



# Building Customer Loyalty In Digital Transaction Using QR Code: Quick Response Code Indonesian Standard (QRIS)

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## Abstract

**Purpose:** Increasing advancements in the technology industry are forcing people to become more accustomed to digital financial transaction activities. The need for fast and secure payment mechanisms has birthing new idea to digital financial transaction services. Along with increasing access to technology in digital payments, new service is developed in the form of digital wallets as the successor for electronic money. **Research design, data and methodology:** This research aims to find out whether using QR code as digital payment tool can build customer loyalty in consumers, especially to measure the factors of satisfaction, trust and commitment of customers to do payments with QR Codes. The QR code in this study is refer to the Quick Response Code Indonesian Standard (QRIS) which was officially implemented by Bank Indonesia starting on January 1, 2020 as a means of payment for digital transactions nationally. The research method uses a quantitative approach by way of surveying questionnaires using Likert scale of 100 samples. **Results:** The hypothesis analysis proved that the variables of satisfaction, trust and commitment together have positive and significant influences on customer loyalty. **Conclusion:** This research found that there are high interest in Millennials to do transaction using QRIS because it is deemed to be more easy, quick and safe. If a customer achieves a level of loyalty in the usage of digital transaction using QRIS then cashless society lifestyle can be considered successful and can be used in the future.

**Keywords :** Satisfaction, Customer Loyalty, Digital Transaction, Quick Response Code, Trust, Commitment, Consumer Behaviour.

**JEL Classification Code:** B16, E71, F69

## 1. Introduction

In this digital era, Indonesia has a potential to become a significant consumer in the global market share Indonesia, therefore Indonesia has potential to become powerhouse in the world's digital economy.

Increasing advancements in the technology industry are forcing people to become more accustomed to financial transaction activities digitally, one of which is in making

payment transactions through payment gateways. Before the development of the industry in the field of financial technology as it is today, the world of electronic commerce (e-commerce) has been born and developed first. The need for fast and secure payment mechanisms has birthing new idea of digital financial transaction services. Along with increasing access to technology in digital payments, there has been a new service in the form of digital wallet as the successor to electronic money. This digital wallet allows

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users to store a certain amount of funds in the application that can be accessed through a smartphone. In Indonesia there are several digital wallet applications that are popular among the public, such as DANA, OVO, GOPAY, LinkAja!, and many others. The advantages of paying using this digital wallet lie in its practicality, convenience and security. The payment mechanism is only done with a few simple stages until finally the transaction is declared successful and the proof of the transaction is automatically sent into the consumer's email or recorded in the history.

The phenomenon is mapped by Bank Indonesia as the holder of the National Payment Gate (GPN) regulation, so that a system which can be integrated with various instruments and payment channels nationally is needed. To ensure all system and channels integrated, Bank Indonesia established a standardize QR code payment to facilitate digital payments in Indonesia, namely QRIS (Quick Response Indonesian Standard). In addition to being used in e-wallet, QRIS also can be used in e-banking application. QRIS is a QR code developed by the joint regulator of the Indonesian Payment Systems Association (ASPI), which aims to securely streamline digital payment systems, encourage government efficiency, and accelerate digital financial inclusion. QRIS is a QR code provided for all types of digital payment transactions. QRIS was launched at Bank Indonesia Headquarters and simultaneously conducted at Bank Indonesia representative offices in the region on August 17, 2019 to coincide with the 74<sup>th</sup> anniversary of the Republic of Indonesia. QRIS implementation as stated in the provisions, must be used from January 1, 2020 in every digital payment transaction in Indonesia facilitated by QR code.

This research aims to find out whether using QR code as digital payment tool can build customer loyalty in consumers to always use QRIS in digital payment transaction that suits customer needs, by looking at the factors obtained by customers when making transactions, namely the satisfaction factor in transacting, customer trust and commitment to digital transactions with QRIS (Quick Response Code Indonesian Standard).

The customer's desire for always using QRIS as a means for making payment is indicated in behavioral intention theory. Behavioral intention is the behavior of consumers who are loyal so they willing to give recommendation to others because they have received good services from the company (Armstrong & Kotler, 2015). Behavioral intention is a condition in which customers have an intention or attitude loyal to the brand, product and company and willingly tell their superiority to others. Behavioral intention determines the possibility of consumers will take certain actions in the future (Namkung & Jang, 2007).

Behavioral intention to use is the tendency of behavior to stick with technology. The level of use of a technology can

be seen from the user's attitude towards the technology such as motivation to keep using and the desire to motivate other users. Suebtimrat and Vonguai (2021) stated that in the context of mobile payments, behavioral intent refers to the probability of a user's willingness to make mobile payments. This finding is also supported by Saha and Theingi (2009), that conceptualize mobile payment behavior intentions as the user's probability of performing certain behavioral actions. Therefore, this study focused on the possibility of a user's willingness to continue using QR code payment systems.

Customer loyalty according to Griffin (2006) is a customer who will make repeated purchases, refer to others, buy between product lines and services and show immunity to attraction from competitors. The importance of customer loyalty in marketing is absolute. A loyal customer will be a very valuable asset to the company. In addition, loyal customers will provide positive feedback to the company selling the product. Loyal customers will be insensitive to prices, make repeat purchases and become advocates to colleagues (Logahan & Putri, 2013).

In this study there is a communication process that is essentially the process of conveying thoughts or feelings by someone (communicator) to others (communicant). Hovland, Lumsdaine, and Sheffield (2014) defined communication science as a systematic effort to formulate rigidly the principles of information delivery as well as the formation of opinions and attitudes. Hovland, Lumsdaine and Sheffield (2014) definition shows that the object of communication science studies is not only the delivery of information, but also the formation of public opinion and public attitudes which in social life and political life play a very important role. The formation of public attitudes can be the emergence of one's loyalty to a retail business (Logahan & Putri, 2013).

In this condition, the communicator which is the Government of Indonesia as the organizer of the company that created the QRIS program that is sold to the communicant, namely the Indonesian public audience to always be used in every digital payment transaction without a touch screen, which aims to facilitate payment transactions for buyers and sellers.

Perception is the process of capturing information of objects – social objects and events – events experienced by humans in their environment, namely (1) the perpetrator of perception, interpretations carried out by individuals who are influenced by the personality of the individual; (2) targets and objects, the tendency of individuals to group adjacent objects or objects; (3) Situations, elements of the environment around the individual. These three factors that will shape the perception of the individual in making a decision action. Positive individual perceptions can improve consumer behavioral intentions such as purchase intentions and positive word-of-mouth (Purwianti & Tio, 2017).

## 2. Literature Review

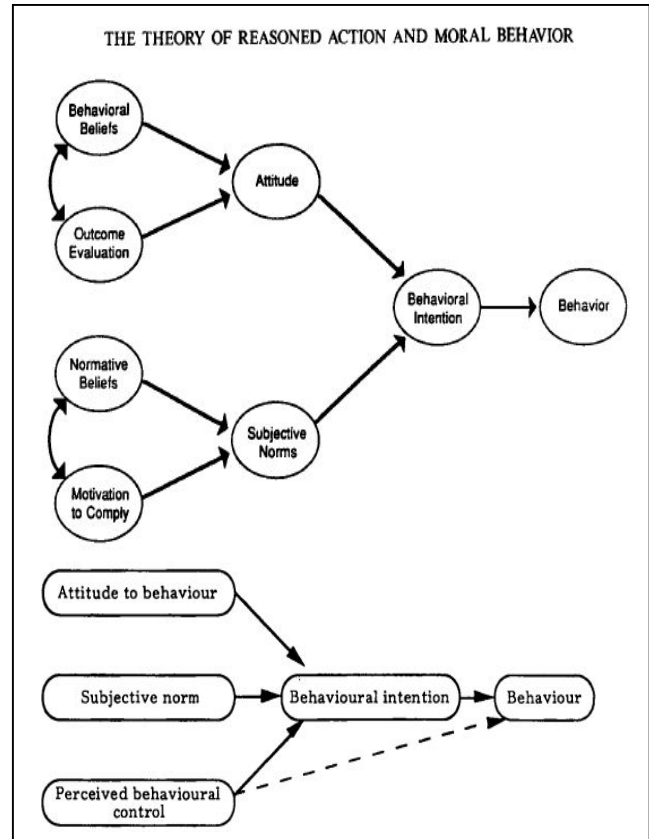
### 2.1. The Technology of Acceptance Model (TAM)

The Technology Acceptance Model (TAM) has become a popular theoretical foundation for the studying consumer adoption of new technologies. TAM explains that consumers form a favorable attitude towards a new technology and adopt it when they find it useful and easy to use. However, TAM focuses on the utilitarian motives (e.g., perceived usability and perceived ease of use) of consumer technology adoption in work-related settings and avoids explaining individual consumers' motivations toward technology adoption in everyday life. Many consumers consider shopping an integral part of everyday life and mobile phones as the devices they use every day. Previous studies have shown that non-utilitarian and utilitarian aspects of using mobile technology are likely to influence consumer adoption decisions (Ryu & Murdock, 2013).

Among the classical theories explaining human behavior in relation to the adoption of new technologies are the Theory of Reasoned Action (TRA) developed by Vallerand et al. (1992) and the Theory of Planned Behavior by Ajzen (1991). Both have been widely used as the primary theoretical framework for understanding and explaining the adoption behavior and use of various information systems. TRA and Theory of Planned Behavior explain that an individual's desire to adopt a new innovation is determined by behavioral attitudes and subjective norms, which are shaped by a person's behavioral beliefs and normative (Davis, 1989). Which then developed into TAM. TAM shows that the usefulness and ease of use felt by a person are factors that determine attitudes towards the use of certain technologies, and consequently determine the purpose of their use, where in the end the technology is used (Liébana-Cabanillas, Ramos de Luna, & Montoro-Rios, 2015).

According to Davis (1989) the perception of expediency as a belief in expediency is the level to which users believe that the use of technology or systems will improve their performance at work. A system that is high in the benefits felt by its users is one that users believe will provide a positive usage performance relationship. Perceived usefulness is defined as the degree to which a person believes that using a particular system will improve his or her job performance (Nikou & Economides, 2017). Perceived usefulness has a direct and an indirect effect on behavioral intention. This means that the consumer will be less likely to use technology if they considers technology to be a useful and meaningful way to work more effectively (Wong, Osman, Goh, & Rahmat, 2013).

There are many variables affecting consumer decision to either accept or reject information technology system usage. First, people tend to use or do not use apps to the extent that



**Figure 1 :** The Theory of Reasoned Action (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992) and Theory of Planned Behavior (Parker & Manstead, 1995)

they believe it will help them do their job better. We call this first variable a perceived usefulness. Second, even if a potential user believes that a given system is useful, they may, at the same time, believe that the system is too difficult and the benefits from using said system weighed by the numbers attempt to use it. That is, in addition in terms of usability, the use of pressurized to be influenced by the felt of ease of use. Perceived ease of use, by contrast, refers to “the degree to which one believes that using a particular system will be free of effort.” This follows from the definition of “ease”: “freedom from great difficulty or effort.” Therefore, applications that are considered easier to use than others are more likely to be accepted by users (Davis, 1989).

### 2.2. Diffusion Innovation Theory

Diffusion innovation theory is the theory about how new idea and technology is spread across cultures. This theory was popularized by Everett Rogers in 1964 through his book diffusion of innovation, which defines it as the process by which an innovation is communicated through various channels and a specific period of time in a social system.

Innovation is an idea, practice or object that is considered new by humans or other units of adoption.

This theory believes that an innovation diffuses throughout society in a predictable pattern. Some groups of people will adopt an innovation as soon as they hear of it, while some other groups take a long time to then adopt it. When an innovation is widely adopted by a number of people, it is said to explode. Rogers (1964) collected data from various empirical studies to show that when new technology innovations were introduced, they went through a series of stages before being widely adopted. First, most people become aware of them, often through information from the mass media. Second, innovation will be adopted by a very small group of innovators, or early adopters. Third, opinion leaders learn from early adopters and then try the innovation themselves. Fourth, if opinion leaders find innovation useful, they encourage their friends—opinion followers (Baran & Davis, 2011).

Rogers, Singhal, and Quinlan (2019) argue that the theory of diffusion of innovation in the process has 4 (four) stages, namely (1) Knowledge, individual awareness of innovation and a certain understanding of how innovation works. (2) Persuasion, individuals form an attitude of agreement or disapproval towards innovation. (3) Decisions, individuals engage in activities that lead to the choice to accept or reject innovation. (4) Confirmation, the individual seeks strengthening (support) for the decision he has made but he may reverse the decision if he obtains the contents of the contrary statement.

In the process of diffusion of innovation (Littlejohn, Foss, & Oetzel, 2012) Rogers connects deployment with a process of social change consisting of discovery, dissemination (communication), and the result of such changes can occur internally from within a group or externally through contact with outside change agents. In the spread of innovation it takes a long time to spread a thought. Rogers actually states that one of the goals of spread research is to find ways to shorten this slowness. When defined, an innovation will have both functional and dysfunctional consequences, direct or indirect, real or hidden. Change agents usually expect their influence to be immediate, functional and real, although such positive results are not always the case. In communication the main time is related to the process of adoption of innovation (new things / values). This is very relevant both in developing communities and advanced communities. Conditions of social and technological change in society give birth to needs that can replace old methods with new methods. Based on this explanation that in the theory of diffusion innovation requires the existence of a certain innovation needed by the community.

Rogers (1964) suggests five important attributes of innovation that influence innovation diffusion. An innovation perceived by the recipient as having greater

relative advantages, compatibility, observation, and trial-ability, and a lack of complexity will be adopted faster than any other innovation. Innovation is an idea, work or object that is considered new by a person. The characteristics of innovation felt by the members of a social system determine the level of adoption is (1) Relative advantage, is a degree where innovation is felt better than other ideas that replace it, the degree of relative profit can be measured economically, but the factor of social achievement, comfort and satisfaction is also an important element. (2) Compatibility, a degree in which innovation is perceived to be consistent with the prevailing values, experiences and needs of those who adopt. (3) Complexity, the quality of the degree to which innovation is felt difficult to understand and use. (4) Trial-ability, the degree to which innovation is experimented on a limited foundation. (5) Observability (observed possibility), the degree to which innovation can be witnessed by others (Lou, Tian, & Koh, 2017).

### **2.3. Customer Loyalty**

Loyalty according to Kotler (2012) “Is a deeply held commitment to rebuy or re-patronize a prefer product or service in the future despite situational influences and marketing effort having the potential to cause switching behavior.” That is, as a deeply held commitment to buy or support back a preferred product or service in the future even though the influence of the situation and marketing efforts has the potential to cause customers to switch.

According to Gremler and Brown (1996) customer loyalty refers to customers who not only repurchase goods and services, but also has a commitment and positive attitude towards the service company, for example by recommending others to buy the product. Jill (1997) argues that loyal customers are customers who are so satisfied with a particular product or service that they have the enthusiasm to introduce them to anyone they know. A loyal customer has specific preconceptions about what to buy and from whom. In addition, loyalty indicates the condition of the duration of time and requires that the action will be less. Decision making shows that the decision to buy may be made by more than one person. In such cases, a purchasing decision can indicate a person's compromise in the unit and may explain why they sometimes tidally loyal to the product or services that they likes best.

In contrast to customer satisfaction that has more to do with attitude, customer loyalty is based on behavior; Customer loyalty is referred to as a nonrandom purchase disclosed from time by multiple decision-making units. Two conditions related to loyalty are customer retention and total customer share. Ideally, the buying behavior of a loyal customer reflects both of these conditions. The pursuit of market share can erode a company's profitability and shift the company's focus away from its most profitable customers.

Loyalty is the result of devoting attention to what needs to be done to retain customers and then continuously doing it. Increased customer loyalty leads to higher profitability, higher employee retention, and a more stable financial base (Griffin, 2006).

## 2.4. Satisfaction

The existence of repeated purchasing responses to a brand is believed to occur through the achievement of an expectation and performance felt by consumers in accordance with their expectations. The resulting satisfaction/dissatisfaction is considered to act as antecedent to loyalty. These are viewed as emotions that differ from cognitive judgment or attitudes, arising from previous direct experience, and independent of cognitive mediation (Dick & Basu, 1994).

Satisfaction refers to the level of cognitive evaluation or effectiveness on the purchase and use of a product or service. Customers are satisfied when their demands are met. As a result, customers always continue to buy and use the same product or service. When a customer is satisfied, it can be the result of an emotional response based on his or her experience of purchasing and using a product/service, or a cognitive evaluation between the level of expectation and actual experience. Customer satisfaction refers to the overall evaluation of a customer's of a company. Customer satisfaction with the use of a digital device is greatly influenced by the level of satisfaction they have with the attributes of the device and their evaluation when using the device. In this case, the satisfaction expected by QR code user customers (QRIS) as a means of payment for daily transactions is realized if the QR code device can provide a fast response, easy to use and secure. Customer satisfaction in customer loyalty, customer loyalty refers to the consumer's commitment to buy back or continue to use the company's products/services (Dick & Basu, 1994).

Loyal customers will be very important to the company because it costs less to keep existing customers than it is to attract new customers. Having loyal customers allows the company to put premium prices. In addition, loyal customers tend to make credible recommendations to those around them. Customer satisfaction is one of the main antecedents of customer loyalty. Customers who are satisfied with QRIS use of their digital payment transactions will tend to have higher loyalty to their choice of payment method. This study showed that customer satisfaction is positively associated with customer loyalty (Kim, Wong, Chang, & Park, 2016).

There are other arguments implies that although satisfaction is a necessary condition for customer loyalty, the variable of satisfaction alone is not enough and there are other variables that mediate the relationship between satisfaction and loyalty. One such variable is trust. One research have found satisfaction to first strengthen trust and

later believed in increasing commitment (Morgan & Hunt, 1994). It is this commitment that ultimately drives customer loyalty (Agrawal, Gaur, & Narayan, 2013).

## 2.5. Trust

Trust is the defining feature of most economic and social interactions in which uncertainty is present. In short all interactions require an element of trust, especially those carried out in an uncertain e-commerce environment. Trust has long been considered a catalyst in consumer marketer relationships because it provides hope for successful transactions. For example, trust has always been an important element in influencing consumer behavior and has proven to be very important in uncertain environments, such as the context of e-commerce. Lack of trust is touted as one of the main reasons consumers are not involved in e-commerce (Pavlou, 2003).

Trust as the belief that we depend on those who will live up to our expectations about them. A number of authors suggest that building trust is an important element of long term buyer-seller relationships in the business environment. Agrawal, Gaur, and Narayan (2013) find trust to be an important factor in building firm customer relationships and ultimately in the growth of loyalty.

Trust and commitment mediate the relationship between satisfaction and loyalty. Morgan and Hunt (1994) developed a model that propose that trust and commitment are central to long-term relationship development. With trust as a precursor, customers form a commitment and be loyal to the company (Agrawal, Gaur, & Narayan, 2013).

## 2.6. Commitment

The third factor that affects customer loyalty is the customer's commitment to maintaining a valuable long-term relationship with the company. According to Morgan et al (1994) commitment comes from trust, shared values and the belief that it can be difficult to find partners who can offer the same values. Commitment encourages partners to collaborate in order to preserve investment in relationships (Morgan & Hunt, 1994). Rauyruen and Miller (2007) further define commitment as "the psychological sentiment of the mind in which attitudes regarding the continuation of relationships with business partners are formed". The reason is that without a high commitment from customers, customer loyalty cannot be built. In addition, customer commitment mediates the influence of customer satisfaction and customer loyalty. In another research, it can be predicted that if customers commit to using bank services, they are likely to make repeated purchases (Magasi, 2016).

Morgan and Hunt (1994) supports the difference between commitment and loyalty and describes commitment as an enduring desire to continue an attachment or relationship.

True loyalty implies a commitment to a brand and not just a possible buyback due to inertia or other coercion. This commitment translates into a desire to rebuild a brand (ignoring other available alternatives), then recommending the brand to others and loyalty. Based on the findings of experimental research that commits to resisting influence and change, customer commitment as a stable preference bound by a resistance to change attitude (Agrawal, Gaur, & Narayan, 2013).

Although several conceptualizations of attitudinal commitment have been used in literature, each reflects one of three common themes: affective attachment, perceived cost, and obligation, labeled as 'affective', 'calculative' and 'normative' commitments respectively. Affective commitment is a person's emotional attachment, which can be identified by involvement in an organization. Thus people with a strong affective commitment remain with the organization because they have a strong emotional attachment to the organization. Calculated commitment, sometimes referred to as continuity commitment is based on the person's recognition of the costs associated with leaving the organization. Finally, normative commitment is based on a sense of obligation to the organization. In contrast to affective and calculative commitments, normative commitment focuses on the right or moral thing to do. It concentrates on the obligations and/or moral attachments of people generated by people's socialization of organizational goals and values (Rafiq, Fulford, & Lu, 2013).

### 3. Research Methods and Materials

This research is a continuation of previous existing research related to the use of payments through QR code.

**Table 1:** Theoretical Background of Previous Studies

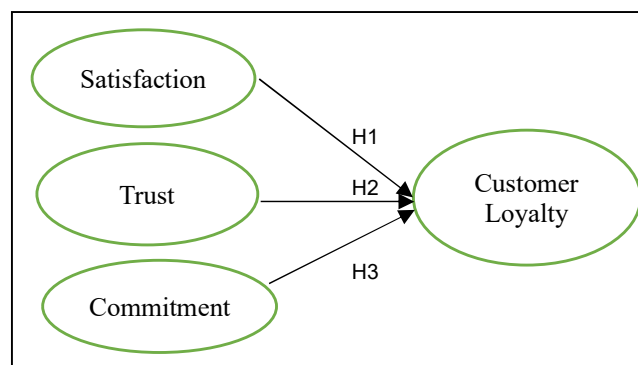
Author's	Title	Research Result
(Liébana-Cabanillas, Ramos de Luna, Momtoro-Rios, 2015)	User Behavior in QR mobile payment system; The QR Payment Acceptance Model	Attitudes, innovations and subjective norms are determinants of future intentions to use QR code technology.
(Onn & Soon, 2016)	Determinants of Mobile Commerce Customer Loyalty in Malaysia	Satisfaction, trust and commitment positively affect customer loyalty.
(Rafiq, Fulford, & Lu, 2013)	Building Customer Loyalty in Online Retailing; The Role of Relationship Quality	Customer satisfaction positively affect customer loyalty.
(Agrawal, Gaur, & Narayan, 2013)	Determining Customer Loyalty: Review and Model	There are several factors that influence the creation of customer loyalty. Satisfaction, quality, frequency of purchase, perception, value, trust and commitment.

In this study, this research used the paradigm positivism is a way of understanding the world based on science. Positivism as an empirical rational theory is a view that assumes that all that can be investigated or studied is real or empirical data. This type of explanatory research is to explain why events occur and to construct, decipher, extend or test theories (Neuman, 2011).

Researchers used a quantitative approach by surveying questionnaires on the Likert scale as a data collection tool. Quantitative approaches are a way to test objective theories by examining the relationships between variables. These variables are usually on instruments, can be measured and analyzed using statistical procedures (Creswell & Creswell, 2018).

The technique of sample withdrawal is by probability sample technique by means of Simple Random Sampling technique which is a sampling technique from members of the population that is done randomly regardless of the strata in that population so that each member of the population has an equal chance of being elected or taken (Sugiyono, 2012). Determination of the number of samples to be used in this study using the **Slovin** formula obtained by the author is a number of 100 samples.

This research analyzed whether the variables of customer satisfaction, trust and customer commitment of digital transaction users with QRIS have a positive effect on customer loyalty.



**Figure 2:** Research Framework

Based on the above frame of mind, a hypothesis test is needed to find out if there is a relationship between independent variables to dependent variables. According to Sugiyono (2012), is a hypothesis is a temporary answer to the formulation of research problems. The hypothesis can be said to be a temporary preconceived notion of the variable to be tested. Because of its alleged nature, the hypothesis should have clearer implications for the testing of the stated relationship. Therefore, this research hypothesis can be formulated as follows: Hypothesis 1 (H1): Satisfaction has a positive significant impact on customer loyalty. Hypothesis 2 (H2): Trust has a positive significant impact on customer

loyalty. Hypothesis 3 (H3): Commitment has a positive significant impact on customer loyalty.

## 4. Result

### 4.1. Validity and Reliability

A valid instrument means that the measuring instrument used to obtain the data is valid. Valid means that the instrument can be used to measure what should be measured so a validity test must be done to measure whether the questions on the questionnaire that are made correctly can measure what we will measure and the validation of the questionnaire is absolute (Sugiyono, 2012). There are two important conditions that applied to the questionnaire, namely the necessity of a questionnaire for validity and reliability. An instrument is declared valid if it is able to measure what it wants and reveal the data from the variables examined precisely. The validity test in this study used item analysis that correlates the score of each item with the sum of each item score. Every item that failed the qualification or requirement will then undergo further investigation. The requirement that must be met is to have criteria (1) If  $r \geq 0.30$  then the questionnaire question item is valid. (2) If  $r \leq 0.30$  then the questionnaire question item is invalid. The data analysis techniques in this study used multiple linear regression techniques.

**Table 2:** Variable Validity Test Result

Indicator	r <sub>tabel</sub>	r <sub>hitung</sub>	Significant α	Description
X1.1	0.30	0.852	0,000	Valid
X1.2	0.30	0.742	0,000	Valid
X1.3	0.30	0.837	0,000	Valid
X1.4	0.30	0.789	0,000	Valid
X1.5	0.30	0.833	0,000	Valid
X1.6	0.30	0.835	0,000	Valid
X2.1	0.30	0.824	0,000	Valid
X2.2	0.30	0.841	0,000	Valid
X2.3	0.30	0.869	0,000	Valid
X2.4	0.30	0.815	0,000	Valid
X2.5	0.30	0.693	0,000	Valid
X3.1	0.30	0.879	0,000	Valid
X3.2	0.30	0.817	0,000	Valid
X3.3	0.30	0.891	0,000	Valid
X3.4	0.30	0.875	0,000	Valid
X3.5	0.30	0.767	0,000	Valid
Y1	0.30	0.895	0,000	Valid
Y2	0.30	0.786	0,000	Valid
Y3	0.30	0.858	0,000	Valid
Y4	0.30	0.763	0,000	Valid

The validity test will test each of the variables used in the study with its correlation technique using Pearson Correlation.

From the result of the satisfaction, trust, commitment and customer loyalty variable validity test using SPSS against 100 respondents can be concluded that all the question items have an r-calculated of > r-table and a significance value of p-value smaller than 0.05 so that all of these statement items can be used in this study. That variable satisfaction, trust, commitment and customer loyalty are significantly valid for this research.

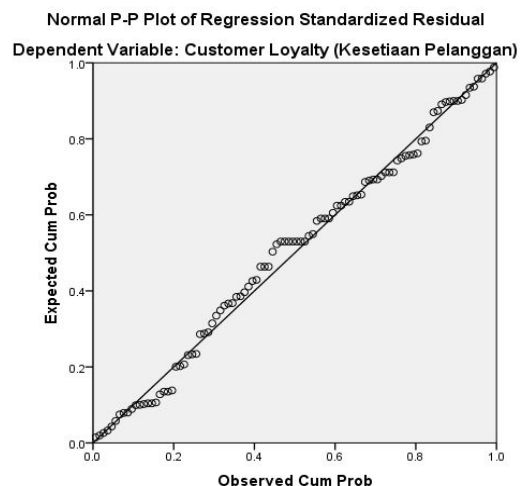
To find out the reliability level of a variable whether it is reliable or not can be seen using the Statistical Method Cronbach Alpha (α). Variables can be said to be reliable if they meet the Cronbach Alpha coefficient > 0.6. The coefficient of Cronbach Alpha values (α) is close to 1 then the reliability value of the data is increasingly reliable.

**Table 3:** Reliability Test Result

Variable	Cronbach Alpha	Reliability Standard	Description
Satisfaction	0,665	0,6	Reliable
Trust	0,662	0,6	Reliable
Commitment	0,659	0,6	Reliable
Customer Loyalty	0,796	0,6	Reliable

From the result of reliability test result table 3 all variables obtained Cronbach Alpha values of all variables of this study showed greater than the value of 0.6. Thus, proving that this research variable is reliable and can be used for future research. In this case it is explained that the answers of respondents in the questionnaire of questions distributed are appropriate to be well researched.

The data normality test in this study was viewed by paying attention to the dots on the Normal P-Plot of Regression Standardized Residual of bound variables. The normality test can also use the Kolmogorov-Smirnov method, if the significance result (Sig.) is greater than 0.05 then the data is declared normal distribution.



**Figure 3:** Normal P - Plot of Regression Standardized Residual.

From the image obtained the result that all data is distributed normally, can be seen the distribution of data around the diagonal line.

**Table 4:** One-Sample Kolmogorov–Smirnov Test

		Unstandardized Residual
N		100
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.32467723
Most Extreme Differences	Absolute	.073
	Positive	.066
	Negative	-.073
Test Statistic		.073
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

- a. Test distribution is normal
- b. Calculated from data
- c. Lilliefors Significance Correction
- d. This is a lower bound of the true significance

The normality test from the table 4 can be seen the result of the normality test obtained significance value 0.200 is greater than 0.05 so it can be stated that the distribution is normal.

#### 4.2. Hypothesis Analysis

The multiple regression tests in this study were intended to look how independent variables influences dependent variables. Using multiple linear regression methods obtained the following result at Table 5.

**Table 5:** Multiple Regression Test Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.015	1.025		.990	(Constant)
Satisfaction	.185	.068	.249	2.712	Satisfaction
Trust	.207	.064	.289	3.262	Trust
Commitment	.325	.071	.399	4.569	Commitment

Dependent variable: Customer loyalty

$$Y = a + b1 (X1) + b2 (X2) + b3 (X3) \tag{1}$$

$$Y = 1.015 + 0.185 + 0.207 + 0.325$$

For information:

Y = Dependent variable, in this case is customer loyalty.

a = Constant

b1 – b3 = Unstandardized coefficients (value of increase and decrease)

X1 – X3 = Independent Variables

From the equation multiple linear regression can be explained (1) constant = 1.015 means that if variable satisfaction, trust, commitment is considered equal to zero then variable customer loyalty has a value of 1.015. (2) The coefficient of satisfaction = 0.185 means that variable satisfaction increases by 1 unit while other variables are considered constant, then the dependent variable that is customer loyalty will increase by 0.185. (3) Trust coefficient = 0.207 means that if the variable trust increases by 1 unit while other variables are considered constant, then the customer loyalty dependent variable will increase by 0.207. (4) Commitment coefficient = 0.325 means that if the variable commitment increases by 1 unit while other variables are considered constant, then the customer loyalty dependent variable will increase by 0.325.

The t-test is performed to partially test the significance level of the influence of independent variables on dependent variables, the significance level used at 5%. Based on the table of partial test results are (1) Based on the results of the partial t-test on the regression model obtained a calculated t-value of 2,712 and a significance value (sig.) of the satisfaction variable of 0.008 < 0.05 (significance level of 5%) meaning it can be concluded that partially the satisfaction variable has a positive and significant effect on the customer loyalty variable. (2) Based on the result of the partial t – test on the regression model obtained a calculated t-value of 3.262 and a significance value (sig.) of the trust variable of 0.002 < 0.05 (significance level of 5%) meaning it can be concluded that partially the trust variable has a positive and significant effect on the customer loyalty variable. (3) Based on the results of the partial t test on the regression model obtained a calculated value of 4,569 and a significance value (sig.) commitment variable of 0.000 < 0.05 (significance level of 5%) means that partially the commitment variable has a positive and significant effect on customer loyalty.

**Table 6:** Calculate F Test (Anova)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	504.868	3	168.289	92.998	.000b
Residual	173.722	96	1.810		
Total	678.590	99			

The result of **Anova** Test is to show whether the independent variables include in the model have a shared influence on dependent variables. The test was conducted with a significance level of 5% or 0.05.

Table 6 shows that the value F calculated amounting 92.998 with a significance value of 0.000. This shows that the significance level value of 0.05 meaning that the variables satisfaction, trust and commitment together have a positive and significant influence on customer loyalty, so the hypothesis can be accepted.



**Table 7:** Result of Determination Coefficient R Square (R<sup>2</sup>)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863 <sup>a</sup>	.744	.736	1.345

Predictors:(constant), Satisfaction, Trust, Commitment

The coefficient of determination is indicated by the adjust value R square (R<sup>2</sup>) of the regression model is used to determine the magnitude of variability of dependent variables that can be explained by their free variables.

The R square coefficient of determination means that as the influence exerted by the independent variable (X) on the dependent variable (Y), the R square coefficient value is used to see how much influence the independent variable simultaneously has on the dependent variable. The requirement that must be met in order for us to interpret the value of the coefficient of determination is the result of the F test in the analysis of significant multiple linear regressions thus there is a significant influence on independent variables simultaneously on dependent variables. For this study the authors used the adjusted coefficient of R square versus R square. If regression uses more than two free variables adjusted R square as the coefficient of determination.

Table 7 shows that the adjust value of R square is 0.736 which means that the variability of customer loyalty variables that can be explained by variable satisfaction, trust and commitment is 73.6%. The remaining 26.4% was explained by other factors not included in the study. Based on these conclusions, the regression model obtained proved to be correct and worthy of use for future research.

## 5. Discussion

The results from the correspondents' questionnaire the percentage rate of QRIS users is 30% between the ages of 17 years to 25 years, 40% between the ages of 26 and 40 and 29% between the ages of 41 and 56. So it can be concluded that QRIS users in this study are millennials.

QRIS is innovation that can make payments quicker if being compared to other digital payments, with QRIS it will not take more than a minute to make a payment. This research examines how the level of customer acceptance and satisfaction with QRIS can create customer loyalty to QRIS users for future usage and integration with the increasing digital environment, such as e-commerce transactions.

From these descriptions it can be concluded that customer loyalty is an attitude that encourages behavior to make purchases of goods or services from a company, especially those that buy regularly and repeatedly with high consistency and customer willingness to continue to subscribe to a company in the long run. Customer loyalty in the use of digital transactions with QR codes can be created

if the customer or consumer already feels comfortable and easy in using this QR code transaction so that customers will use it in the long term and will invite his environment to participate in using this QR code transaction. The commitment factor influences customer loyalty to maintain a valuable long-term relationship by always using QRIS as a customer's digital payment tool. Commitment comes from a sense of trust in a product offered. Customer commitment mediates the influence of customer satisfaction and customer loyalty, that if customers commit to using banking services they are less likely to make repeat purchases (Magasi, 2016).

## 6. Conclusion

This research concluded that millennials are the highest percentage users for QR code digital transaction easily, quickly and safely. The implementation of QRIS as a QR code-based digital payment tool that has been in force since the beginning of 2020 is a solution to conduct consumer protection and efforts to create a cashless society as an embodiment of the National Non-Cash Movement which is currently being carried out by the government with Bank Indonesia.

There are three independent variables that are predicted to affect customer loyalty levels in using QR code (QRIS) in making digital payments without a touch screen, namely satisfaction factor, trust factor and commitment factor.

Satisfaction obtained by consumers in transacting digitally using QR codes can be categorized into a sense of comfort, satisfied and ease when doing transaction. QR code system performance function that runs well and speed in making transactions are also some important factors for consumers so that digital payments using QR codes can meet consumer needs in accordance with their expectations. Factors that influence consumer confidence to use QR code are is the sense of security and privacy so that no other party can take their personal data because transactions are done by consumers themselves without any intermediaries. Another factor for consumer commitment in using QR code as a digital payment is that consumers are confident in the reliability of this QR code system to make digital payments well, with this belief, consumers will always use QR code as a digital payment tool in the long term.

Many benefits obtained by consumers in making digital payments with QR codes, namely transactions completed in less than a minute, fast and accurate. With QR code transactions are carried out by scanning QR code with smart phone owned by consumers there is no exchange of data or payment card that is usually given to the store where the transaction provides an opportunity for theft of consumer credential data by unauthorized parties and the transaction time used is at least five to ten minutes in the payment process.

In order for the use of electronic money can be felt the benefits, the government should do the following things, namely (1) expand the network that allows this QRIS-based electronic money can be used anywhere, not only in large cities but in remote areas though; (2) educate the wider community so that the public can be informed about this QRIS product and understand this product well; (3) minimize system errors so as to create a sense of security in the use of QRIS.

This study has important practical implications for influencing the buying behavior of online retail consumers. Retailers must recognize that consumer trust and risk are a tremendous barrier to making payment transactions digitally. It provides practical guidelines on how retailers with digital payments can build trust and positively influence consumer intentions and actions. Retailers with digital transactions can use multiple trust-making mechanisms to create favorable consumer attitude preferences and key transaction behaviors. So consumers will always choose to make payments digitally as opposed to making payments with cash.

In this research have several limitations. First, this research made in Indonesia and might be could not applicate in other region. Second, this research does not calculated qualitative aspect such as geography influencers, cultures and local cultures in order to build customer loyalty. Third, this research only apply for digital transaction and might be would not have relevancy with QR code for direct transaction.

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