

QR CODE-BASED PAYMENTS AMONG UPI MANAGEMENT STUDENTS CLASS OF 2022: EXPLORATION OF PERCEPTIONS, ATTITUDES, AND ADOPTION INTENTIONS

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ABSTRACT

This article discusses a study that analyzes the use of payments through QR codes among students majoring in Management of the class of 2022 Universitas Pendidikan Indonesia (UPI). The research method used is a survey with a questionnaire distributed to UPI Management students of the class of 2022. The data was then analyzed using linear regression techniques to test the relationship between the use of payments through QR codes and the propensity of student payments. Additionally, the article employs the Rasch Model, one of the item response theories, which describes the relationship between respondent ability and the level of item difficulty. The results of the study show that the use of payment through QR codes has a significant impact on the payment trend of UPI Management students. These findings provide insight into student payment trends and their implications in the context of the use of payment technology in higher education.

Key Words: Digital Payment, QR Code, Financial Technology.

INTRODUCTION

QR code-based payments have become one of the leading innovations in the financial sector in Indonesia. (Widayat et al., 2023) Despite offering many advantages, adoption by the public is still limited. The study aims to explore the factors influencing the adoption of QR code-based payments among e-money users. Through a quantitative approach using a five-point Likert scale questionnaire, data was collected from electronic money users through social media. The findings of this study show that users' attitudes towards QR code payments are influenced by social factors, facility support, and performance expectations. Social support from the surrounding environment, such as family and friends, as well as the availability of adequate infrastructure, contribute to a positive attitude towards QR code-based payments. This positive attitude, as a mediator, then influences the user's intention to adopt QR code payments. Therefore, it is important for financial institutions and technology innovators to pay attention to these factors in an effort to increase the adoption of QR code-based payments among the public.

This discovery has relevant implications, especially in the context of UPI Management Students Class of 2022. Understanding the factors that influence the adoption of financial technology can provide valuable insights for students in planning future marketing strategies or product development. (Žurbi & Gregor-Svetec, 2023) By understanding the importance of user attitudes, social support, and the availability of infrastructure in driving technology adoption, students can prepare themselves to face challenges and opportunities in an ever-evolving market. Thus, this research not only makes a significant academic contribution, but also has strong practical relevance for students and other stakeholders in the financial industry.

The banking industry has grown significantly in technological innovation in recent decades. One of the most important developments in recent times has been the widespread adoption of digital currencies for commercial transactions. Individuals are increasingly

relying on electronic money for their daily financial affairs. Electronic currencies are used for many transactions involving a variety of important commodities. The increasingly massive use of smartphones has also increased the use of electronic money. The advancement of payment technology coincides with the expansion of the banking industry. The use of QR code technology in transaction payments is one of the most important innovations in recent times. The use of QR codes to conduct financial transactions is now standard in the banking sector in Indonesia. Various banks in Indonesia now provide Quick Response (QR) codes as a payment option to be used in retail transactions. Although this is only applicable to payments and is still in its early stages. Only a few people are aware and willing to adopt payments using QR code-based fintech media. Therefore, the adoption of this payment system is relatively limited to certain circles of society, especially in some countries. Previous studies using well-known foundations have relatively limited evidence. Several considerations affect the adoption of QR code payments. Therefore, the study examines performance expectations, social factors, and facilitation conditions that influence QR code payment adoption intentions as well as the role of attitude mediation.

MATERIALS AND METHODS

Questionnaire

The questionnaire was designed to collect data from UPI Management students with the aim of exploring perceptions, attitudes, and adoption intentions towards QR code-based payments. This questionnaire includes questions about the preferences and experience of using QR code payment systems, students' perception of the benefits of QR codes in the context of financial technology, and factors influencing students to adopt QR code digital payment systems. Once the data is collected, statistical analysis will be carried out using software such as SPSS or Rasch Model. The results of the analysis will provide insight into how high the interest of UPI 2022 Management students is to adopt a QR code payment system in economic transactions.

Student Experience

The effect of moderation is statistically significant on mobile money payments. Klenam Korbla Ledi, Enya Ameza-Xemalordzo, George Kofi Amoako & Bernice Asamoah in their research stated that the use of mobile money and QR code payments have a significant and positive impact on the performance of the trade sector. (Ledi et al., 2023) The latest trend in understanding the QR code-based payment experience is an ongoing initiative to increase awareness of the advantages and conveniences that this method offers to its users.

We assume that the QR code-based payment experience is the new benchmark we want to achieve in the digital environment. However, before achieving this goal, we need to have a deeper understanding of the QR code-based payment experience and be able to measure its modules. The experience mainly focuses on individuals' perception of the use of QR in their daily transactions. (Wahyu Agung Prasetyo et al., 2023) The perception of this payment method is often influenced by external conditions such as other user experiences with regard to strong defense mechanisms against potential malicious attacks, especially the security of QR code transactions. (Sharara & Radia, 2022).

Method

This study is a quantitative descriptive study by looking at facts in the field (Al-Ansi et al., 2020; Chan et al., 2021; Soh et al., 2021; Stolt et al., 2021). The variables used in this study consist of tourism experience variables. Data was collected through online surveys. The research location is in West Java, Indonesia. The population of this study is students of the Management study program class of 2022 with a total sample of 100 people, which is

illustrated in Table 1. The researcher uses a systematic and sophisticated theoretical approach. The method for accomplishing the objectives of this report consists of eight stages, as reported in Figure 1. The procedures for this research include: 1) the research preparation stage; 2) identification and selection of research problems; 3) select the sampling procedures and techniques used; 4) compile a questionnaire statement or online interview guidelines according to the research problem; 5) multiply questions according to the respondent; 6) creating Google Forms as a data collection medium; 7) data collection; 8) conducting data analysis or carrying out a solid evaluation of the variables used with rasch analysis; 9) make a report on the results of the research; and 10) making conclusions. The subject of this study is a student majoring in Management class of 2022 Universitas Pendidikan Indonesia (UPI). Centered on the theoretical model mentioned above, 20 construction experiences are suggested as part of the students' attitude towards QR codes seen in Table 1. The reference to the questions that the researcher used as a questionnaire was sourced from an article entitled "QR-code-based payment. Does the consumer intend to adopt a retail buying transaction?" as follows:

Table 1. The Preferred Attributes

Consruct	Items	Code
User Preferences and Experience	I tend to use QR in making transactions.	N1
	QR is a method of payment transactions that are many has advantages.	N2
	Using QR transactions is more practical.	N3
	The way QR is used is easy to understand and Implemented.	N4
	QR can save time in shopping.	N5
External Influences	The influence of mass media and digital platforms encourages me to use QR.	N6
	I use QR because of the influence of friends and family.	N7
	I used the QR because I saw the situation from the store and cashier of shopping places.	N8
	I used the QR because I saw the situation from the store and cashier of shopping places.	N9
	The influence of mass media and digital platforms encourages me to use QR.	N10
Agency Support	Banks or financial institutions in my area support use of QR.	N11
Preferences and Experience User	So far, QR is an excellent transaction method.	N12
	I love and enjoy making transactions through QR.	N13
Concerns and Security	I tend to worry when using QR that later my data can be used by other parties.	N14
Knowledge and Usage	I have qualified knowledge of the intricacies-the ins and outs of using QR.	N15

Preferences and Experience User	I feel that using QR feels more modern and contemporary.	N16
Personal Preferences	I feel that QR is a transaction method that leading to the upper class.	N17
Knowledge and Usage	I want to install and continue using QR in time near future	N18
	I will not install the QR method on a smartphone.	N19
Knowledge and Usage	I prefer to buy sellers who provide transaction facilities using QR.	N20

QR code adoption among UPI Management students: A new approach using the Rasch Model Scale.

Table 2. The Profile of Research Respondents

Variabe	Frequency	Per cent
Gender	100	
Male	40	40%
Female	60	60%
Class	100	
A	36	36%
B	29	29%
C	35	35%

RESULTS DISCUSSIONS

Based on a questionnaire that has been distributed to all UPI Management students of the class of 2022, as many as 100 respondents filled out a questionnaire from a population of 120 people. After obtaining the data, the researcher processed the data in the form of a Rasch Model using the Winsteps application and obtained the following results:

Item Measure

These items are used to determine the most difficult items to approve and the easiest items for respondents to approve. Based on the Measure Order table presented, it can be concluded that the items related to user preferences and experience (Construct: Preferences and User Experience) have a sequence that shows different levels of match in estimating respondents' abilities. Items that have a higher order in the table indicate that they are better at distinguishing between respondents who have different abilities or preferences.

In this case, item N18 ("I want to install and continue using QR in time near future") has the highest ranking with a MEASURE value of 2.31, followed by item N16 ("I feel that using QR feels more modern and contemporary") with a MEASURE value of 1.35. This shows that these two items are the best in estimating respondents' abilities or preferences related to QR usage. On the other hand, item N4 ("The way QR is used is easy to understand and implemented ") has the lowest order with a MEASURE value of -1.50. This shows that this item has a lowest match rate in distinguishing between respondents with different preferences or concerns related to the ease of use of the qr code system. Thus, from this Measure Order

table, it can be concluded that items related to user preferences and experience (such as preferences, security, knowledge, and personal preferences) have a significant role in predicting or understanding QR code adoption among UPI Management students. In conclusion, the analysis indicates that the items in this test vary in difficulty and mostly fit well with the Rasch model. The positive correlation between items and the overall test suggests that the items are effective in measuring the intended construct, though some items with lower correlations may need further review.

Table 3. Item Person Statistic: Measure Order

Entry	Total	Total		Model	Infite		Outfit		Pt-measure		Exact macth		Item
		Count	Measure		S.e.	Mnsq	Zstd	Mnsq	Zstd	Corr.	Exp.	Obs%	
18	213	100	2.31	.13	1.85	4.6	1.76	4.0	.55	.73	42.1	45.3	N18
16	283	100	1.35	.11	1.26	1.9	1.24	1.7	.57	.64	29.5	40.0	N16
13	303	100	1.10	.11	1.52	3.5	1.66	4.2	.44	.62	31.6	38.8	N13
14	321	100	.88	.11	.97	-.2	1.15	1.1	.53	.60	31.6	38.9	N14
6	330	100	.77	.11	1.22	1.6	1.24	1.7	.55	.58	27.4	39.2	N6
19	3n39	100	.65	.11	1.21	1.5	1.19	1.4	.55	.57	34.7	39.7	N19
9	342	100	.61	.11	.84	-1.2	.89	-.8	.63	.57	34.7	39.7	N9
7	374	100	.18	.12	1.06	.5	1.09	.7	.57	.53	42.1	43.8	N7
17	399	100	-.20	.13	.59	-3.1	.64	-2.6	.59	.49	54.7	48.3	N17
8	403	100	-.26	.13	1.05	.4	.97	-.2	.52	.48	52.6	48.2	N8
10	404	100	-.28	.13	1.07	.5	.96	-.2	.51	.48	58.9	49.3	N10
15	404	100	-.28	.13	.76	-1.7	.79	-1.3	.52	.48	65.3	49.3	N15
1	413	100	-.44	.14	.82	-1.2	.79	-1.4	.54	.46	55.8	50.7	N1
11	418	100	-.53	.14	.83	-1.1	.83	-1.0	.51	.45	60.0	51.3	N11
2	434	100	-.86	.15	.62	-2.6	.60	-2.7	.53	.42	67.4	53.1	N2
12	434	100	-.86	.15	.89	-.6	.80	-1.2	.50	.42	57.9	53.1	N12
5	449	100	-1.23	.17	.96	-.2	.83	-.9	.43	.38	69.5	58.1	N5
3	455	100	-1.40	.17	.82	-1.0	.80	-1.0	.42	.36	67.4	61.0	N3
4	458	100	-1.50	.18	.76	-1.4	.68	-1.7	.41	.35	66.3	63.4	N4
Mean	377.7	100.0	.00	.13	1.00	.0	1.00	.0				48.0	
S.d.	64.5	.0	.99	.02	.30	1.9	.31	1.9				7.4	

Person Measure

Person measure is used to find out respondents who have a high interest in adopting QR codes compared to other respondents, in this study it can be seen that respondents 1PA, namely respondent number 1, female, and in class A have a high level of experience using QR codes and have an interest in adopting the method compared to other respondents seen in Table 4. Other respondents such as 4LA, 51LA, 70PA, and 92LA also has the same score with 1PA, which is 6.39 and labeled as "MAXIMUM MEASURE". They all have perfect scores and exhibit the highest ability as estimated by the model. Based on the Person Measure table given, we can conclude that the majority of respondents have a positive measurement value towards the adoption of QR code-based payments. This is indicated by an overall average total score of 85.56, which indicates that in general, respondents have a positive tendency towards the use of QR as a payment method.

The exact match observed percentages (EXACT MATCH OBS%) vary widely, from 36.8% to 100%, with expected percentages (EXACT MATCH EXP%) close to the observed values, suggesting that the model's predictions align well with the actual responses. The analysis indicates that the majority of individuals' responses fit well with the Rasch model, with high-ability individuals achieving maximum scores and moderate to high point-measure correlations. The exact match percentages are close to the expected values, affirming the model's accuracy in predicting responses. This consistency highlights the reliability of the test in measuring the intended construct.

However, there was variation in the level of interest between individuals, which was reflected in a fairly high standard deviation, indicating how far the data spread out from the mean value. Some respondents showed very high interest in QR adoption, with some even reaching maximum values on the measurement scale. However, there were also a number of respondents who showed lower interest, with measurement values around or even below zero. This shows that there is a variation in the perception and intention of adoption towards QR code-based payments among UPI 2022 Management students.

Table 4. Person Measure

Entry No	Total Score	Total		Model S.e.	Infit		Outfit		Pt-measure		Exact macth		Person
		Count	Measure		Mnsq	Zstd	Mnsq	Zstd	Corr.	Exp.	Obs %	Exp %	
1	95	19	6.39	1.84	Maximum measure				.00	.00	100.0	100.0	1pa
4	95	19	6.39	1.84	Maximum measure				.00	.00	100.0	100.0	4la
51	95	19	6.39	1.84	Maximum measure				.00	.00	100.0	100.0	51la
70	95	19	6.39	1.84	Maximum measure				.00	.00	100.0	100.0	70pa
92	95	19	6.39	1.84	Maximum measure				.00	.00	100.0	100.0	92la
6	92	19	3.90	.63	1.70	1.2	1.01	.3	.34	.37	84.2	85.8	6pc
55	91	19	3.55	.55	3.13	2.7	1.00	.2	.55	.41	94.7	82.1	55lb
41	87	19	2.65	.41	1.19	.6	1.37	.9	.11	.51	63.2	66.5	41la
35	86	19	2.49	.39	1.50	1.2	.84	-.2	.76	.53	68.4	65.5	35pc
17	85	19	2.34	.38	1.57	1.3	.98	.1	.74	.55	63.2	64.3	17pc
44	84	19	2.20	.36	.88	-.2	1.02	.1	.39	.56	47.4	62.2	44lc
85	84	19	2.20	.36	2.38	2.7	1.50	1.2	.67	.56	63.2	62.2	85pb
11	83	19	2.07	.35	3.39	4.0	2.26	2.5	.37	.57	57.9	60.9	11lb
73	83	19	2.07	.35	1.99	2.1	2.01	2.1	.16	.57	52.6	60.9	73la
14	82	19	1.95	.34	1.28	.8	.99	.1	.69	.58	52.6	59.4	14lb
97	82	19	1.95	.34	1.08	.3	.80	-.4	.83	.58	63.2	5.94	97pa
3	81	19	1.84	.33	1.54	1.4	1.11	.4	.81	.59	47.4	56.2	3la
5	81	19	1.84	.33	1.03	.2	.81	-.4	.86	.59	47.4	56.2	5pa
37	81	19	1.84	.33	.88	-.2	.71	-.7	.83	.59	57.9	56.2	37la
56	81	19	1.84	.33	1.21	.7	1.22	.7	.64	.59	47.4	56.2	56pb
75	81	19	1.84	.33	1.67	1.6	1.19	.6	.60	.59	42.1	56.2	75pa
7	80	19	1.73	.33	2.57	3.2	1.77	1.8	.75	.60	36.8	53.5	7pc
18	80	19	1.73	.33	.45	-	.45	-	.91	.60	68.4	53.5	18pc
48	80	19	1.73	.33	1.69	1.7	1.24	.7	.75	.60	47.4	53.5	48pa
61	80	19	1.73	.33	2.00	2.3	1.80	1.9	.68	.60	47.4	53.5	61pa

CONCLUSIONS

The study investigates the factors influencing the adoption of QR code-based payments among UPI Management students class of 2022. Through questionnaires and analysis of the Rasch Model, the study's findings show that factors such as preferences, user experience, security, knowledge, and personal preferences play a crucial role in predicting or understanding QR code adoption among such college students. Preferences and user experience significantly influence QR code adoption. Students who find QR code payments convenient and user-friendly are more likely to adopt them.

The results of the analysis show that college students have a positive tendency towards the use of QR codes as a payment method, with some even showing very high interest in QR code adoption. However, there was variation in the level of interest between individuals, suggesting that the perception and intention of adoption towards QR code-based payments varied among UPI Management students class of 2022.



Furthermore, the study's findings highlight that factors such as social support from the surrounding environment, perception of the benefits of financial technology, and concerns related to transaction security influence students' attitudes and adoption intentions towards QR code payments. Thus, it is important for financial institutions and technology innovators to pay attention to these factors in an effort to increase the adoption of QR code-based payments among students and society at large. In conclusion, this study provides valuable insights for UPI Management students of the class of 2022 in understanding the factors that influence the adoption of financial technology, as well as its practical relevance to the financial industry as a whole. With a deeper understanding of user attitudes, social support, and transaction security, students can prepare to face the challenges and opportunities in the ever-evolving market in the financial industry.

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