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## The Holistic Information Communication and Technology in Order to Increase Number of Tourist in Indonesia

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*Information communication and technology has been used not only in business sector but also in government, tourism is one of business activity need collaboration between government and business practitioner to implement tourism activities. Government as the authority must be provide information related to business tourism activities, this study provide a holistic information system between government and business practitioner through website, in order to provide better service and to be increase the number of foreign tourist, in this study the case is from Indonesia.*

**Keywords:** *ICT, tourism, Indonesia*

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### Introduction

Many studies has been confirmed information and comunication technology (ICT) can be brought transformation in to better business (Sebora et al, 2009; Vijayaraman and Bhatia, 2002; Sam and Eam, 2011; Abu-Musa, 2004), the combination between ICT and business management called e-business, Turban et.al was defined specific e-business is all the activity of the process of exchanging or buying and selling products, services and information through computer networks involving the Internet (Turban et al, 2000).

In the sector travel and tourism ICT have been use to transformed and develop a lot opportunities to increase tourism industry (Sheldon, 1997; Werthner and Klein, 1999;Buhalis and Law, 2008) ICT was continues evolve and impact the way of the people in access information related to tourism activity. Consequently stakeholder and government must be continuously improved infrastructure related.

The tourism sector is an important sector for Indonesia, the tourism sector is the fifth largest income of devisa, Indonesian government was very focus to improve the tourism industry, one proof had developed a tourism ministry and the creative economy, this ministry focus on how to manage of tourism sector and the creative economy. The growth of foreign tourists came to Indonesia each year are increasing continuously, the number growth in 2011 is 7,649,731 and 2012 increased 8,044,462, this number indicate Indonesia is a good place to visited.

Basically, Indonesia tourism has huge potential and this sector can be continuously improvement. to increase number of tourism, need some infrastructure, technology and human resource. Indonesia government also need media to promote more information about tourism spots. In perspective of information technology this problem can solve by information technology such as internet and web2. However, to increase of number of tourism should be supported by the information technology tools in order to provide comprehensive information for tourists, information technology can be used as a guidance to help tourism.

## Research Problems

From the data was obtained by tourism ministry the number of tourists visited to Indonesia scattered in three places only: Bali, Jakarta and Riau Island, this indicates that the distribution of tourism in Indonesia is uneven, according to the minister of tourism and creative economy, there are seven main problems faced by Indonesia government, and this problems answered why the Indonesian tourism distribution only focused on three sites, the problems are :

1. lack infrastructure to supports the tourism industry activities ,
2. Poor skill of the human resources ,
3. Publicity,
4. Policies and regulations within countries and regions,

5. Lack of information technology, which allows tourists to access a lot of information about tourism in Indonesia,
6. Readiness community itself,
7. Need investment, especially in developing areas, the investment in the form of hotels, restaurants, transport rental services or equipment (parekraf.go.id, 2015).

## **Research Motivation**

From the seven existing problems above, our research focus on the problem of lack of information technology as an intermediary for the promotion of tourism. This research to explain how to cover lack information technology, which allows tourists to access information about the Indonesian tourism. To provide information system with the detailed information about tourism in Indonesia and business environment.

## **Literature Overview**

Wonderful Indonesia is a new slogan to introduce tourism in Indonesia, which replaces the old slogan with the theme of the “visit Indonesia”, the new slogan introduced since 2011, and the ministry of tourism has also established Indonesian tourism promotion agency in the same year, the goal is to maximize the promotion of tourism. In 2013 the focus of promoting tourism ministry 16 tourism destinations. Among other Kalimutu Flores East Nusa Tenggara, Komodo Island in West Nusa Tenggara and Raja Ampat in Papua.

While seven flagship tourism products promoted include cultural and historical heritage, natural attractions and recreational sports. There are also cruise, culinary and shopping as well as health. and also MICE, which stands for meetings, incentive, convention, and exhibition.

## **Tourism in Indonesia**

Indonesia is an archipelago located in the area adjacent to the southeast of asia countries like Malaysia, Singapore and Australia. Indonesia has 18,307 islands, 33 states, 49 district, 5,263 municipalities, 62,806 villages, 237 million population, 583 dialects, 127 million labor force and 40 million

students. Wide area Indonesia is 2 million km<sup>2</sup> and 55,000 km coastline length, stretching from Aceh to Papua. If superimpose a map of Indonesia over one of Europe, stretches from Ireland to Iran or compared to the United States, it covers the area from California to Bermuda.

Indonesia have many beautiful places, there are natural forest and ecosystem with the rare flora and fauna, like jungle in Kalimantan, jungle in Sumatra and jungle in Papua, that jungle are one of the biggest jungle in the world after the amazon in Brazil. Indonesia also has many active volcanos spread in many island such Bromo in east of java, Krakatau in Seribu island, Merapi in Yogyakarta etc, and also has many beautiful beach like Kuta in Bali, Mentawai beach, and many beautiful lakes like Toba in north of Sumatra. From cultural heritage, Indonesian have clan of Dayak, Reog Ponorogo, Kuda Lumping, Lompat Batu, Ngaben etc. The world Heritage, Indonesia have Borobudur temple, it is one of the seven wonder, Prambanan temple, Komodo island, and Batik painting.

The data from the ministry of tourism shows that the number of foreign tourists came to Indonesia from year to year has been increased, noted that in 2011 the number of foreign tourists who came as much as 7,649,731, and in 2012 that number in to 8,044,462 increased by 6.6% from the previous year. Below number of data foreign tourists came to Indonesia from 2008-2012.

**Table 1:** Number of foreign tourists visit to Indonesia

Years	Tourist foreign		Average Length of Stay (days)		Devisa Income	
	amount	Growth (%)	each day	each Visit	Amount (Billion US \$)	The Growth (%)
2008	6,234,497	13.24	8.58	1,178.54	7,347.60	37.44
2009	6,323,730	1.43	7.69	995.93	6,297.99	-14.29
2010	7,002,944	10.74	8.04	1,085.75	7,603.45	20.73
2011	7,649,731	9.24	7.84	1,118.26	8,554.39	12.51
2012	8,044,462	5.16	7.70	1,133.81	9,120.85	6.62

Resources the ministry tourism of Indonesia ([parekraf.go.id](http://parekraf.go.id))

Most number of tourists visited Indonesia in 2012 was derived from Singapore, Malaysia and Australia, below foreign tourists the data based on nationality.

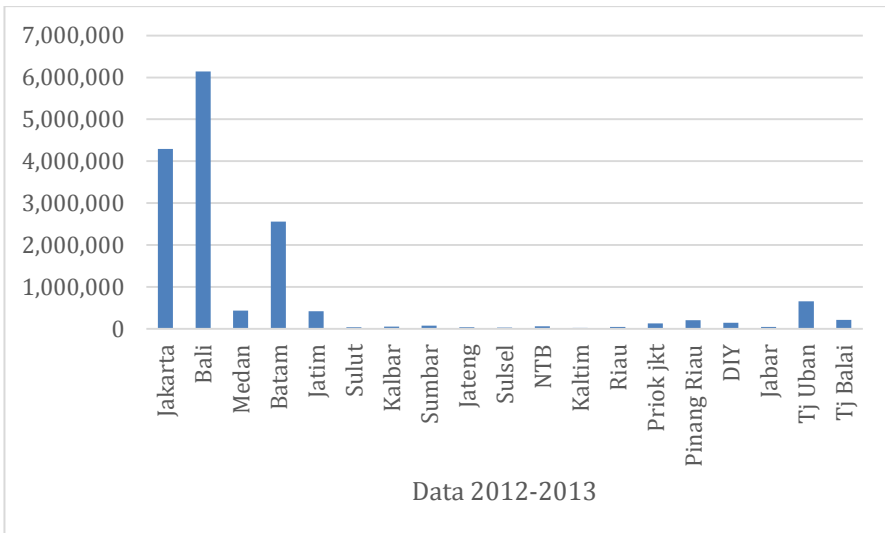
**Table 2:** Number of foreign tourists by nationality

Number	Nationality	Code Area	2013	2012	Growth (%)
1	Singapore	SPO	182.979	165.782	10,37
2	Malaysia	MLS	152.856	127.917	19,5
3	Japan	JEP	39.413	40.780	-3,35
4	South Korea	KS	29.139	24.277	20,03
5	Taiwan	TWN	14.174	14.446	-1,88
6	China	RRC	52.237	47.281	10,48
7	India	IND	20.696	18.849	9,8
8	Philipina	PHI	11.641	9.524	22,23
9	Hongkong	HKG	8.146	6.600	23,42
10	Thailand	TAI	7.780	7.199	8,07
11	Australia	ALI	83.010	84.637	-1,92
12	United State	USA	19.997	18.766	6,56
13	England	ING	17.363	16.603	4,58
14	Netherland	BLD	12.266	10.586	15,87
15	Germany	JB+JT	11.172	9.085	22,97
16	France	FRA	12.134	10.279	18,05
17	Rusia	Rus	9.944	11.530	-13,76
18	Middel East	SAU	7.522	5.397	39,37
19	Egyp	MES	675	536	25,93
20	Uni Emirat Arab	UEA	1.322	975	35,59
21	Bahrain	BRN	98	72	36,11
22	Others		108.022	87.879	22,92

Resources Ministry Tourism of Indonesia ([parekraf.go.id](http://parekraf.go.id))

## Distribution of tourism in Indonesia

One of the problems faced by Indonesia tourism uneven of distribution, the data from ministry indicate the distribution of tourism in Indonesia spread only in three cities like Bali, Jakarta and Riau Island, this is be come of particular concern for the Indonesian government to create a road map in order to spread the distribution of tourism is not only focused on three areas.



**Chart 1:** the cities visited by foreign tourists  
Resources from Ministry Tourism of Indonesia (parekraf.go.id)

In 2012, foreign tourists spending an average of \$ 1,133 per visit, growth about 6 percent from \$ 1,117 in 2011. Overall, the foreign exchange earned from tourism in 2012 reached U.S. \$ 9 billion. The impact of the increasing growth of the tourism industry not only in terms of foreign exchange, but also be felt by other industries such as hospitality, souvenirs, services and others.

## **Tourism and information technology**

Information technology is a technology used for processing data, including processing, obtaining, compiling, store, manipulate data in different ways to produce quality of information, in relevant information, accurate and timely, can be used for personal, business, and government to decision making. The influence of information technology on the tourism industry has existed for a long time, in the beginning information technology used to bookings flight, it was in 50s, and in 80s information technology is used for room's hotel reservation. Since the existence of the internet the tourism sector also growing up, almost all activities of the tourism industry has been using information technology, used for promotion, reservation and information. In line with the government's desire to promote tourism industry, its need to structuring data and tourism information properly, to become tourists get information more update, accurately and can be disseminated easily.

### **Discussion**

Need huge support from government to development of the tourism industry, this issue can be accelerate the progress of tourism in Indonesia, through cooperation between the ministry of culture and tourism and the ministry of communication and information, industry of tourism need more promotion to share information about Indonesia.

At this time the support of government to promote tourism much more than the previous period, using information technology can make simpler to distribute information widely. This technology has been widely adopted by the government, education, business and the other as a means of promotion, dissemination of information and transactions, as e-government, e-learning, e-business, e-commerce, and also in e-tourist.

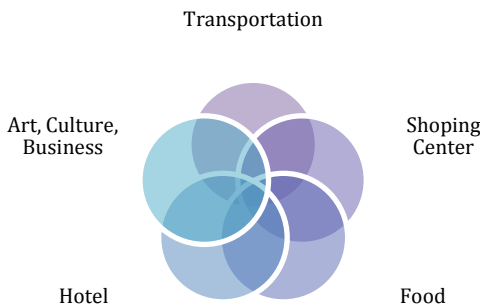
In order to improve number of tourist to visit Indonesia one of the problems solving is using information technology, by utilizing the information technology means the existence of a management information system based on electronic data processing.

However, there are still many barriers or obstacles encountered in the implementation of the information technology among which the lack human resources to manage, utilize and develop information technology in tourism, lack Information Technology use for processing complex data and

transactions, and also provision of information to the public is still very limited.

Now the implementation of information technology in tourism sector in Indonesia is still lack, there is no specific website provides complete information about tourism system in Indonesia, to provide information about location, prices, hotels and restaurants nearby. In addition, Indonesia also does not have software that can help the people to plan a holiday trip under certain conditions, for example, budget travelers and owned by the desired criteria tourist attractions. This problem has impact for the growth of tourism in Indonesia, which is supposed great potential to grow rapidly.

Although Indonesia already has a portal website to publish information, but the website not enough to serve what the tourist need, for the example the website only publish information about spot of tourism but lack information about hotel, shipping, travel agent and others places tourist need, the tourist only know about the spot but they don't know how to go there because the information are separate, they have to search in to other website to get other information. In other word the information not completely in one holistic website. By considering the condition of tourism in Indonesia requires an integrated information system that integrates all aspects to support the tourism activities; the following is the concept of e-tourist in Indonesia



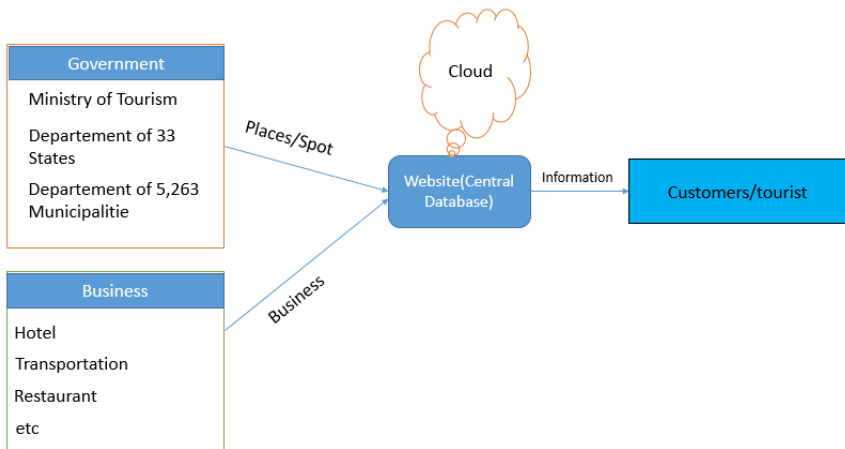
**Figure 1:** a holistic the information of e-tourist

The figure 1 above describe about e-tourist in Indonesia, that incorporates all the information necessary on the tourism industry into a



holistic system, which is a web-based. There are three main stages in order to develop of the e-tourist system are: 1) data collection, which is the basic of standardization and consolidation, this section there are elements such as hotels, recreational spot, as well as important events that can be accessed by tourist, therefore the data collection and application of standardization and consolidation a major goal in the first stage; 2) design system, develop system; 3) implementation and management system the third level is to deliver and dissemination of information to tourists and ready to use..

### Model G2B2C



**Figure 2:** e-tourist model

Figure 2 describe e-tourist model of the system, need collaboration between government and business practitioner. Government have to build the information system to provide information from all tourism attraction in Indonesia, data get from municipalities and states. Business practitioner can upload all information related them own business in to the same information system that was developed by government, as room hotel, business transportation, restaurant etc. From that website tourist can access all of information need only using one website.

## Conclusions

The presence of e-tourist very important to increase revenue of tourism sector. Optimized tourism potential not only to be on revamping the location or the object of tourism, but must be followed by the application of internet technology in the promotion and booking directly by tourists. Through e-tourist can provide increased revenue in the tourism sector in Indonesia, and also encourage the promotion and provision of comprehensive information for tourists completely.

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