

Marketing information system design based on local community tourism destinations

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Abstract: Information and Communication Technology has evolved into one of the tourism industry infrastructure. The integration of information and communications technology to support the tourism industry becomes very important in today's digital era. This research offers an alternative solution in developing a Local Community Based Destination Marketing Information System (DMIS). This information system was developed to facilitate the distribution and marketing of small and medium enterprises of local tourism throughout the global tourism distribution network either directly or indirectly. This information system platform is designed to be able to meet the needs of small and medium enterprises in the field of tourism in the market penetration, promotion of tourist accommodation, and allows transactions between small and medium businesses with customer directly. This study used a combination of field research with locations in Pecatu Village, and research and development. The results of field research concluded that Pecatu Village has many tourism potentials managed by local communities. This potential if managed well, can have a significant impact on improving the welfare of the community. This destination marketing information system can be utilized by the local community in penetrating the market.

Keywords: *tourism information systems; small and medium enterprises; community-based tourism industry.*

INTRODUCTION

As a favorite tourist destination, Bali consistently places tourism as a leading sector. Goh et al. (2010) mentions tourism has developed into one of the service industry with a very high growth rate. Tourism provides a considerable impact on economic growth of Bali.

As one source of local revenue, the tourism industry needs to be well managed. One of them by integrating the use of information and communication technology (ICT) in the tourism sector as a media campaign, media transactions and media communication with stakeholders. ICT has developed into one of the tourism industry infrastructure (Law et al., 2009; Bethapudi, 2013; Hanif et al., 2013). In some ways, ICT has provided many changes and created new opportunities for the advancement and development of

the tourism industry, such as for marketing, publication, promotion of objects and tourist attractions using websites (Eraqi & Abd-Alla, 2012).

Utilization of ICT for sustainable tourism development in order to empower local communities is still lacking. Until now, the Government of Bali does not have Master Plan of Information Technology or IT Master Plan at provincial government level to implement e-Government in order to run the implementation of regional tourism development based on ICT (Puslitbang Penyelenggaraan Pos dan Informatika, 2012). In addition, there is no website portal that specifically provides information about tourism in an integrated manner, such as information of tourist location, tourist attraction information, hotel and restaurant information managed by a particular community or village.

The tourism sector as the flagship of the government is time to take advantage of ICT as an implementation of e-Government to market and publicize the potential of local tourism. In comparison, the Singapore Government through Infocomm Development Authority (IDA) has established a partnership with Singapore Tourism Board (STB) called Digital Concierge. Digital Concierge (DC) is one of the main programs in IDA's 10-year Intelligent Nation Masterplan ("iN2015") to help transform tourism, hospitality and retail sectors in Singapore (<http://digitalconcierge.sg/>).

Learning from the experience of other countries in managing the tourism industry by utilizing the progress of information technology, it is necessary to develop a tourism information system to raise the potential of rural community tourism. This research offers an alternative solution in developing an integrated rural tourism information system based on local rural communities. This information system is developed in order to empower the local community, so that people can play an active role as tourism actors in the region. All potential related to tourism in a region is packaged in an on-line and real time information system, so that tourists who want to know information related to tourism in one village area can access it easily.

In general, tourists need complete information about a tourist destination. Pecatu Village has a variety of tourism potential, ranging from Uluwatu Temple, Beach, and art attractions. Tourism supporting facilities such as accommodation and restaurants are also growing rapidly. Currently, there is no integrated information system in managing all tourism potential in Pecatu Village. Even if it exists, the information presented from an information system is partial and often incomplete. The main focus of the study is how the information system needed to be able to promote various local tourism potentials in an integrated manner. The information system is expected to serve as a comprehensive tourism database, accurate, and reliable to support the development of community-based tourism. Based on the main focus of the research, this research is aimed at making the design of information system for marketing tourism potency managed by local community.

RESEARCH METHODOLOGY

This research is an applied research that aims to develop the application of information technology for the tourism sector. The research was conducted with a combination of field research approach and research and development. Field research is intended to get an overview of the various tourism potentials that exist. The field research location is Pecatu Village, South Kuta District, Badung Regency. During field research conducted interviews with local business actors, observation and documentation of various destinations, tourist attractions, accommodation and other tourism support industries.

Simultaneously, also carried out the development of information system applications using research and development approach (research and development). Procedures in developing this application using

the approach of system development life cycle (SDLC) method. This method consists of six stages which include: (1) system engineering, (2) analysis, (3) design, (4) coding, (5) testing, and (6) maintenance (Pressman, 2009). The life cycle of system development is also known as the waterfall model. The design of information systems proposed in this research is web based using several system design tools such as: creating flowcharts, context diagrams, and data flow diagrams that can explain the flow of data processed to produce the desired information.

RESULTS AND DISCUSSION

Summary of Field Research Results

Based on the results of interviews, observations and documentation in order to field data collection, can be presented several things as follows:

- a). Pecatu Village is an area already known as a tourist destination, has tourist destinations including: Pura Luhur Uluwatu, Suluban Beach, Padang-Padang Beach, Labuan Sait Beach, Bingin Beach, Dreamland Beach and Nyang-Nyang Beach.
- b). Tourist attractions that become tourism icon of Pecatu Village is Kecak Dance, performed every day from 18.00 - 19.00 local time. The stage position is on the south of Uluwatu Side Tourism Object Area.
- c). Pecatu Village as a tourism area has evolved a variety of accommodation facilities, ranging from Villa and 5 star hotels to tourist accommodation managed by local communities. This tourism accommodation is managed by the community is actually the target of this research activity. Some of them: Uluwatu Cottages, Nyama Adi, Padang-Padang Breze, Bali Bule.
- d). Tourism supporting industries are also developing include: coffe luwak, local transport, souvenir traders, massage groups, and so on.

Results of Development and Information System Testing

The system design process includes creating flowcharts, context diagrams, and data flow diagrams that can explain the flow of data processed to produce the desired information. Flowchart is a chart with certain symbols that describe the process sequence in detail and the relationship between a process with other processes in a program (Ladjamudin, 2005). Context diagram is a general or broad diagram of an information system that describes the flow of data from within and outside the entity. An external entity is an entity located outside the system that sends data to the system or receives data from that system in this case ie the visitor, the tour manager and the administrator. Data Flow Diagram (DFD) describes the logic function of a system, in the DFD there is data flow and processes that occur in the system.

The design of information systems proposed in this research is web based using several system design tools such as flowchart (Figure 1), context diagram (Figure 2), and Data Flow Diagram (DFD) (Figure 3).

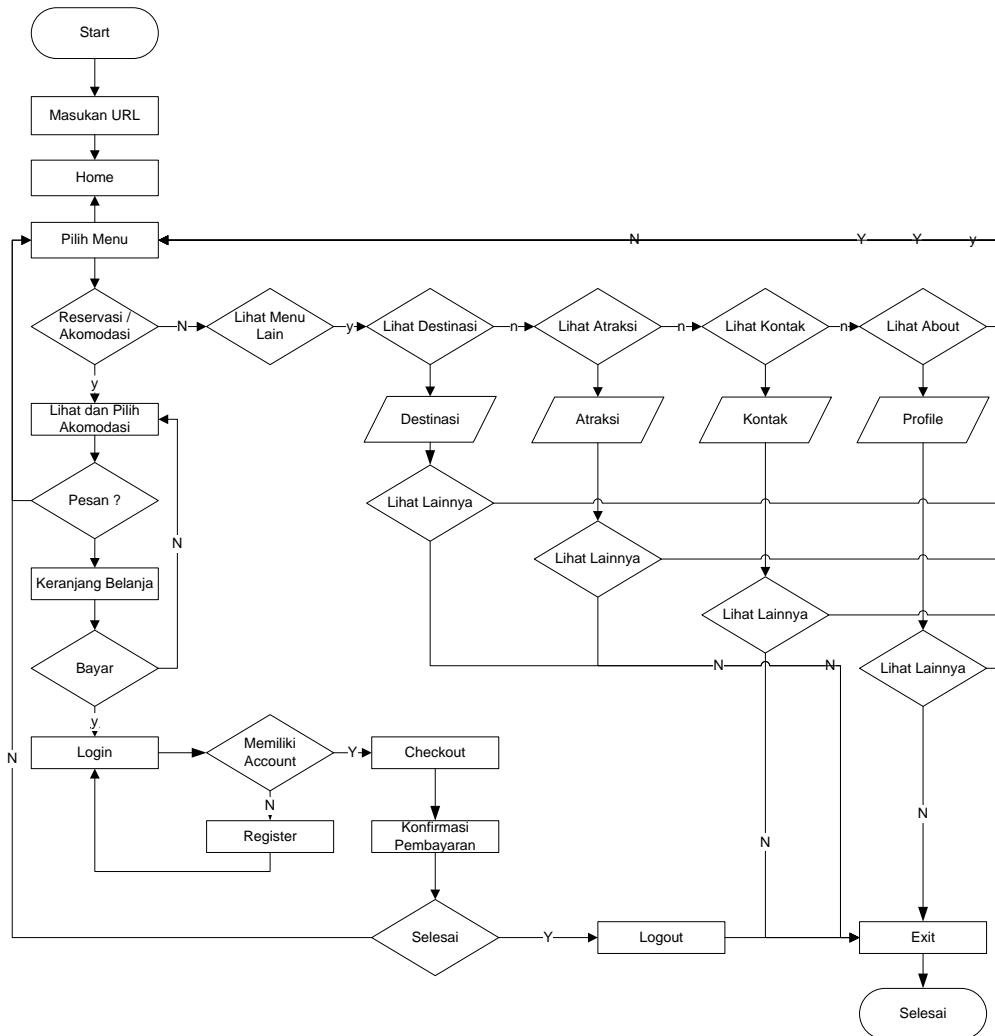


Figure 1. Flowchart of local community-based tourism information system

The developed tourism information system is designed to be able to handle key processes, including: reservation / accommodation, process for viewing destinations, process of viewing tourist attractions, process of viewing contacts, process of viewing other menu. In the reservation process, it is planned to be used as an online transaction medium. At this stage only a simulation is made to make the reservation process. In the process of viewing destinations and attractions, users are allowed to browse to get various information about destinations and tourist attractions in Pecatu Village.

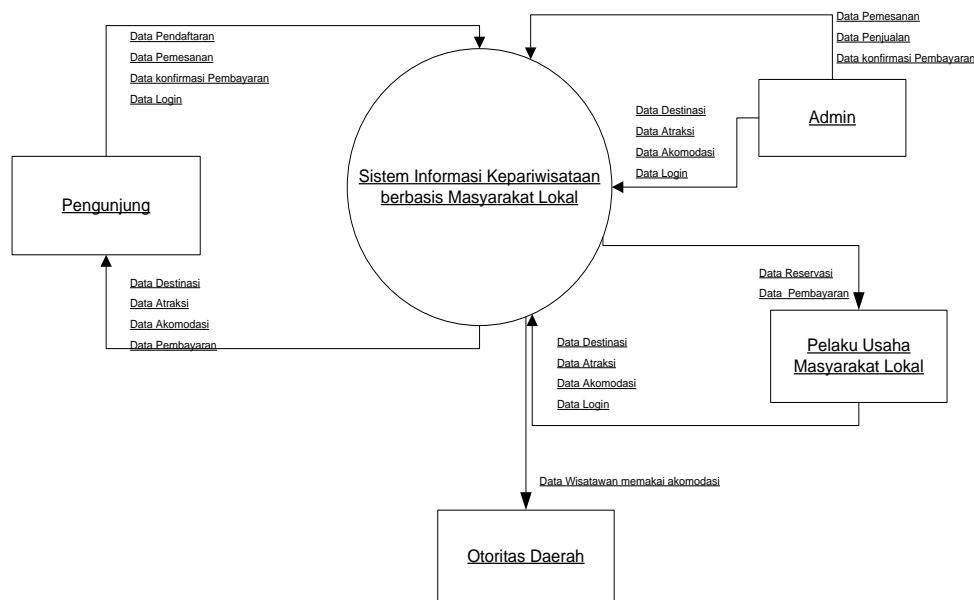


Figure 3. Context diagram of local community-based tourism information system.

Context diagram is a tool in making an information system design. The design results are still general which describes the flow of data from within and outside the entity. An external entity is an entity located outside the system that sends data to the system. In this design external entities include visitors, tour managers and administrators. Tour managers can be local business actors or regulators in the field of tourism.

Visitor entity can send data request to information system in the form of registration, ordering, login, confirm payment. In response to these data requests, the information system will send information to the user in the form of destination data, attractions, accommodation, or data related to the payment.

Admin entities are given the authority to submit data requests to information systems in the form of marketing data, sales, or payment confirmation data. Admin can also update data destination, attraction, accommodation. Tour managers in this case are business actors from local communities and tourism regulators. Through accounts owned by each business actor, they can update data limitedly to the business they manage. Business actors may also request order data that occurs for the business they manage, as well as know the payment information. Tourism regulators can utilize this information system as a means to monitor various tourism activities in their area, such as tourist attractions, tourist destinations, tourist accommodation along with the number of tourists staying.

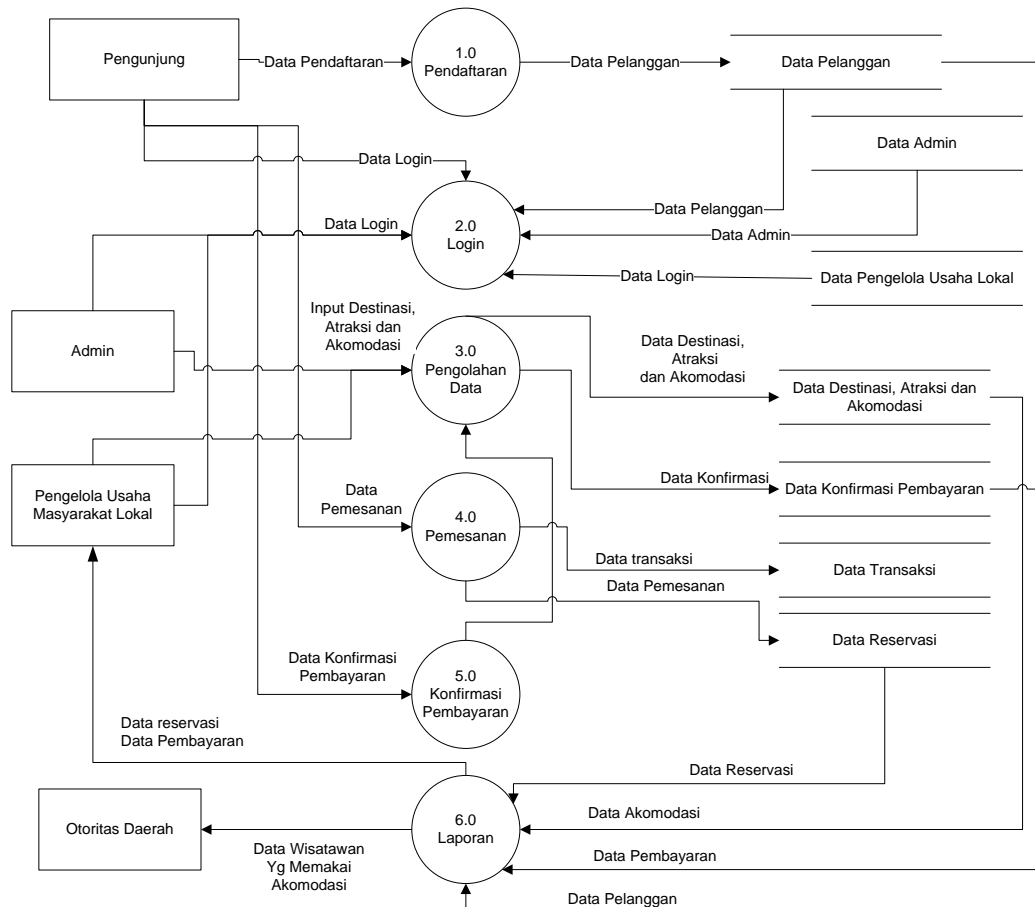


Figure 3. DFD Level 0 local community-based tourism information system

Data Flow Diagram (DFD) describes the logic function of a system. In the DFD there is a flow of data and processes that occur in the system. The logic function of the information system developed includes: registration, login, data processing, ordering, payment confirmation, and report. Every function of this information system is equipped with data flow and process as needed. Suppose that in the registration function, a user can perform the registration process by sending some data required by the information system, and then processing it into customer data. Likewise with data processing functions, can be done by business actors and admin of this information system.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of interviews, observation and development of information system applications, it can be concluded several things as follows: (1) Pecatu village has a lot of tourism potential. If managed well, it can have a significant impact on improving the welfare of local communities; (2) Developed information systems can be utilized by local communities to market potentials that are managed by the community.

Based on the above conclusions, this study recommends: (1) In an effort to develop the existing tourism potential in Pecatu Village, the role of government is expected in an effort to empower the local community; (2) The application of information systems developed is still in the test phase, so it still needs to be refined. Support from the community in the data collection becomes very important, so that all the potential of existing tourism can be made in one database.

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