

QR CODE-BASED E-MONEY APPLICATION IN HOMESTAY AS THE EASY OF PAYMENT TRANSACTIONS

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Abstract

E-Money is one of the payment methods expected to attract tourists to stay at the place and also facilitate the payment process. This study focused on businesses in the lodging industry of homestay. The homestay was chosen because most homestays are still conventionally managed and the payment is still using cash, making homestays less attractive for tourists to stay especially for tourists who are accustomed to using E-Money or other non-cash payments. This study aims to improve the competitiveness of homestays in facing competition in the lodging industry through the use of QR code-based E-Money to facilitate payment transactions. The data used in this study was qualitative data. Qualitative data is data in the form of numbers and can be collected by means of interviews, analysis of documents, FGDs, observation, picture taking or video recording. The results of this study showed that homestay owners can improve their services through more modern payment methods so that customer payments are easier and faster with E-Money. The research output can be used as a concept for homestay business actors or those who want to open a homestay business in developing an enterprise system so that they can apply payment methods using E-Money and be able to compete in the increasingly tight lodging industry every year.

Keywords: *E-money, homestay, payment, QR Code.*

Abstract

E-Money menjadi salah satu metode pembayaran diharapkan akan menarik minat wisatawan untuk menginap di tempat tersebut dan juga memudahkan dalam proses pembayaran. Dalam Penelitian ini penulis berfokus pada usaha di bidang penginapan berupa homestay. Homestay dipilih karena kebanyakan homestay masih dikelola secara konvensional dan pembayarannya pun masih menggunakan uang tunai sehingga membuat homestay kurang diminati wisatawan untuk menginap terutama untuk kalangan wisatawan yang terbiasa menggunakan E-Money ataupun pembayaran non tunai lainnya. Untuk itu penelitian ini dibuat untuk meningkatkan

daya saing homestay dalam menghadapi persaingan di industri penginapan melalui penggunaan E-Money berbasis QR Code pada homestay untuk memudahkan transaksi pembayaran. Data yang digunakan dalam penelitian ini termasuk data kualitatif. Data kualitatif merupakan data yang berbentuk selain angka, dan dapat dikumpulkan dengan cara wawancara, analisis dokumen, FGD, observasi, pemotretan gambar atau perekaman video. Hasil dari penelitian ini, pemilik homestay dapat meningkatkan pelayanannya melalui metode pembayaran yang lebih modern sehingga pembayaran oleh customer lebih mudah dan cepat dengan E-Money. Luaran penelitian dapat dijadikan konsep bagi pelaku usaha homestay atau yang ingin membuka usaha homestay dalam pengembangan enterprise system sehingga dapat menerapkan metode pembayaran menggunakan E-Money dan mampu bersaing di industri penginapan yang semakin ketat dan meningkat setiap tahunnya.

Kata Kunci: E-money, homestay, pembayaran, QR code

JEL: P

1. Research Background

Increasingly sophisticated technological advancement changes current people consumption behavior. As we know, money is a legitimate medium of exchange and has been used for many years and is still in use today. Money is also used to pay for goods or services that have been consumed. However, the use of money has begun to diminish now since the advent of E-Money or Electronic Money which made transactions easier and more practical as people do not need to carry cash and be bothered with change. As referred to in Bank Indonesia Regulation Number: 11/12 / PBI / 2009 concerning Electronic Money, which has now been renewed into PBI Number: 18/17 / PBI / 2016, E-money is issued on the basis of the value of money deposited in advance by the holder to the issuing institution that is stored electronically in a media such as a server or chip.

E-money is not only a substitute for physical cash in the form of coins and banknotes but also as a system that allows people to pay for goods or services by sending numbers from one computer to another. When viewed in quantity, transaction, and volume, e-money continues to increase from year to year. This growth is far compared to the growth of credit cards and ATM cards whose growth tends to be stagnant. For the record, the number of ATM and debit cards in Indonesia in 2015 was 112.9 million cards. While the number of credit cards in Indonesia in 2015 reached 16.9 million cards. The value of credit card transactions in 2015 reached Rp. 281.3 trillion, while the value of transactions through ATM and Debit cards reached Rp. 4.4 quadrillion.

In addition to impacting on human consumption behavior, technological developments also have an impact on the development of the tourism sector in Indonesia. The internet is the best tourism promotion media to reach everyone in the world. Through the internet, tourists can search for information regarding the destination and accommodation at the destination.

As per the data on foreign tourist arrivals above, it can be concluded that the number of foreign tourists coming to Indonesia has increased. The increasing number of tourists on vacation in Indonesia will have an impact on increasing the income of lodging businesses such as hotels, homestays, guest houses, and etc.

Competition in the lodging business is undertaken in various ways such as room service, competitive prices, facilities obtained, and strategic locations. However, given the increasingly sophisticated era, then different innovations are needed to face the competition. The presence of E-Money can be used as an innovation in making payment transactions for lodging places so that tourists no longer need to carry large amounts of cash.

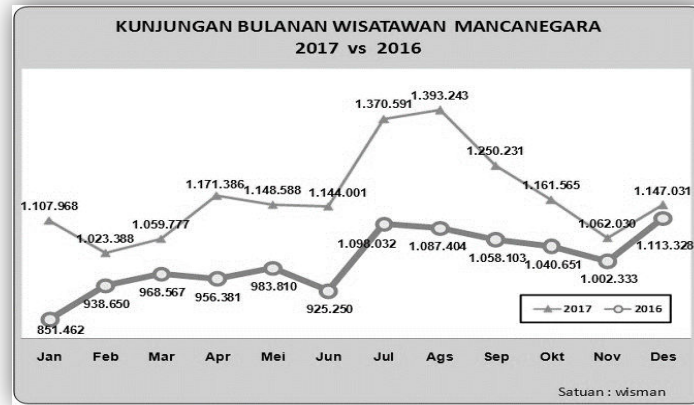


Figure 1. Data on foreign tourist arrivals in Indonesia in 2016-2017
(Source: Ministry of Tourism)

By using E-Money as one of the payment methods, it is expected that tourists will be attracted to stay at the place and also facilitate the payment process. This study focuses on businesses in the field of lodging of a homestay. The homestay was chosen because most homestays are still conventionally managed and the payment is still using cash, making homestays less attractive for tourists to stay especially for tourists who are accustomed to using E-Money or other non-cash payments. They prefer to stay at the hotel because starting from the booking until the payment is very easy especially many applications or websites that provide hotel booking services. This study aims to improve the competitiveness of homestays in facing competition in the lodging industry through the use of QR Code-based E-Money to facilitate payment transactions

Based on the aforementioned description, it can be identified the problem that there are still many homestays in Indonesia that do not use E-Money which makes the homestays less competitive. In this study, the authors aims to know the concept that is suitable and can be offered by QR code-based E-money application in booking homestay and QR code-based E-Money mechanism for homestays' payment transactions (especially foreign tourists).

The objective of this study is to offer the concept of E-Money transactions to build a system of local economic sophistication and to know the mechanism and work methods of QR code-based E-Money for homestays' payment transactions.

This research is expected to provide sustainable benefits for homestay business actors in Indonesia. It is expected that homestay owners can improve their services through more modern payment methods so that customer payments can be easier and faster using E-Money. In addition, customer data input is easier using the QR Code.

Moreover, customers can more easily make payments using E-Money because there is no need to carry large amounts of cash and be bothered with change. Especially for foreign tourists who run out of rupiah, can directly pay with the currency they have, which will be automatically converted by the system. In addition, customer identity is safer with a more adequate homestay information system with the QR Code. Research output can be used as a concept for homestay business actors or those who want to open a homestay business in developing the enterprise system so that they can apply payment methods using E-Money and be able to compete in the increasingly tight lodging industry considering the increasing number of tourists every year.

This research was developed based on accounting information systems and management information systems. The concept of developing the E-money system comes from the latest phenomenon about digital transactions that are growing in the millennial era. Information systems is a set of components that are interconnected, collect, process, store, and distribute

information to support decision making and supervision in an organization. Companies indeed invest more in their information systems specifically to achieve 6 strategic business objectives, namely operational excellence; new products, services and business models; customer and supplier relations; better decision making; competitive advantage; and business continuity.

Based on Bank Indonesia Regulation No. 16/8/PBI/2014 concerning Amendments to Bank Indonesia Regulation No. 11/12/PBI/2009 concerning electronic money, electronic money is defined as a means of payment that fulfills the following elements, issued on the basis of the value of money deposited in advance to the issuing institution; value stored electronically in a media such as server or chip; used as a means of payment to traders who are not publishers of the electronic money; and the electronic money value deposited by the holder and managed by the issuing institution is not a deposit as referred to in the banking law.

E-money, in implementing the ease of liquidity as well as in the distribution of profits between homestay owners and managers, requires a third party namely the bank so that the computerized process and plotting will be efficient. In addition, e-money functions in facilitating changes in foreign exchange rates into rupiah, which has been the complaint of homestay owners and homestay's foreign customers.

QR-code is one of the media to identify a product quickly and precisely in order to avoid data that might be mistakenly inputted by homestay owners and customers in the implementation so that the payment process and important data are not mixed up or wrong.

Smartphones/i-phones can now download various applications that have been provided by the issuing institution, as well as payment media by the bank that the customer has. Through a smartphone, they can find the ID and the data needed from the customer

Laudon (2016) explains that EDI (Electronic Data Interchange) is an exchange of information or means of communication in business transactions carried out electronically between two or more parties through computer media from one party to another. Another opinion contained in www.edi-indonesia.co.id owned by PT. EDI Indonesia explains that EDI is the transmission of data between organizations that have been arranged electronically. Through EDI, users can send data or documents from one computer to another computer from one trading partner to another trading partner without any help from humans. The EDI standard has been designed independently from the communication method and from the agreed software technology side between sender and receiver. The method commonly used consists of various kinds of technologies, namely modem (asynchronous and synchronous), FTP, e-mail, HTTP, AS1, AS2, and so forth. EDI will facilitate data exchange between businesses people from various types of e-commerce described above. Foundation of Business Intelligence: Databases and Information Data Base Management System (DBMS) is software that allows organizations to collect data, control data efficiently, and develop data. In implementing this system, agents/managers have managed databases to produce report information for users (homestay owners, banks, customers, and managers) to produce information that can be used as a basis for future projections.

Relevant research that becomes the basis of the concept in developing E-money and QR code is the research conducted by Yashinta Setyowati et al. (2017) which explains the use of the E-money system and QR Code on the Banyuwangi Red Island. This journal explains the problems faced by newly-developed tourist areas, where people around the areas still use conventional transactions that result in various problems, one of which is the difficulty of transactions that affect the economic growth of the community. Therefore, this journal designed the red island tourism payment system using E-money and QR code. This research used "Impersonalization of electronic money: implications for bank marketing" by Supriya (2010) as a reference. The problems examined in this study were the influence of product knowledge, promotion, trust, and perceived benefits that have a significant influence on social and cultural factors in Australia. This research was conducted with a survey approach. Data collection activities include interviews and filling out questionnaires by users of electronic money in

Australia. This study used a sample of 150 people. The data analysis used in this study was descriptive analysis, Structural Equation Modeling, Penalty Reward Analysis, Customer Satisfaction Index, and Customer Loyalty Index. The attributes analyzed in this study consisted of 25 attributes grouped into five dimensions of Service Quality, namely tangible, reliability, responsiveness, assurance, and empathy.

2. Research Method

Based on the nature of the data, this study is qualitative data. Qualitative data is data in the form of numbers and can be collected by means of interviews, analysis of documents, FGDs, observation, picture taking or video recording. According to Soeratno and Arsyad (1993), even though qualitative data is not in the form of numbers, it does not mean that the data cannot be used in statistical analysis.

Data collection was conducted by interviewing several homestay owners as samples concerning the business processes of the homestay business and then identifying business needs to be based on system development. The documents about the administrative file required for carrying out this kind of business transaction as well as the projection of monthly homestay booking were analyzed.

The Focus Group Discussion (FGD) was conducted to brainstorm and share knowledge in the field, including identifying risks and how to mitigate them. This FGD involves homestay owners, agents/managers, system developers, and several expert consultants in the IT field.

The data sources used in this study were primary data. Primary data is data that is obtained or collected by researchers directly from the source. Primary data in this study were obtained from the results of interviews with homestay owners as informants or resource persons for this study. In addition, the form of primary data is also the visitor data that were obtained directly from the homestay manager.

Data collection methods used in this study was as follows: Observation is a way of conducting an evaluation by observing and recording systematically, logically, and rationally about the investigated phenomena. In this study, observations were made to observe the general state of the homestay in Banyuwangi before e-money is applied in the payment process with greater clarity and detail. Interview, is a technique of data collection carried out through face-to-face and direct question and answer between researchers and resource persons. This interview can describe the data as a whole and thoroughly as well as explore deeper into the data needed. Interviews in this study were conducted to homestay business actors in Banyuwangi. Documentation, can strengthen the data found in research in the field. The documentation in this study was in the form of photos of research evidence, informant data, archives of visitor lists from homestay owners in Banyuwangi, and other relevant documents.

Analysis was carried out on the data from the preliminary study, which were then used to determine the focus of the study. However, the focus of this research is still temporary in the field. The forms of data analysis techniques used were as follows: first, data reduction. Data reduction was guided by research objectives. This is done if it is found something that is deemed unusual, not patterned, and not in accordance with the study used, so that it will be a concern in making data reduction (removing data that is not needed). Second is data presentation. After the data has been reduced, the next step was to present data. In this study, the presentation of data was carried out in the form of brief descriptions, charts, and relationships between categories. The presentation of the data carried out in this study was, tabulating similar data that is relevant to research so that it is easily interpreted. Tabulated because the data obtained is not data that shows numbers but data that describes the object of research. Third is conclusion and verification withdrawal. The next step was to draw conclusions from the research carried out and verify these conclusions with the evidence found during the study. At this stage, conclusions can be drawn to answer the formulated problem statement. Last is system design. Based on the data that has been concluded, it was then used as

input in the system design. Input in the design of this system was based on the data from the owner and manager of the homestay in Banyuwangi, along with specifications of type, facility, number of rooms, distance of affordability, and homestay rates. The system design was made using the operational information systems to produce an operational activity information system in the homestay business.

3. Result and Discussion

The application of E-money with the QR code in the homestay is a system development concept by focusing the scope on the ease of payment of foreign exchange transactions more quickly. This system is planned to be managed by an agent/manager that accommodates all homestay business owners in developing and enhancing business promotion. Agents/managers act as Web and Android-based (QR Code) homestay service providers for customers. The process of exchanging foreign exchange transactions is a reduced activity to reduce waiting time and delay in transactions.

Agents/managers work together with banks and provide bailout of capital for homestay owners to facilitate transactions between customers (tourists) and homestay owners. Research output can be used as a concept for homestay business actors or those who want to open a homestay business in developing the enterprise system so that they can apply payment methods using E-Money and be able to compete in the increasingly tight lodging industry given the increasing number of tourists every year.

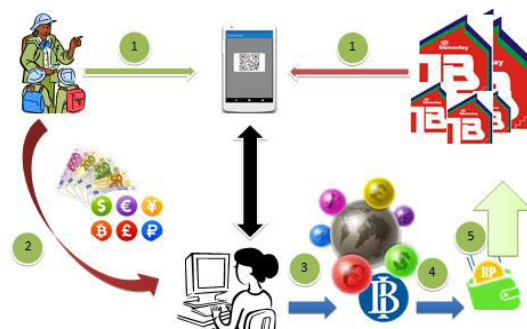


Figure 2. General Overview of QR Code-Based E-Money Application for Homestay

The figure above explains the concept of system development offered. This concept starts with the opportunity of tourists (especially foreign tourists) who need temporary accommodation for holidays and other activities. Also based on the needs of homestay owners for payment transactions with customers. In general, payments are made in cash using the IDR (Rupiah) currency. This difficulty is often felt by foreign tourists who run out of Rupiah. Tourists must exchange money (foreign currency) in a money changer.

The distribution of money changers in tourism objects is still inadequate. This opportunity is used as the basis for a homestay business in using applications and the web that enable the customer to pay in foreign currency. Value-added provided by agents/managers as business people is they provide automatic money translation with QR code facilities so that the payment verification process is faster and more efficient.

Agents collaborate with banks, for clearing processes between international and national banks, so that payments can be converted into rupiahs and income can be immediately received by homestay owners through the owner's account. Due to the grace period between the payment process, clearing, and disbursement, the agent/manager carries out financial governance by giving in advance, the amount of money balance that the owner should have received, and the agent will immediately receive compensation after the disbursement date plus the difference in exchange rates. Agents / Managers must be able to analyze the movement of foreign exchange rates to ensure that the manager gets the gain from the exchange of foreign

currency. The costs incurred in order to pay in advance to the tenant (owner), must be able to be covered by the amount of money that will be received in the future after the disbursement date.

The concept of developing this system is expected to capture all information relating to tourism and the lodging industry, so that it can provide as many information as possible to make predictions in the future, as well as assist management in making investment or expansion decisions. Here we have identified, information output which can be used for decision making:

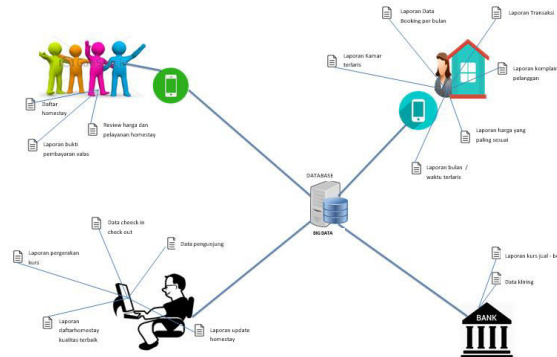


Figure 3. Information Output and Big Data for Management

From the business process that has been carried out, managers, in this case, can compile a report of the current year/month period and make projections for the future period. The information obtained by each of the business actors involved in this business will be the basis of innovation when the business cycle experiences a decline. From the available databases, the following are reports that can be accessed and reviewed by business actors:

Table 1. Report that can be accessed and reviewed by business actors

| Foreign Tourists | Homestay Owners/Tenants | Agent/Developer | Bank |
|---------------------------------------|--|-------------------------------------|------------------------|
| Homestay List | Report of Best selling room | Homestay update report | Buy-sell Exchange Rate |
| Proof of payment report (via android) | Report of booking/month | Visitor Data | Report |
| Review of Homestay service and rate | Transaction report | Check in & check out data | Clearing data |
| | Report of price that best suits the customer | Report on exchange rate movements | |
| | Monthly Report/Best selling period | Report on the best quality homestay | |

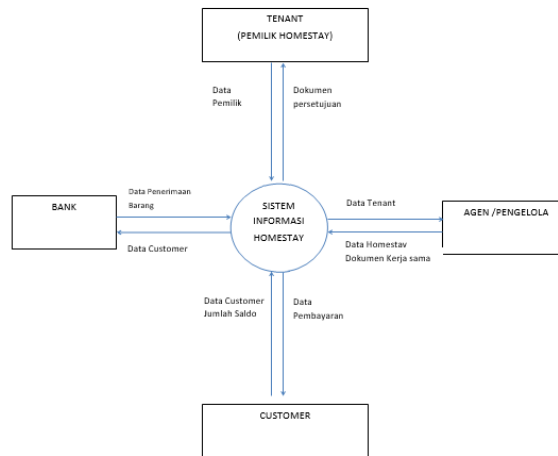


Figure 4. Context Diagram

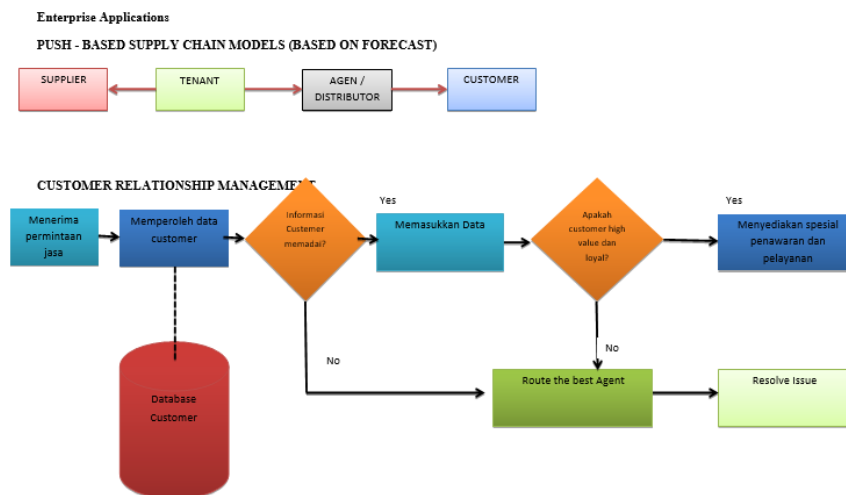


Figure 5. Enterprise Application

Table 2. System-Development Process Phase

| Planning Phase | | |
|---------------------------|--|--------------------|
| No | Description | Time Needed (Days) |
| 1 | Identification of system problems and goal setting | 7 |
| 2 | Development of the QR Code 3 System Concept | 3 |
| 3 | Identification of business process/homestay model | 2 |
| 4 | Budget planning / Cost and Activity Planning | 1 |
| Total Planning Phase | | 13 |
| System Design phase | | |
| No | Description | Time Needed (Days) |
| 1 | System Analysis | 4 |
| 2 | Making Document Flow and system interactions | 1 |
| 3 | Creating a website | 3 |
| 4 | Testing the System | 6 |
| Total System Design Phase | | 14 |
| Implementation Phase | | |
| No | Description | Time Needed (Days) |
| 1 | Implementing the QR Code homestay system | 3 |
| 2 | Conduct training for employees | 5 |

| | | |
|---|---------------------------------|--------------------|
| Total Implementation Phase | 8 | |
| Evaluation Phase | | |
| No | Description | Time needed (Days) |
| 1 | Evaluate system performance | 2 |
| 2 | Perform maintenance on system | 3 |
| 3 | Manage and process the database | 4 |
| Total Evaluation Phase | | 9 |
| Overall Total of System Development Phase | | 44 Days |

In implementing this system, there will be various internal and external risks. For optimal results to be achieved from the development of this system, risks must be identified and must be reviewed so that the risks can be properly dealt.

Table 3. Risk identification according to James Cadle's book entitled Project Management Information Systems

| No | Risk Type | Description |
|----|----------------------------|--|
| 1 | Commercial Risk | During the implementation, this new system requires costs, including programming, procurement, maintenance and socialization costs There are also legal fees and the establishment of cooperation with financial institutions |
| 2 | Relationship Risk | Tenants will have many alternative transactions as well as through other service providers or other agents by expecting easy access to cash Homestay owners will question why the percentage of income and tax is deducted by the manager automatically |
| 3 | Requirement Risk | Inadequate internet speed capacity in many homestay locations makes the system not to run smoothly Fulfillment of homestay owners and customers data that are difficult to obtain |
| 4 | Planning And Resource Risk | System changes may not be followed by all homestay owners Unhealthy competition may be carried out by competitors |
| 5 | Technical Risk | An error occurs in the barcode scan or an error in receiving the cash balance There are always new systems and technologies |

4. Conclusion

By developing the Order and Payment system in a homestay with a digital model, it is expected to solve the problems that have occurred in the developing homestays in Indonesia. The booking or check-in and payment system processes are faster and more effective and can help homestay owners in managing and forecasting the future. The results of this study are expected to enable homestay owners in replacing the conventional system with a more computerized system.

In addition, the economy of local communities needs attention to be developed in order to survive the competition. This research can also provide sustainable benefits for homestay business actors in Indonesia. Homestay owners are expected to improve their services through more modern payment methods so that customer payments are easier and faster with E-Money. Research output can be used as a concept for homestay business actors or those who want to open a homestay business in developing the enterprise system so that they can apply payment methods using E-Money and be able to compete in the increasingly tight lodging industry considering the increasing number of tourists every year.

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