Since the number of foreign tourists visiting Indonesia in 2016 amounted to 11,471,240 people, the demand function of the number of visits of foreign tourists to Indonesia is estimated at = 11.471.240 + 1.0554 * DD (J) / 100.

Table-3: Development of Number of Visitor Visits Abroad to Indonesia Year 2000-2016

Years	Number of Visits Foreign Tourist	Growth (%)
2000	5,064,217	
2001	5,153,620	1.77
2002	5,033,400	-2.33
2003	4,467,021	-11.25
2004	5,321,165	19.12
2005	5,002,101	-6.00
2006	4,871,351	-2.61
2007	5,505,759	13.02
2008	6,234,497	13.24
2009	6,323,730	1.43
2010	7,002,944	10.74
2011	7,649,731	9.24
2012	8,044,462	5.16
2013	8,802,129	9.42
2014	9,435,411	7.19
2015	10,230,775	8.43
2016	11,471,240	12.12
Average	6,800,797	5.54

Source: Central Bureau of Statistics, 2017

The main countries of origin of foreign tourists to Indonesia under Table 6 are identified as Malaysia, Singapore, China, Britain and other countries. The share of foreign tourists was 13.99 percent, 15.58 percent, 12.21 percent, 2.80 percent and 55.41 percent, respectively (Table-4).

Table-4: Country of Origin of Foreign Tourist to Indonesia 2015

Country of origin	Number of Visits Wisman	Percentage (%)
Malaysia	1,431,728	13.99
Singapore	1,594,102	15.58
China	1,249,091	12.21
England	286,806	2.80
Others	5,669,048	55.41
Total	10,230,775	100.00

Source: Central Bureau of Statistics, 2017

Table-5 describes the number of visits by foreign tourists through the entrances in Indonesia based on monthly development in 2016. This data is used to calculate the role of each main entrance of foreign tourists to tourist destinations in Indonesia. Elected Cengkareng (Soekarno-Hatta Airport), Ngurah Rai (Bali), and others.

Table-5: Entrance Entry for Foreign Visitor Arrivals to Indonesia 2016

Airport Entrance	Total	Percentage (%)
Soekarno-Hatta	2,416,060.0	21.06
Ngurah Rai	4,852,634.0	42.30
Kualanamu	203,947.0	1.78
Batam	1,432,472.0	12.49
Sam Ratulangi	40,624.0	0.35
Juanda	220,470.0	1.92
Entikong	23,645.0	0.21
Adi Sumarno	5,756.0	0.05
Minangkabau	49,686.0	0.43
Tanjung Priok	60,322.0	0.53
Tanjung Pinang	93,249.0	0.81
Lombok	90,738.0	0.79
Hasanuddin	16,897.0	0.15
Sepinggan	10,995.0	0.10
Sultan Syarif Kasim II	29,926.0	0.26
Adi Sucipto	112,058.0	0.98
Husein Sastranegara	181,033.0	1.58
Tanjung Uban	305,404.0	2.66
Tanjung Balai Karimun	89,107.0	0.78
Pintu Lainnya	948,988.0	8.27
Wisman khusus	287,229.0	2.50
Total	11,471,240.0	100.00

Source: Central Bureau of Statistics, 2017

The productive unit of tourism activity is accommodation. The accommodation consists of star hotels, non-star hotels, cottage tours, villas and other accommodation. Based on data from Table 6 it is found that the contribution of tourism accommodation is 43.35 percent, 46.95 percent, 4.09 percent, 1.53 percent and 4.09 percent respectively in 2015.

Table-6: Classification of Accommodations in Indonesia 2015

Accommodation Classification	Bed	Percentage (%)
Star Hotel level	322,590	43.35
Star 1	26,399	3.55
Star 2	48,631	6.53
Star 3	99,785	13.41
Star 4	95,086	12.78
Star 5	52,689	7.08
Other accommodation	421,643	56.65
Non-star hotel	349,390	46.95
Teenage Inn	7,960	1.07
Cottage	30,442	4.09
Villa	11,397	1.53
Other accommodation services	22,454	3.02
Total	744,233	100.00

Source: Central Bureau of Statistics, 2016

Matrix A1 is the relationship between raw materials and the production process (Table-7). The unit used is equivalent to the person. The process of producing foreign tourists consists of nature tourism, special tours, artistic tourism, cultural tourism, and MICE. The contribution of the production process is assumed to be 50 percent, 2.5 percent, 10 percent, 22 percent, and 15 percent, respectively. Raw materials of foreign tourists consist of labor, capital, technology, food and miniman, and infrastructure. The unit used is equivalent to the person. The contribution of raw materials is assumed to be 20 percent, 35 percent, 5 percent, 15 percent, and 25 percent, respectively. Based on the multiplication of rows and columns, the matrix A1 in Table 9 is obtained.

Table-7: Matrix A1

A1		Pr=Process				
		Natural	Special	Art	Culture	Mice
Cr	Labor	0.1000	0.0050	0.0200	0.0440	0.0300
	Capital	0.1750	0.0088	0.0350	0.0770	0.0525
	Technology	0.0250	0.0013	0.0050	0.0110	0.0075
	Food	0.0750	0.0038	0.0150	0.0330	0.0225
	Infrastructure	0.1250	0.0063	0.0250	0.0550	0.0375

Matrix A2 is the relationship between the intermediate product and the production process (Table-8). The intermediate products consist of foreign tourists and foreign tourists doing business. Based on the entry table of foreign tourists recorded at each airport and the vessel obtained that the tourists coming to Ngurah Rai airport Bali 42.3 percent in 2015. Meanwhile the remaining 57.7 percent is a foreign tourist who is assumed his arrival for business purposes, namely through Soekarno-Hatta airport, Tanjung Priok port, and other cities throughout Indonesia. The process of producing foreign tourists consists of nature tourism, special tours, artistic tourism, cultural tourism, and MICE. The contribution of the production process is assumed to be 50 percent, 2.5 percent, 10 percent, 22 percent, and 15 percent, respectively. The multiplication results between rows and columns yields the matrix A2.

Table-8: Matrix A2

A2		**Pr=Process**				
		Natural	Special	Art	Culture	Mice
Ci	Holiday	0.2115	0.0106	0.0423	0.0931	0.0635
	Business	0.2885	0.0144	0.0000	0.0000	0.0000

Matrix A3 is the relationship between the final product and the production process (Table 9). The final product is expressed in 100 percent. The process of producing foreign tourists consists of nature tourism, special tours, artistic tourism, cultural tourism, and MICE. The contribution of the production process is assumed to be 50 percent, 2.5 percent, 10 percent, 22 percent, and 15 percent, respectively. The multiplication results between rows and columns yields an A3 matrix.

Table-9: Matrix A3

A3		PR=PROCESS				
		NATURAL	SPECIAL	ART	CULTURE	MICE
CF	FOREIGN TOURIST	0.5000	0.0250	0.1000	0.2200	0.1500

Matrix B is the relationship between the unit and the production process (Table-10). Productive units of tourism activities are star hotels, non star hotels, cottage tours, villas, and other accommodation. The contribution of tourist accommodation in a row is 43.35 percent, 46.95 percent, 4.09 percent, 1.53 percent, and 4.09 percent. The process of producing foreign tourists consists of nature tourism, special tours, artistic tourism, cultural tourism, and MICE. The contribution of the production process is assumed to be 50 percent, 2.5 percent, 10 percent, 22 percent, and 15 percent, respectively. Multiplication result between row and column yield matrix B.

Table-10: Matrix B

B		PR=PROCESS				
		NATURAL	SPECIAL	ART	CULTURE	MICE
UNIT	STAR HOTEL	21.750	1.088	4.350	8.700	6.525
	NON-STAR HOTEL	23.475	1.174	4.695	9.390	7.043
	COTTAGE	2.045	0.102	0.409	0.818	0.614
	VILLA	0.765	0.038	0.153	0.306	0.230
	OTHERS	2.045	0.102	0.409	0.818	0.614

Matrix K represents the relationship between unit and country of origin of foreign tourists (Table-11). Productive units of tourism activities are star hotels, non-star hotels, cottage tours, villas, and other accommodation. The contribution of tourist accommodation in a row is 43.35 percent, 46.95 percent, 4.09 percent, 1.53 percent, and 4.09 percent.

The country of origin of foreign tourists are Malaysia, Singapore, China, England, and other countries. Contribution The country of origin of the tourists are 13.99 percent respectively, 15.58 percent, 12.21 percent, 2.80 percent, and 55.41 percent. The multiplication results between rows and columns yields a matrix K.

Table-11: Matrix K

K		PLANT				
		Malaysia	Singapore	China	English	Others
Unit	Star Hotel	6.09	6.78	5.31	1.22	23.67
	Non-Star Hotel	6.57	7.31	5.73	1.31	25.55
	Cottage	0.57	0.64	0.50	0.11	2.23
	Villa	0.21	0.24	0.19	0.04	0.83
	Others	0.57	0.64	0.50	0.11	2.23

Matrix 12 describes the relationship between the country of origin of foreign tourists (PLANT) with the tourist destination of foreign tourists (MARKET) in the form of matrix RD1. The country of origin of

foreign tourists consists of Malaysia, Singapore, China, Britain and others. Tourist destination of foreign tourists consists of Cengkareng (Soekarno Hatta Airport), Ngurah Rai (Island of Bali), and others.

Table-12: RD1 Matrix

Rd1		Market		
		Cengkareng	Ngurahrai	Others
Plant	Malaysia	337976	678841.5993	588008
	Singapore	376388	755994	654837
	China	294974	592470	513194
	English	67644	135865	117686
	Others	1314702	2640640	2287307

Table-13 describes the relationship between matrix RD2 (MUE) and PLANT as RD2 matrix. PLANT Matrix is the matrix of number of foreign

tourists visiting Indonesia by country of origin, namely Malaysia, Singapore, China, UK, and others.

Table-13: RD2 Matrix

RD2		PLANT				
		MALAYSIA	SINGAPORE	CHINA	ENGLISH	OTHERS
	MUE	1604826	1787219	1400638	321195	6242649

Table-14 describes the relationship between the transport level equation (MUF) and the tourist destination of foreign tourists (MARKET) in the form

of RD3 matrix. The tourist destination area is simplified into Cengkareng (Soekarno Hatta Airport), Ngurah Rai (Bali Island), and other tourist destinations.

Table-14: RD3 Matrix

RD3		MARKET		
		CENGKARENG	NGURAHRAI	LAIN
	MUF	2415843	4852335	4203062

The PD matrix in Table-15 describes the role of raw material (RAW MATERIAL) with CR. Raw materials are divided into labor, capital, technology, food and infrastructure. The role of raw materials is made on the basis of the use of assumptions with the role of that, which is equivalent to the number of visits of foreign tourists.

Table-15: PD Matrix

PD		RAW MATERIAL				
		LABOR	CAPITAL	TECHNOLOGY	FOOD	INFRASTRUCTURE
	CR	2294248	4014934	573562	1720686	2867810

The foreign exchange matrix (Table-16) assumes that PV is equivalent to PE, then the value of EB is assumed to be 1 as the final product. PV is the final product of the number of visits by foreign tourists.

PE is the final product of the number of visits of foreign tourists who come to Indonesia. In Indonesian case modeling, PE is actually a PI. Not export but import.

Table-16: Foreign Exchange Reserves Matrix

PV	97849677
PE	97849677
EB	1

The DD matrix in Table-17 is the number of foreign tourists visiting Indonesia through the main entrance. The main entrance is Cengkareng, Ngurah Rai, and others.

Table-17: DD Matrix

DD	MARKET		
	CENGKARENG	NGURAHRAI	OTHERS
	2415843	4852335	4203062

Results Data Processing

The global optimal solution of the value of destination cost minimization of the number of foreign tourist arrivals to Indonesia reached $0.3925001E+16$ (Table-18). Inaccuracy of 0. The result of data processing is achieved at 30th iteration.

Table-18: Minimization Goal

Goal Coefficient	*Value*	*Reduced Cost*
PHIPSI	0.000000	0.000000
PHILAM	0.5457837E+15	0.000000
PHIPI	0.3379218E+16	0.000000
PHIEPS	0.000000	0.000000
GOAL	0.3925001E+16	

Source: Results of data processing, 2017

The lowest optimum PHIPSI of 0.000000. In this case the raw material factor is not an important determinant in the model of the number of visits of foreign tourists in Indonesia. PHILAM is $0.545783E+15$. PHILAM explained the total cost of transportation from the country of origin to the destination of foreign tourists in Indonesia. PHIPI of $0.3379218E+16$. PHIPI is the cost of the end products of foreign tourists traveling to the tourist destination of Indonesia. PHIPI value greater than PHILAM shows that the consumption expenditure of foreign tourists in Indonesia is still greater than the cost of transportation they spend from the country of origin to the tourist area including the cost of transportation during the tourist area in Indonesia. Based on the information, it is known that the cost of transportation is not a barrier of foreign tourists in traveling to Indonesia. Next PHIEPS of 0.000000. PHIEPS is a fiscal and visa fee to enter Indonesia. With the ease of entry fee to Indonesia, PHIEPS is considered cheap near zero.

Table-19: Transportation Equation Value Equation (MUF)

COUNTRY	CENGKARENG	NGURAHRAI	OTHERS
MALAYSIA	0.1185410E+08	0.1224023E+08	0.1213734E+08
SINGAPORE	0.1189761E+08	0.1232763E+08	0.1221304E+08
CHINA	0.1180539E+08	0.1214239E+08	0.1205259E+08
ENGLISH	0.1154787E+08	0.1162515E+08	0.1160455E+08
OTHERS	0.1296053E+08	0.1446256E+08	0.1406230E+08

Source: Results of data processing, 2017

The highest rate of transportation of foreign tourists in Indonesia is to tourist destinations to Bali (Table-19). Next to the tourist destination in the form of other cities in Indonesia. Transport is considered cheaper is for the purpose to Jakarta (Cengkareng or Soekarno Hatta airport). Going to Jakarta has two interpretations. First as a transit city. Second, foreign tourists going to Jakarta is not entirely for the purpose of tourism activities, but for business activities. What is interesting here is that Ngurah Rai transportation costs are relatively expensive compared to other tourist destinations in Indonesia, but Ngurah Rai (Island of Bali) is more famous than Cengkareng (Jakarta). See Table-21. Bali is better known than Indonesia. Bali is better known by foreign tourists than the city of Jakarta.

Table-20: Value of Tourism Process Optimization from Country Origin (Z)

COUNTRY	NATURAL	SPECIAL	ART	CULTURE	MICE
MALAYSIA	0.0000000	0.0000000	0.0000000	0.6862745	0.0000000
SINGAPORE	0.0000000	0.0000000	0.0000000	0.7784878	0.0000000
CHINA	0.0000000	0.0000000	0.0000000	0.6102236	0.0000000
ENGLISH	0.0000000	0.0000000	0.0000000	0.1307190	0.0000000
OTHERS	0.0000000	0.0000000	0.0000000	2.712418	0.0000000

Source: Results of data processing, 2017

Table-20 presents interesting data processing results. Table-20 and Table-21 apparently help to explain the link to Table-19. The tourism process is identified in the landscape (NATURAL), the foreign tourist arrivals (SPECIAL), the foreign tourists who come to see the artwork (ART) come for the purpose of seeing the cultural work of a typical Indonesian nation (CULTURE), and foreign tourists who come for the purposes of MICE. The most interesting is that the number of visits of foreign tourists to Indonesia will be optimal if tourism developed in Indonesia is in terms of cultural uniqueness. This finding applies to all types of foreign tourists visiting Indonesia.

Table-21: Optimization Value of Number of Visitor Visits Abroad by Destination Region and Country Origin (X)

COUNTRY	CENGKARENG	NGURAHRAI	OTHERS
MALAYSIA	0.000000	0.1509804	0.000000
SINGAPORE	0.000000	0.1712673	0.000000
CHINA	0.000000	0.1342492	0.000000
ENGLISH	0.000000	0.2875817E-01	0.000000
OTHERS	0.000000	0.5967320	0.000000

Source: Results of data processing, 2017

Table-21 explains that the optimization of the number of foreign tourists visiting Indonesia is only obtained for tourist destination to Bali Island (Ngurah Rai). The results of this data processing explain that still only the most interesting island of Bali used as a tourist attraction for foreign tourists. Meanwhile, other tourist destinations in Indonesia based on this modeling can not explain the need to be developed with the target of foreign tourists. The tourists from various countries of origin in Table 21 are optimally achieved only for tourist destinations to Bali Island, especially for tourists from Singapore and Malaysia. These findings indicate that the development of tourism in other areas in Indonesia that do not show the uniqueness of cultural development as typical culture in the island of Bali and its surroundings, then other tourist areas based on this model show has not been in demand by foreign tourists.

Table-22: Value of Optimization of Raw Materials by Country of Foreign Tourist Destination (U)

RAW MATERIAL	MALAYSIA	CHINA	ENGLISH	OTHERS
LABOR	0.000000	0.000000	0.000000	0.000000
CAPITAL	0.000000	0.000000	0.000000	0.000000
TECHNOLOGY	0.000000	0.000000	0.000000	0.000000
FOOD	0.000000	0.000000	0.000000	0.000000
INFRASTRUCTURE	0.000000	0.000000	0.000000	0.000000

Source: Results of data processing, 2017

Table-23 shows the value of optimizing the number of visits by foreign tourists based on country of origin as a function of export of foreign tourists. The result shows a zero value in each country of origin. This means that from the export side the number of foreign tourist visit is no export activity, as the use of optimization model of Mexico Steel. However, for the tourism model, then to be calculated is the import

function of the number of visits of foreign tourists. Therefore, the value seen is the value of reduced cost. Based on the value of the reduced cost, the increase of 1 unit of export (or equivalent to a decrease of 1 unit of import) will decrease the value of the objective function of the cost minimization of the units as listed in the reduced cost in Table 23. Based on the table it is known that the greatest reduced cost is achieved by Singapore tourists and followed by Malaysia.

Table-23: Value of Optimization of Number of Visits Wisman by Country Origin (E)

COUNTRY	VALUE	REDUCED COST
MALAYSIA	0.000000	0.1801692E+08
SINGAPORE	0.000000	0.1813614E+08
CHINA	0.000000	0.1788346E+08
ENGLISH	0.000000	0.1717791E+08
OTHERS	0.000000	0.2104832E+08

Source: Results of data processing, 2017

Based on the data in Table 24 it is known that the optimization of the number of visits of foreign tourists can mainly be reached in tourist destinations to Ngurah Rai. After that on Cengkareng (Soekarno Hatta Airport Jakarta). These findings reinforce the above findings that optimization is obtained in tourist destinations especially to Bali Island. After that followed by Cengkareng.

Table-24: Value of Request Optimization of the Number of Visits of Foreign Visitor by Destination Region (D)

DESTINATION	VALUE	REDUCED COST
CENGKARENG	0.1149674E+08	0.000000
NGURAHRAI	0.1152245E+08	0.000000
OTHERS	0.1151560E+08	0.000000

Source: Results of data processing, 2017

The data in Table 25 reinforces the findings in Table 24 data. Both tables consistently explain that the tourist destinations of the country of origin as well as by the tourist areas on the final product. Table 25 makes it clear that the final tourist destination is also Bali (Ngurah Rai). Then followed by Cengkareng Jakarta.

Table-25: Optimum Value of the End Product Number of Foreign Visitor Visits by Area of Tourist Destination (V)

DESTINATION	VALUE	REDUCED COST
CENGKARENG	0.1149674E+08	0.000000
NGURAHRAI	0.1152245E+08	0.000000
OTHERS	0.1151560E+08	0.000000

Source: Results of data processing, 2017

Some of the above findings are then prepared as follows:
1) Optimal solution globally can be achieved from the value of destination cost minimization of the number of visits of foreign tourists to Indonesia.
2) The process of tourist arrivals and service products offered in tourism businesses is not a determinant in this modeling. Transportation cost is not a barrier of foreign tourists in traveling to Indonesia.
3) Transport is considered cheaper is for the purpose to Jakarta (Cengkareng). However, Ngurah Rai, which is relatively more expensive for transportation costs compared to other tourist destinations in Indonesia, but Ngurah Rai (Bali Island) is more popular than Cengkareng (Jakarta), and Bali is a tourist destination that is mostly visited by foreign tourists, especially for tourists from Singapore and Malaysia. These findings indicate that tourism development in other parts of Indonesia that do not display the uniqueness of cultural development as distinct as culture in Bali Island and its surroundings, then other tourist areas based on the implications of this modeling show has not been in demand by foreign tourists.

The optimal number of foreign tourists visiting Indonesia is on the basis of cultural uniqueness. This finding applies to all types of foreign tourists visiting Indonesia.

CONCLUSIONS AND SUGGESTIONS
Based on the results and discussion above, then the following conclusions are drawn up:
1) The number of tourist arrivals has been reached optimally on a global level.
2) The entrance of foreign tourists is concentrated in Ngurah Rai and Cengkareng.
3) Location of tourist destination is concentrated in Bali Island (Ngurah Rai), then in Cengkareng Jakarta.

4) The motive of the tour is mainly on vacation.
5) The optimal tourist object is culture. the development of tourism in other areas in Indonesia that do not show the uniqueness of the unique cultural development as the culture in the island of Bali and its surroundings, then other tourist areas based on the implications of this modeling shows not interested by foreign tourists compared to Bali Island. This finding applies to all types of foreign tourists visiting Indonesia.
6) The process of tourist arrivals and service products offered in tourism businesses is not a determinant in this modeling. Transportation costs are also not a barrier of foreign tourists in traveling to Indonesia.

Based on the above conclusions, the following suggestions are prepared:
1) The development of the uniqueness of the uniqueness of regional culture is most characteristic in the perspective of the point of view of foreign tourists. On the basis of the development of cultural uniqueness, then the entrance to the tourist destination developed to facilitate tourists on holiday to the location of the tourist destination.
2) The process of tourist arrivals and service products offered in tourism businesses is not a determinant in this modeling. Transportation cost is not a barrier of foreign tourists in traveling to Indonesia. Therefore, this opportunity can be utilized by tourism economic actors to increase the consumption of tourist tourism in Indonesia.

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