DIJEFA: Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455

DOI: https://doi.org/10.38035/dijefa.v6i1.4023
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Received: 11 January 2025 | **Revised:** 20 February 2025 | **Accepted:** 01 March 2025

The Implementation of Theory of Planned Behavior towards Intention of Using Quick Response Code Indonesian Standart among Students

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Abstract: Technology continues to evolve, demanding society to adapt to its advancements, particularly in payment methods where cashless transactions are increasingly prevalent. One such cashless payment method is QRIS (Quick Response Code Indonesian Standard), which aims to facilitate transactions between consumers and merchants for greater convenience. A primary target of this method is Generation Z, specifically university students. It is crucial for sellers to understand students' interest in adopting QRIS as a payment method. To achieve this goal, this study employed a questionnaire distributed randomly among a population of university students in Surakarta, with a sample size of 100 respondents. Data analysis was conducted using SmartPLS, and the results indicate that subjective norms have no effect on the intention to use QRIS, while other variables within the Theory of Planned Behavior (TPB) show a positive influence when mediated by trust in QRIS.

Keywords: Theory of Planned Behavior, Intention to Use, QRIS.

INTRODUCTION

In the digital era, electronic payments are increasingly dominant. Digital payment technology continues to evolve in parallel with technological advancements and shifts in consumer behavior. In recent years, Indonesia has seen a significant increase in the adoption of digital payment technology, driven by government support, financial institutions, and the growing familiarity of the public with cashless transactions. According to Bank Indonesia (2019), QR codes contain data such as seller or user ID, payment amount, and currency, readable by specific devices for payment transactions. QR code payments enable cashless transfers by simply scanning the QR code (Sagayarani, 2017; Arianti et al., 2019). With various types of QR codes from different providers, there was a risk of fragmentation, which led Bank Indonesia and the Indonesian Payment System Association to develop the Quick Response Indonesian Standard (QRIS) to standardize all QR code-based cashless payments.

QRIS (Quick Response Code Indonesian Standard) is a technology designed to facilitate quick and efficient digital payments. QRIS-based electronic payment systems have been recognized for their efficiency across various aspects (Manurung & Lestari, 2020). In the past, cash transactions were the predominant norm in Indonesia; however, with the advent of digital payment technologies, especially platforms like mobile banking, e-wallets, and QRIS, this paradigm has shifted significantly. QRIS has emerged as a key innovation that drives this transformation by enabling fast, secure, and efficient transactions.

The adoption of QRIS plays a critical role in supporting an inclusive and efficient digital economy in Indonesia. QRIS allows businesses, including small merchants, to accept cashless payments easily without requiring significant investment in payment infrastructure. For university students, a group that tends to be active in technology usage, their role in adopting digital payment technology, including QRIS, is particularly important. Students often act as early adopters of new technologies, and their attitudes and behaviors provide valuable insights into the broader adoption trends of digital payment technologies in society.

Understanding the context of digital payment technology, including QRIS, goes beyond analyzing market trends or technological advances. It also involves examining behavioral changes, consumer preferences, and other factors influencing the adoption of digital payment technology at both individual and societal levels. In the context of QRIS, understanding the factors that influence user interest—especially among university students—is crucial. By identifying the factors that drive or hinder user interest, stakeholders can develop more effective strategies to promote QRIS usage. The Theory of Planned Behavior (TPB) is a relevant framework for understanding consumer behavior regarding technology acceptance and use. This theory posits that behavior is influenced by individuals' intentions, which are shaped by attitudes toward the behavior, subjective norms (the opinions of influential others), and perceived behavioral control (individuals' perceptions of their ability to control the behavior). University students, as a significant segment of society, represent an intriguing research population due to their familiarity with technology.

Literature review

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a frequently applied framework for analyzing human behavior. TPB was developed as an extension of the Theory of Reasoned Action (TRA), initially introduced by Fishbein and Ajzen in 1975. This theory is widely used to predict consumer intentions and behaviors across various fields, including technology adoption (Azizah et al., 2022). As Sheppard et al. (1988) noted, TPB is applicable for predicting individual intentions on a broad range of issues, particularly those involving adaptation to new technologies. This theory has also influenced the development of other models, such as the Technology Acceptance Model (TAM), which was designed to analyze factors influencing technology acceptance, especially in the context of computer systems. Like TRA, TPB, and TAM are essential for examining attitudes toward technology, as these models provide insight into how individuals' perceptions and judgments affect their behavior toward new technologies (Scherer et al., 2018).

According to Saputra (2019), TPB operates on the assumption that humans are rational beings who use available information systematically. Before performing an action, individuals consider the implications or purpose of that action. Indrayanti and Iskandar (2020) further explain that an individual’s behavior is not solely a personal choice but is also influenced by external factors that may motivate them to act in a particular way.

In TPB, behavioral intention is influenced by three core components: attitude, subjective norms, and perceived behavioral control. The first component, attitude, refers to an individual's initial reaction or evaluation of whether or not to engage in a specific behavior. When

individuals have a favorable attitude towards an action, they are more likely to develop an intention to perform it. The second component, subjective norm, involves the influence of one's social environment, including family, friends, and peers, who may support or discourage certain actions. This social factor shapes individuals' intentions by affecting their perceived expectations of how others view the behavior. The third component, perceived behavioral control, represents the individual's confidence in their ability to perform the behavior, encompassing the belief in their capacity to control the behavior based on personal skills or resources.

These three factors collectively provide a comprehensive approach to understanding the motivations behind individual behaviors, particularly in areas such as technology adoption. By analyzing attitudes, social influences, and perceived behavioral control, the TPB framework enables researchers to predict behavior with greater accuracy, providing valuable insights for stakeholders aiming to promote new technology adoption.

Attitude

Attitude is an individual's evaluation, which can be either positive or negative. The determinants of attitude include beliefs about the outcomes or benefits that may be obtained in the future as a consequence of actions taken. If an individual has a positive attitude toward a behavior, there is a higher likelihood of developing a positive interest in adopting that behavior. Conversely, a negative attitude may lead to reluctance to engage in the behavior (Ngo, 2022).

According to Saputra (2019), attitude refers to an individual's intention toward a specific behavior. Meanwhile, Idrayanti & Iskandar (2020) define attitude as the beliefs that guide individuals to act according to what they observe. From this explanation, it can be understood that attitude represents the initial response of an individual in seeking information related to the behavior they intend to perform.

Subjective Norms

Subjective norms encompass social pressures that encourage or discourage an individual from engaging in a particular behavior. Also known as normative beliefs, subjective norms are the belief that the actions taken by an individual are supported by those close to them. Close individuals, such as family, coworkers, partners, and friends, have a significant potential to influence one's behavior (Ngo, 2022).

Saputra (2019) explains that subjective norms result from the expectations perceived by an individual when one or more people in their environment (friends, family, supervisors, partners, etc.) approve of certain behaviors and motivate the individual to follow these directions. Meanwhile, according to Indrayanti & Iskandar (2020), subjective norms reflect the beliefs of an individual that are influenced by external encouragement from their surroundings, including family, friends, partners, and so on.

Overall, it can be concluded that subjective norms are environmental influences that can either support or oppose an individual in performing a particular behavior.

Perceived Behavioral Control

Perceived behavioral control encompasses an individual's view of how easy or complex it is to perform a particular behavior, reflecting past experiences. This perception is influenced by beliefs about control, which refer to the belief that an individual can perform an action due to the availability of necessary resources. Two main factors that measure control beliefs are action control and access control. This theory assumes that perceived behavioral control considers factors such as the availability of information, skills, opportunities, and required resources, as well as potential barriers or obstacles that need to be overcome. In other words, the greater the resources and opportunities an individual believes they have, and the fewer

obstacles or barriers they anticipate, the stronger the perceived control over the behavior (Ngo, 2022).

Saputra (2019) explains that perceived behavioral control reflects an individual's view of their ability to perform a particular behavior. Meanwhile, according to Indrayanti & Iskandar (2020), perceived behavioral control describes an individual's ability to express the level of effort they are willing to invest in carrying out a behavior. From this explanation, it can be understood that perceived behavioral control is an individual's belief in their ability to either perform or refrain from performing a particular behavior.

Online Trust

Customer online trust refers to all the information possessed by customers and all the conclusions they draw about a product, its features, and benefits. Based on research from Rachmawati et al., (2016), the more important they believe that product sellers on online platforms are, the more likely they are to make purchases through e-commerce. When consumers choose to shop online, trust is a critical factor. They believe that if they trust online sellers, they will be more motivated and likely to make transactions online. The object can be a product, person, company, or anything that is believed and perceived by an individual, for this research the object is QRIS system. Attributes are the qualities or characteristics that an object can have to make the customer trust about the object (Moven and Michael, 2014). Two categories of attributes identified are (Husein, 2015):

1. Intrinsic attributes refer to anything related to the actual characteristics of the product.
2. Extrinsic attributes refer to anything that can be obtained from the external features of a product, such as the product name, packaging, and label.

Therefore, the hypothesis for this research are:

H1: Attitude toward behavior has positive influence toward online trust
H2: Subjective norm has positive influence toward online trust
H3: Perceived behavior control has positive influence toward online trust
H4: Online trust has positive influence toward online purchase intention
H5: Perceived behavior control has positive influence toward online purchase intention

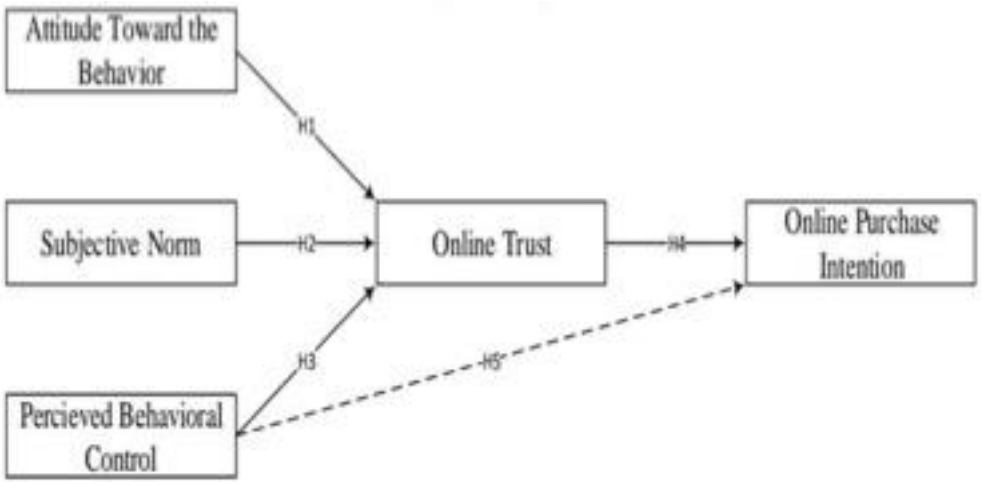


Figure 1. Research Framework

METHOD

The method used in this study is quantitative descriptive analysis, which is a problem-solving procedure that describes or depicts the condition of the research object in the past and present, in accordance with the facts obtained in the field. The descriptive method focuses on discovering facts as they actually are (Sarwono, 2006).

The population of this study consists of all students in Surakarta. We employed quota sampling from the five largest universities in Surakarta as a representation of the entire student population in the city. These five universities are Universitas Sebelas Maret, Universitas Muhammadiyah Surakarta, Institut Seni Indonesia Surakarta, Universitas Slamet Riyadi, and Universitas Tunas Pembangunan. Total research sample is 100 respondents using selected sample from each location by 20 respondents. The respondents filled out a questionnaire via Google Forms, which was then analyzed using PLS.

RESULT AND DISCUSSION

This discussion aims to examine how this theory is applied in the context of QRIS use among students in Surakarta. The Theory of Planned Behavior, developed by Ajzen, offers a framework for understanding a person's intention in making decisions, including in the use of new technologies such as QRIS. In this chapter, the results of the data analysis obtained from a survey of students in Surakarta will be discussed, focusing on the factors that influence their interest in using QRIS as a digital payment tool. The respondents in this study were students domiciled in Surakarta, randomly selected from several universities in the city. Of the total respondents involved, there was a balanced proportion between genders, namely 50% male and 50% female. This balanced selection of respondents was carried out to ensure that the research results could reflect the views and interests of both gender groups evenly, without any bias that was too biased towards one party.

Table. 1 Outer Loading Result

Variables	Indicators	Outer Loading Value	Value
Attitude toward behavior	Att. 1	0,791	Valid
	Att. 2	0,894	Valid
	Att. 3	0,876	Valid
	Att. 4	0,836	Valid
	Att. 5	0,768	Valid
Online purchase intention	Onp 1	0,94	Valid
	Onp 2	0,918	Valid
Online trust	Ot 1	0,942	Valid
	Ot 2	0,923	Valid
Perceived behavioral control	P1	0,717	Valid
	P2	0,81	Valid
	P3	0,832	Valid
	P4	0,894	Valid
	P5	0,849	Valid
Subjective norm	SN1	0,852	Valid
	SN2	0,888	Valid
	SN3	0,853	Valid
	SN4	0,79	Valid

The average age of respondents was 20 to 22 years, which is the age range of active students in higher education. This age was chosen because it is considered to represent the segment of the population that is most likely to be open to adopting new technologies, such as QRIS. Students in this age range generally already have a good level of understanding of technology and financial independence, so they are a relevant group to study regarding interest in using digital payment tools. The lifestyle of today's students is closely related to the use of digital technology in various aspects of life, including in financial transactions. With QRIS, students can make payments quickly and easily just through their mobile phones, without having to carry cash or credit cards. QRIS is also widely used in transactions on campus, such

as buying food in the canteen, paying for parking, or even in student organization activities. The convenience and speed offered by QRIS are in line with the lifestyle of students who tend to be practical and efficient, especially in carrying out busy daily activities. The use of QRIS is also considered a symbol of adaptation to modern technology, which increasingly integrates digital aspects into students' lives.

Data collected from this study shows that the use of QRIS among students in Surakarta is quite significant. Around 70% of respondents stated that they had used QRIS at least once in the past month. QRIS use occurs most often in places that students usually visit, such as cafes, bookstores, and minimarkets around campus. In addition, around 60% of respondents stated that they prefer QRIS over other payment methods because of its ease of use and integration with their mobile banking applications.

Table. 2 Reliability Result

Variables	*Cronbach alpha*	*Composite Reliability*	*Result*
Attitude toward behavior	0,89	0,919	Reliable
Online purchase intention	0,842	0,927	Reliable
Online trust	0,852	0,931	Reliable
Perceived behavioral control	0,879	0,912	Reliable
Subjective norm	0,869	0,91	Reliable

These statistics show that QRIS has become an important part of the daily lives of students in Surakarta, reflecting a broader trend in the adoption of digital technology in Indonesia. The study also found that the adoption rate of QRIS was higher among students who were more often involved in off-campus activities, such as working part-time or being active in student organizations, which require fast and practical transactions. This data strengthens the understanding that QRIS is not only seen as a payment tool, but also as an important element in supporting a modern and dynamic lifestyle among students. Based on the Theory of Planned Behavior, there are three main factors that influence students' intention to use QRIS, namely attitude, subjective norms, and perceived behavioral control. First, a positive attitude towards QRIS is formed because students feel significant benefits from its use, such as ease and speed of transactions, which is in line with their need for efficiency in daily activities. QRIS is also considered more practical than traditional payment methods, which encourages them to choose QRIS more often in various transactions.

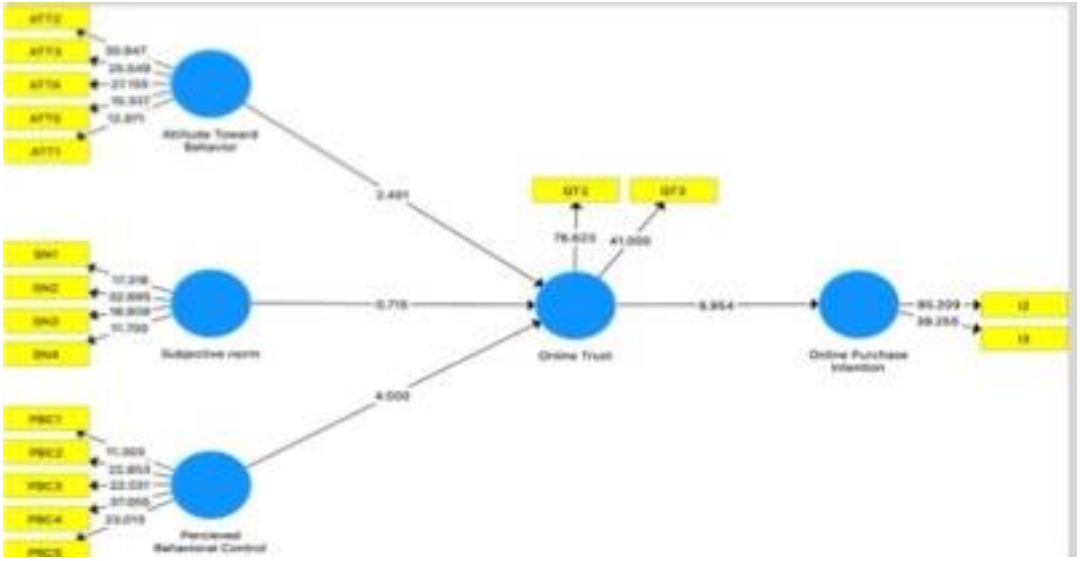


Figure 2. Analysis Result

Second, subjective norms, namely the social influence of the surrounding environment, also play an important role. Many students admitted that they were motivated to use QRIS because of encouragement from peers, family, or recommendations from the campus community. The use of QRIS has become a kind of social habit among students, where they support each other in adapting to this technology. Finally, the perception of behavioral control, which is related to their belief in their ability to use QRIS, also has an influence. Students who feel comfortable and confident in using digital payment applications tend to have a stronger intention to continue using QRIS. They consider that using QRIS is something that is easy.

CONCLUSION

This study explored the implementation of the Theory of Planned Behavior (TPB) in understanding the intention of university students in Surakarta to use the Quick Response Code Indonesian Standard (QRIS) as a digital payment method. The findings revealed that among the TPB components—attitude, subjective norms, and perceived behavioral control—attitude and perceived behavioral control significantly influence online trust, which in turn positively impacts students' intention to use QRIS. However, subjective norms showed no direct effect on trust. The significant role of online trust as a mediating factor underscores its importance in promoting QRIS adoption.

The results highlight that students are motivated to use QRIS primarily due to its convenience, speed, and integration with modern financial technology, reflecting a broader digital payment trend in Indonesia. Social influence plays a varying role depending on individuals' trust in the technology, emphasizing the need for targeted strategies to enhance trust and usability perceptions.

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