

Payment System Analysis Using Features Quick Response Code (QR Code) In Increasing Income

Shinta Dewi Herawati^a, Annisa Rahman^b, ^{a,b}Widyatama University, Indonesia Email: Shinta.dewi@widyatama.ac.id,
Annisa.rahmaan@widyatama.ac.id

Technology that is growing rapidly influences lifestyles that occur in society. One of them is the way people make payments easily and conveniently using the QR Code system. The object of this descriptive research is to describe and explain the payment system using the QR Code and profit features. Data collection method is literature studies, as secondary data sources. The results of the study show that this payment system is an opportunity for companies to expand their business so that consumers are more comfortable and have increased easy in making payment transactions. If the services provided to customers meet expectations, it will create comfort in using the services of the company, so that customers will come back and will likely recommend the company, which in turn will increase sales and profits.

Key words: *Profit, Quick Response Code (QR Code), Payment System.*

Introduction

Payment instruments have advanced and developed very rapidly. If we look back, the barter system used to trade goods traded is a common payment instrument in the pre-modern era. As this system development, units began to be used that had a value for payment, better known as money. In modern day, money is still known as one of the main payment instruments in the community. Furthermore, the payment instrument continues to grow from a cash (cash based) payment tool, to a non-cash payment instruments, such as paper-based payment instruments, for example, checks and demand deposits. In addition, paperless payment instruments such as electronic funds transfers and card-based payment instruments (ATMs, Credit Cards, Debit Cards and Prepaid Cards) are also known (Bank Indonesia, 2011). These developments in the payment system has also encouraged companies, that are particularly



engaged in services and trades, to compete to help renew their services to attract the attention of many consumers.

The marketing concept states that achieving organizational goals depends on how capable a company understands the needs and desires of the target market and fulfills them more effectively and efficiently than competitors (Simamora, 2003). Consumers who are satisfied in the services offered will have an impact in addition to consumer trust which makes consumers loyal. Quality services can also have an impact on sales, which in turn will affect the income received by the company. Profit (Gain) is an increase in net asset capital originating from a side transaction or a transaction that rarely occurs from a business entity and from all other transactions or events that affect the business entity during a period, except those arising from Revenue or investment by the owner (Shatu, 2016). Another opinion of Soegoto (2009), states that profits are the results obtained by employers for investment funds, time and risks that may arise in building, developing and advancing a company.

Payment system services are ones that consumers take into account in assessing convenience in shopping at a company. In addition to easy and safe payments, consumers also hope that payments will be effective and efficient. Mulyati (2017), explained that the payment system is a system that includes arrangements, contracts / agreements, operational facilities, and technical mechanisms used to deliver, ratify and receive payment instructions, and fulfill payment obligations through the exchange of 'value' between individuals, banks, and other institutions both domestic and international.

According to Warjiyo (2003), the role of the non-cash payment system will be greater and more vital for the economic development of a country, especially with the increasingly dominant role of the payment system compared to the small-value payment system. The security and efficiency of this system not only supports the parties it serves directly, but also the national financial system as a whole.

Nowadays there have been innovations in the field of financial services, commonly referred to as Financial Technology (FinTech). Of the many technological services in the financial sector, there is the latest payment system, namely the QR Code-based payment system. Denso Wave Incorporated developed the barcode system when it got complaints about barcodes that could only accommodate a few alphanumeric characters and can only be done in one direction. This was the trigger for the company to start developing its barcode features into a QR Code that can accommodate 100 times and can be used both ways (QRCode.com, 2019).

Price (2013), describes the Quick Response Code as similar to a barcode used in retail to track inventory. In fact, the QR Code can accommodate thousands of alphanumeric



characters (up to 4,000 characters all in one code), making it a useful tool for any organization. This payment system is an opportunity for companies to expand their business by using the QR Code feature so that consumers are more comfortable and have an easy means to make payment transactions.

Literature Review

Definition of Financial Technology

Wicaksono (2018), explains, Financial Technology (Fintech) is one form of application of information technology in the financial sector. The Financial Services Authority (OJK) classifies FinTech in Indonesia into two categories; Fintech 2.0 for digital financial services operated by Financial Institutions; and, FinTech 3.0 for technology startups that have financial innovation products and services.

According to Bank Indonesia (2019), FinTech is the result of a combination of financial services and technology which eventually changes the conventional business models to modern. Businesses which initially pays face-to-face and carries a certain amount of cash, can now make long-distance transactions by making payments that can be done in just seconds. In this case, FinTech is able to replace the role of formal financial institutions such as companies. In terms of payment systems, FinTech has a role in Providing markets for businesses, becoming a tool for payment, settlement and clearing, helping to implement more efficient investments, mitigating risks from conventional payment systems, and helping parties who need to save, borrow funds and equity participation.

Definition of Quick Response Code (QR Code)

Jasmadi (2018) explains, the Quick Response Code is a two-dimensional code that can store special data so that it is easy to read using a QR Code Reader. Initially used in the automotive industry, but currently widely used in the world of Information Technology, to store data such as web addresses, e-mail, contacts and so on.

According to Wikipedia (2019), the Quick Response Code or commonly known as the QR Code is a form of barcode evolution from one dimension to two dimensions. The use of QR codes is very common in Japan, because of its ability to store data that is larger than the barcode so that it can encode information in Japanese because it can accommodate kanji. QR codes have received international standardization and standardization from Japan in the form of ISO / IEC18004 and JISX-0510 and have been widely used through cellphones in Japan.



History of the QR Code

According to QRCode.com (2019), even though the QR Code is now synonymous with smartphones, the beginning of the creation of the QR Code is actually closely related to the retail world, which experienced a growth in Japan during the 1960s. Supermarkets are filled with goods and high numbers of customers, causing long lines at the cashier. Point of Sale (POS) application of barcodes that already exist are unable to anticipate these developments in customer service need. One reason for this is that the cashier needs to enter the barcode code manually as a process of calculating the purchases of goods by the consumers. From this problem it is felt that there is a need for new technology to be able to cut down on the time to count groceries. Masahiro Hara, who works for Denso Wave, a Toyota subsidiary, succeeded in bringing about the resolution to the problem in 1994. Hara, successfully created matrix codes, or two-dimensional barcodes, which supersede the development of one-dimensional barcodes. In one-dimensional bar codes, information can only be coded in one direction. While for two-dimensional bar codes, information can be encoded in two directions. Barcode alone can only accommodate 20 alphanumeric characters, while QR Code covers that capability up to 100 times. The QR Code has one of the most fundamental parts to work. That part is called data modules. Simply put, it is the black and white blocks that make up the QR Code from the lower right corner to the bottom left corner forming rows and columns. In that data module information is stored. The earliest version of the QR Codes were 21 x 21 pixels, which can contain four types, namely alphanumeric, numeric, binary, and starch. If the QR Code is broken down, there are six main parts forming the scanner technology, namely: Position Markers (to identify where the tip of the code is), Timing Patterns (to identify row and column positions), Version Number (to identify numbering of codes), Format (to identify content types, such as links or text), Alignment Markers (to identify balanced points), and Data in Modules (to help the scanner extract data stored by the QR Code).

Definition of Profit

Subramanyam (2010) explains, profit is one measurement of operating activity. Earnings are usually reported in the income statement for one period together with other components such as income, expenses, profits and losses. According to Soemarso (2010), profit is the difference between income over expenses related to business activities. If the burden is greater than income, the difference is called a loss. Profit or loss is the result of periodic calculations. This profit or loss is not an actual profit or loss. The actual profit or loss can only be known if the company has stopped its activities and is liquidated.

Previous Research

Sriyanto (2015), in his research entitled Analysis of the Effects of Prices, Promotions, and Service Quality on Increasing Ticket Sales at PT. Rosalia Indah Tour & Travel in Palur Karanganyar, suggest that if the services provided to customers meet expectations, comfort in using company services will occur and customers will come back and will likely recommend the company to their friends. In the end, the customer will not move to another company instead it will bring other customers which results in increased sales.

Aristiana (2010), in his research entitled Consumer Behavior and Marketing of Higher Education, showed that service quality consisted of dimensions of reliability (reliability), responsiveness, assurance (empathy), empathy (empathy), and tangibles (evidence directly) are influential but not proven significantly to the level of profit.

Sinambela (2017), in his research entitled The Effect of Providing Internet Banking Services on Banking Financial Performance on the Indonesia Stock Exchange, showed that the provision of internet banking services had no significant effect on banking financial performance, as measured by ROA and ROE. This can be caused by various factors including the level of security, long-term maintenance, and the ability of banks to maintain internet banking. The lack of maximum use of internet banking in Indonesia for banking transactions is still an obstacle to the development of internet banking services.

Research Methodology

The object of this descriptive research is to describe and explain the payment system using the QR Code and profit features. Data collection method is literature studies, as secondary data sources.

Analysis and Discussion

Payment system services are taken into account by customers in assessing the convenience in shopping at a company. In addition to easy and safe payments, consumers also hope that payments will be effective and efficient. In practice, payment system activities involve various institutions acting as providers of payment system services as well as supporting providers of payment system services such as banks, financial institutions, other than banks, and even individuals. Mulyati (2017), explained that the payment system is a system that includes arrangements, contracts / agreements, operational facilities, and technical mechanisms used to deliver, ratify and receive payment instructions, and fulfill payment obligations through the exchange of 'value' between individuals, banks, and other institutions both domestic and international. According to Warjiyo (2003), the role of the non-cash



payment system will be greater and more vital for the economic development of a country, especially with the increasingly dominant role of the payment system compared to the small-value payment system. The security and efficiency of this system not only supports the parties it serves directly, but also the national financial system as a whole.

Of the many types of payment systems found in Indonesia, technology-based financial services have developed in Indonesia and increased in popularity. One such type of payment system is Fintech service, with a QR Code feature, that is currently widely used because it is easy and convenient to use. Chisthi (2016), defines FinTech as a new wave of companies that change the way people pay, send money, borrow, lend and invest. Price (2013), describes the Quick Response Code (QR Code) as a matrix barcode (two-dimensional code) that can be read by QR barcode readers and camera phones. QR Codes are similar to barcodes used in retail to track inventory. In fact, the QR Code can accommodate thousands of alphanumeric characters (up to 4,000 characters all in one code), making it a useful tool for any organization. The code usually consists of black modules arranged in a square pattern on a white background.

Payments can be made easy as part of the services offered by companies. This is an important consideration to continue to develop so that consumers feel comfortable in making transactions and come back as loyal consumers. This method is one used by companies to increase sales and profits. Profits (Gain) are an increase in net asset capital originating from a side transaction or a transaction that rarely occurs from a business entity and from all other transactions or events that affect the business entity during a period except those arising from revenue or investment by the owner (Shatu, 2016). In another opinion, stated by Soegoto (2009), profits are the results obtained by employers for investment funds, time and risks that may arise in building, developing and advancing a company.

The marketing concept states that achieving organizational goals depends on how capable a company is at understanding the needs and desires of the target market and how capable they are at fulfilling them, more effectively and efficiently than their competitors (Simamora, 2003). Barata (2018), argues that excellent service is a priority for customers as providing the best service facilitates the ease of meeting customer needs and realizing satisfaction, so that they are always loyal to the organization / company. Kusumawati (2018) explains, that the marketing concept in general, and customer orientation in particular, has a strong disposition and plays a major role in guiding the way organizations operate for several decades and has contributed to increasing profitability.

In general, good service quality will make consumers feel comfortable in making transactions. Good service is given, besides aiming to make consumers feel satisfied and



foster consumer interest to come again, so that the company's sales increase and so do the profits.

Conclusions and Suggestions

An effective and efficient payment system one form of service provided to consumers so that they can easily make payments. The Quick Response Code / QR Code can accommodate thousands of alphanumeric characters (up to 4,000 characters all in one code), making them a useful tool for any organization. This payment system is an opportunity for companies to expand their business so that consumers are more comfortable and payment transactions are easy. If the services provided to customers meet expectations, it will create comfort in using the services of the company, so that customers will come back and will likely recommend the company, which in turn will increase sales and profits.

Suggestions for this research it is expected that in the future more companies will use the payment system using the QR Code feature.

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