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Green Tourism Sustainability: Optimization Of Original Regional Income By E-Money

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Abstract---*This study aims to design a non-cash payment (e-money) system using B-CARD (Banyuwangi CARD) at tourism Website by Banyuwangi cultural and tourism service. This study uses the AIS (Accounting Information System) theory and electronic payment system (E-payment) theory. The purpose of B-CARD is as a method and payment system to be more effective and efficient. The research method uses qualitative by interviews, observation, and documentation. The analysis technique approach is input-process-output. The results of the study show that B-CARD can provide efficiency or saving time during tourist access transactions. Also, B-CARD can be used as a government effort to collect tourist fees for each tourist location with adjusted conditions. So that the B-CARD design can contribute to the effectiveness of local revenue and support green tourism sustainability in Banyuwangi.*

Keywords---*Effectiveness, Efficiency, B-CARD, Local Revenue, E-money*

I. Introduction

Tourism is several activities, especially those related to the economy directly to the impact of the entry of foreigners or in this case tourists through routes across a country, city, or region. Tourism activities are also one of the promising industries for a region; this is because the tourism industry has an important role in the development and development of a region. Based on the pre-survey results, it is known that 18 out of 30 respondents claimed to have paid for tourist entrance tickets without physical evidence, which means that there is potential fraud where an officer who supervises and withdraws an entrance ticket does not provide proof of payment in the form of a ticket or any form of payment. Many strategies that can be done to minimize the existence of fraud include conducting an independent and transparent employee or officer recruitment, making the tourist route into a two-way route, where when tourists pay and receive a ticket then when they leave the traveler returns the tourist ticket. In addition to some of these strategies, there is one other strategy offered and can be used to avoid or minimize fraud committed by some individuals in tourist locations in Banyuwangi is to use a non-cash payment system using smart cards filled with balances that can used to access all tours in Banyuwangi which are managed and under the auspices of the Office of Culture and Tourism, namely Banyuwangi Card or in that case it is called B-CARD. B-CARD is a non-cash payment medium that can be used as access to tourist attractions in Banyuwangi.

Bank Indonesia Regulation Number: 11/12 / PBI / 2009 concerning Electronic Money (Electronic Money) which has now been renewed into PBI Number: 18/17 / PBI / 2016, E-money is issued on the basis of the money deposited in advance by the holder to the publisher and the value of the money is stored electronically in a media such as a server or chip. This study produces a non-cash TOL payment system with the use of a card that is supported by RFID sensor technology which produces a practical and fast payment system. Based on this background, the problem in this study is how the application of B-CARD in tourism in optimizing Regional Original Revenue in Banyuwangi through Green Tourism Resistance. The contribution of this study is to provide easy access for all tourists who want to visit tourist sites in Banyuwangi by minimizing

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fraud in fund management in tourist attractions, so that the payment system design using B-cards will make it easier for tourists to transact at all tourist destinations which is managed by the Banyuwangi regional government with just one card. Also, the records through the web database will be able to facilitate the manager in recording ticket receipts from tourist destinations spread in Banyuwangi in detail.

II. Literature Review

The definition of system design as a blueprint formulation for a complete system. System design comes from general to specific. According to Law No. 10 of 2009 on Tourism, tourism is a variety of tourism activities and is supported by facilities and services provided by local communities, fellow tourists, government, local governments, and entrepreneurs. Tourism is a journey that people do temporarily, which is held from one place to another leaving its original place, with a plan and with the intention not to try or make a living in the place visited, but solely to enjoy sightseeing and recreational activities or to fulfill diverse desires [1]. The tourism is a trip planned by someone not to make a living or settle in that place. The tourism is the whole of activities, processes, and links related to travel and transit from people outside their homes and not to earn a living. Meanwhile, tourism is a travel activity carried out temporarily from the original place of residence to the destination with the reason not to settle or earn a living but only to fulfill curiosity, spend leisure time or holidays and other purposes.

The concept of tourism Tourism Resistance is a sustainable tourism management concept whereby optimally utilizing environmental resources which are key elements in tourism development. Discussion of green tourism sustainability or sustainable tourism is often associated with the idea of sustainable development. Where in sustainable development there is a tourism context that is developed and maintained in an area for an unspecified period and does not reduce or change the environment and can maintain continuity in an area for an unlimited period ' [2].

Fraud is defined as fraud, but this understanding has been further developed so that it has a broad scope. The term cheating is interpreted as "intentional financial fraud, which is intended to take assets or rights of people or other parties." The definition of fraud is a generic term, and embraces all the multifarious means which human beings can devise, which is an advantage over another by false representations.

E-money or Electronic money, as referred to in Bank Indonesia Regulation Number: 11/12 / PBI / 2009 concerning Electronic Money (Electronic Money) which has now been updated to PBI Number: 18/17 / PBI / 2016, E-money issued on the basis of the value of money deposited in advance by the holder to the publisher and the value of the money stored electronically in a media such as a server or chip.

RFID is a compact wireless technology that is needed to transform the commercial world. In the RFID technology, the process of taking or identifying objects or data is done contactless (without direct contact. While the United States Government Accountability Office, in 2005 stated that RFID is a data capture technology that can be used electronically to identify, track, and store information stored in RFID tags.

In creating a new system, in-depth analysis of costs and benefits is needed if the system is implemented. Cost and benefit analysis helps users to reduce errors (error reduction, ER), can reduce costs (cost reduction or avoidance, CR), increase activity speed (increased speed of activity, IS), improve planning and management control (improved in management planning or control, MC). Neuman [3] says Cost and Benefit Analysis is based on the assumption that we can attach the value of money to everything (for example, learning, health, love, children's happiness, human dignity, holiness) and people give similar values. There are three steps in implementing CBA, namely identifying costs, identifying benefits, and comparing costs and benefits [4]. In this study, researchers used BCR (Benefit Cost Ratio). The BCR method uses data equivalent to the present value of revenues and expenditures which in this case BCR is a comparison between the present

value of revenues or income obtained from investment activities with the present value of expenditure as long as the investment takes place in a certain period [5].

III. Research Method

This study uses a qualitative approach where more emphasis is on the process by which researchers must regularly interact with the subject of research, data obtained through interviews, observation, and documentation, and focuses on understanding, and interpreting researchers on the object of research. The approach taken in this study is exploratory research with a case study method, which means that research that seeks to explore compile the phenomena studied to answer the problems formulated. Furthermore, for the chosen case study method is a single holistic case study by researching one object in one entity.Methods of collecting data with participatory observation of several tourist sites in Banyuwangi such as Cacalan Beach, Red Island, and Baluran National Park, for vulnerable people from January 2019 to February 2019 by observing the behavior of officers and ticket sales systems, as well as semi-interview methods for some tourists and tourism management officers accompanied by several soft file requests related to the results and financial reports needed.

IV. Results and Discussion

Current Tourist Management System

The weaknesses in the management of several tourist attractions in Banyuwangi are currently managers who are still in the community group and recording transactions that are still manual and semi-manual so that assistance from the government is still needed especially in the development of digital-based transaction and management systems. Structured according to the Banyuwangi government mission in developing IT-based tourism. In the use of manual systems, tourists who make ticket purchase transactions must wait for the officer to confirm the total nominal that must be paid, then the tourists will pay according to the nominal stated. If the payment transaction uses the right amount of money, the officer will immediately give a ticket to the tourist. But this does not apply if tourists pay a nominal or less amount. In that case, the officer still has to calculate the deficiencies and the return on excess tourist money, then when this stage is complete, the ticket can be given to tourists and tourists can leave the window.

Required System Analysis

Based on the analysis that has been done, a payment system that is fast, transparent, and accurate is needed. The new sales system is expected to facilitate the transaction process between sellers and buyers, in this case, ticket attendants at tourist sites with visitors or tourists by utilizing a smart card based on Radio Frequency Identifier (RFID), in this case, B-CARD as a means of payment.

The use of Radio Frequency Identifier (RFID) on B-CARD can contain far more data in the form of information because it can be positioned in horizontal and vertical conditions. The needs of this system will provide many benefits for both the community and the government and tourists. The initial process of using B-CARD is that users or tourists make purchase and balance filling transactions that can be done at each tourist location. Then the ticket window clerk will top up the balance to the bank that cooperates in this matter. After the bank fills out the balance on the B-CARD, then B-CARD automatically can be used to access any tourist attractions that have implemented this system. Then the B-CARD can be used for access to tourist sites by attaching it to the card reader. In the process, the ticket clerk does not need to manually record because the recording has been done automatically by the bank which then according to the specified percentage will be allocated or deposited into the tourism retribution fund at the Revenue Agency.

The context diagram of the use of the B-CARD system is as follows:

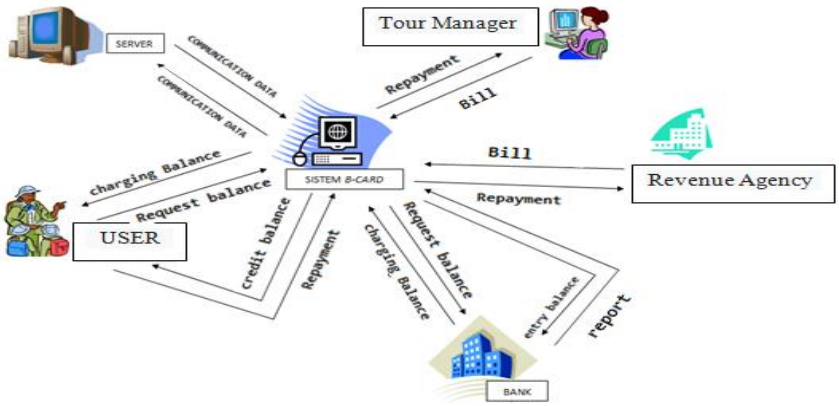

Figure 1. B-Card Context Diagram

DFD Level 1 focused on transaction activities. A tourist uses a balance on B-CARD to pay for tourist access, the system will send a payment amount, and the balance will be deducted. The next stage is recording the bank and sending a request for payment of tourist retribution to the bank to the revenue agency. Then automatic deductions for tourist levies will be paid to the revenue agency, and the bank sends a report of both income received and reports on tourist retribution payments. Next is the DFD Level 1 transaction activity on B-CARD.

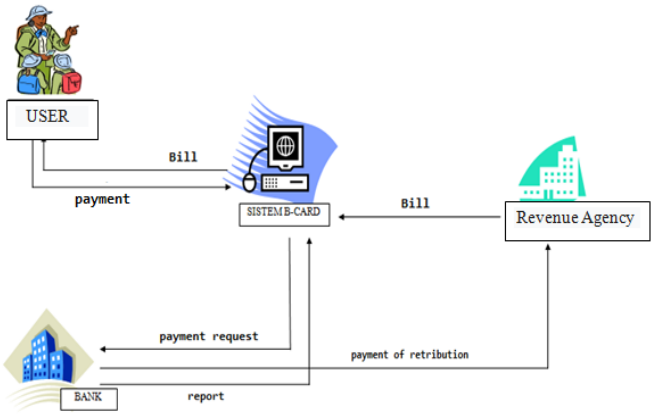

Figure 2. Data Flow Diagram Level 1

The following is the proposed ERD B-CARD design:

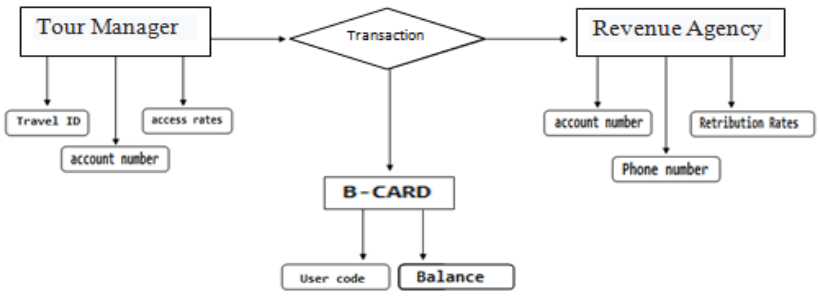

Figure 3. Design ERD - *B-CARD*

Cost and Benefit

Cost and Benefit Analysis is based on the assumption that we can attach value to money for everything (for example, learning, health, love, children's happiness, human dignity, holiness) and people give similar values. Cost-benefit analysis can also increase morale and political problems. [3]. CBA interprets everything using numbers and giving results that are close to real performance [6]. Also, CBA can be used by managers as a basis for decision making that measures effectiveness and efficiency. There are three steps in implementing CBA, namely identifying costs, identifying benefits, and comparing costs and benefits. [4].

System effectiveness and efficiency viewed from Tourism Management, customers or tourists, and the government. In tourism managers, the payment system using B-CARD becomes more efficient with the time of transaction and reporting funds for tourist ticket sales. If before using B-CARD, the tour manager must manually record every transaction carried out and produce 25 to 30 seconds. However, if you use B-CARD, the tour manager only takes less than 8 seconds per transaction.

The long duration of the transaction will affect the service and calculation of income at tourist sites. Because the time that could have been allocated to make the next transaction is still used in the same transaction if in large quantities, also, tourism managers have to wait for a fee from the Regional Revenue Agency to find out the calculation of tourist retribution fees that must be paid. This is certainly by the statement [5], which states that the costs calculated in system analysis are not only investment costs but also consider the costs that avoid loss of work time.

In determining the benefits and costs of a program there are three methods used, namely the present net value (NPB = Net Present Benefit), IRR = Internal Rate of Return), and the ratio of cost benefits (BCR = Benefit-Cost Ratio). In this study, the cost analysis and benefits chosen are using the NPB Method (Net Present Benefit). The net value of a project is the total value of the project benefits deducted from the project costs in the year and discounted by the applicable discount rate. The calculation formula is:

$$NBS = Mo\text{-}Co + \frac{M\text{-}C}{(1+t)} + \frac{M_2\text{-}C_2}{(1+t)^2} + \frac{M_3\text{-}C_3}{(1+t)^3} + \frac{\cdots\cdots}{\cdots\cdots} + \frac{M_n\text{-}C_n}{(1+t)^n} +$$

$$\text{atau } NBS = \sum_{n=1}^{n} \frac{Mn\text{-}Bn}{(1+i)^n}$$

Information :

NPB = Net Value, ie benefits are reduced by costs in year "n"

I = Interest Rate

n = 1, ... 50 project life

M = Benefits

B = Cost

Based on the formula, if the result shows the highest NPB value, then the project tested is a project that gets priority to be implemented. The choice of the project depends on the discount rate chosen. The choice of discount rate must reflect the opportunity cost of using the funds. If the net present benefit value is> 0, it means that the investment is profitable and acceptable. The NPB value will be calculated with the assumed discount rate of 15% per year (Development Project for non-cash payment systems on tourism in Banyuwangi) with the simulation of system installation and implementation in 25 tourist locations and each budgeted at Rp. 31,540. 000, the total funds needed for the initial investment cost is IDR 788,500,000. Then it can be simulated the calculation of the Net Present Benefit Method in the implementation and construction of the B-CARD cashless payment system are as follows:

$$NPB = -788.500.000 + \frac{285.000.000}{(1+0,15)^1} + \frac{372.500.000}{(1+0,15)^2} + \frac{486.000.000}{(1+0,15)^3} + \frac{542.250.000}{(1+0,15)^4}$$

$$NPB = -788.500.000 + \frac{285.000.000}{1,15} + \frac{372.500.000}{1,32} + \frac{486.000.000}{1,52} + \frac{542.250.000}{1,75}$$

NPB = - 788.500.000 + 247.826.087 + 282.196.969,7 + 319.736.842,1 + 309.857.142,9

NPB = 371.117.041,7

From the results above calculations, it is known that the NPB value for investment in the Development Project The non-cash payment system for tourism in Banyuwangi is Rp. 371,117,041.7, this means that the NPV value of the project is> 0 so that the project can be accepted.

V. Conclusion

The payment system at the tour counter in Banyuwangi is still not effective and efficient because it is not automated with revenue agencies, which in this case are related to payment of tourist fees. Also, there are obstacles to the duration of long transactions and are processed manually. Manually input and process data are very safe for errors. B-CARD is a solution to the payment system for tourist counters in Banyuwangi using the RFID system. Based on the Cost-Benefit Analysis found a positive ratio between the benefits and costs between the investment costs of implementing the system and the results or benefits obtained. In terms of users or tourists, the payment system using B-CARD can help speed up the transaction process and minimize the potential for fraud or be deceived by ticket prices that are deliberately raised by irresponsible individuals. From the government side, B-CARD can be used to collect tourist fees automatically with accumulation in each transaction activity for access and tourist visits. With the changes in the system of finance and payment, it will have an effect on the scale of trade and cooperation between communities and the government, making it more efficient.

The application of the Non-Cash B-CARD payment system in tourism in Banyuwangi requires optimal government readiness, time, and human resources. So that system development needs to be held. These efforts make the performance of local governments in optimizing local revenue through tourism retribution to be more optimal, and the resulting output can be useful in realizing sustainable green tourism or sustainable tourism growth.

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