



## Analysis of Factors Affecting the Digitalisation of UMKM in Using QRIS (Study on Culinary Businesses in Bandung City)

Rahlana Shidiq Azqar<sup>1</sup>, Irsyad Kamal<sup>2</sup>

<sup>1,2</sup> Faculty of Economics and Business, Universitas Padjadjaran, Sumedang, Indonesia

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### ABSTRACT

One of the factors contributing to Indonesia's low Global Digitalization Index score of 33.1 is the limited digitalization among UMKM, as reflected in the adoption of QRIS by these businesses. Although QRIS is perceived as useful, barriers such as perceived ease of use, perceived cost, and social influence from consumers and competitors significantly affect attitudes toward using and behavioural intentions to use QRIS. This study aims to analyze the factors influencing the digitalization of UMKM through QRIS by a quantitative causal approach and Partial Least Squares Structural Equation Modeling (PLS-SEM). The research utilised a purposive sampling technique, gathering data from 70 culinary business respondents in Bandung City. The findings indicate that social influence and perceived ease of use have a significant and positive influence on attitudes toward using QRIS, while perceived cost has a significant negative effect, and perceived usefulness shows no significant effect. Additionally, perceived ease of use and attitudes toward using QRIS significantly and positively influence behavioural intention to use it, whereas perceived cost, social influence, and perceived usefulness do not. Mediation analysis reveals varying effects: indirect-only mediation for perceived cost and social influence, no-effect non-mediation for perceived usefulness, and complementary mediation for perceived ease of use.

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### Corresponding Author:

Rahlana Shidiq Azqar  
Faculty of Economics and Business, Universitas Padjadjaran  
Sumedang, Indonesia  
Email: [rahlana20001@mail.unpad.ac.id](mailto:rahlana20001@mail.unpad.ac.id)

## 1. INTRODUCTION

Digitisation is the process of converting analogue data into digital data [1]. Digitalization has influenced various aspects of life, including the economy and society, driven by advancements in computing, storage, and data transmission [2]. Digitalization has become a major trend transforming society and businesses through the adoption of digital technology [3]. According to the GDI 2024 report, Indonesia has a digitalization index of 33.1, which is considered low compared to Singapore. Indonesia's low digitalization index indicates that the country still faces challenges in improving digitalization levels across various sectors. One of the reasons for Indonesia's low digitalization index is the limited adoption of the digital ecosystem by businesses, particularly UMKM.

To address Indonesia's low digitalization index, Bank Indonesia, has been promoting digitalization in the UMKM sector by implementing the Quick Response Code Indonesian Standard (QRIS). QRIS is a QR code-based payment system designed to facilitate digital transactions in Indonesia [4]. As of the end of June 2024, QRIS adoption by merchants reached only 32.7 million, or approximately 50.62% [5], compared to the total number of UMKM in Indonesia, which stood at 64.60 million in 2019. This indicates that the QRIS payment system still faces challenges in encouraging UMKM in Indonesia to adopt the technology, thereby achieving UMKM digitalization in the country. Some challenges in the digitalization of UMKM using QRIS include difficulties in usage [6], lengthy fund disbursement processes, settlement costs [7], and high business digitalization costs [8].

Business owners tend to perceive that business digitalization requires high costs [8]. Perceived cost is defined as the various costs that users feel and will incur in the process of obtaining goods and services [9]. Perceived costs are not only financial costs, but non-financial costs such as the effort and time required to adopt technology [10]. There are business owners who consider that the disbursement time is long so they are not interested in adopting QRIS [7][11]. In the adoption of QRIS technology there are two cost policies imposed on business actors, namely settlement costs and merchant discount rates (MDR)[12]. Therefore, cost policies such as MDR and settlement costs are a consideration for businesses in deciding to adopt QRIS technology [12].

The perception of ease of use in adopting QRIS technology plays a significant role in business owners intention to adopt [13]. Ease of use becomes a challenge for UMKM owners who are not yet familiar with digital payment systems. Business owners perceive using QRIS as more complicated compared to cash transactions [14]. In addition, PD Pasar Jaya's public relations manager, Agus Lamun, revealed that traders find digital transactions complicated [11]. This phenomenon indicates that the perceived ease of use among business owners significantly influences their behavioral intention to use the technology.

The trend of digitalization in Indonesia has brought changes to the way producers and consumers interact in doing business [13]. Consumers tend to make purchases digitally. This is shown by the results of a survey by Populix which suggests that 56% of consumers are willing to use QRIS if merchants offer the option [15]. In addition, consumers often use QRIS at least once a week in offline stores [15]. On the business side, the use of QRIS also occurs in various provinces in Indonesia, with West Java being the province with the most QRIS merchants with a total of 7.16 million, DKI Jakarta with 5.44 million, East Java with 3.81 million and Central Java with 3.34 million for the second quarter of 2024 [5]. These behavioral changes are in accordance with [17] who state that social influence occurs when a person's results are influenced by the actions of others.

This study will analyse the factors that influence the digitalization of UMKM in the use of QRIS in the culinary business sector in Bandung City. According to [17], Bandung City has an Indonesian Digital Society Index (IMDI) Score of 52.99 which is the highest in West Java. The score of 52.99 can be interpreted that Bandung City has a good digital base, but still needs improvement in order to achieve a more optimal level of digitalization. In addition, the culinary sector was chosen because it is one of the largest sectors in the UMKM industry in Indonesia and continues to grow because culinary products become basic needs that quickly experience innovation in their business processes. This research will examine factors such as perceived cost, social influence, perceived usefulness, perceived ease of use, attitude towards using, and behavioural intention to use which are expected to provide more comprehensive insights into technology adoption by UMKM.

## 2. METHOD

### 2.1. Research Approach

The research method used in this study is a causal relationship research with quantitative approach with Partial Least Square Structural Equation Modelling (PLS-SEM) data analysis techniques. This study examines perceived cost, social influence, perceived usefulness and perceived ease of use as independent variables, behavioural intention to use as the dependent variable, and attitude towards using as the mediating variable.

### 2.2. Data Collection Technique

This research use a questionnaires and literature studies. The questionnaire method is used to collect primary data from respondents. The questionnaire is a series of questions compiled based on measuring instruments for research variables [18]. The literature study was conducted by reviewing reports, records, literature, and books relevant to the research topic.

### 2.3. Population and Sample

Population is the entire subject under study and its characteristics are of concern [18]. The population that will be used in this study is culinary businesses in Bandung City which includes all types of micro, small and medium enterprises (UMKM) in the culinary sector that use QRIS, but the exact number of users of the service is unknown. It will be assumed that the number of culinary businesses using QRIS is equal to the number of culinary UMKM in Bandung City. According to [19], based on the type of business, there are 557 culinary businesses out of a total of 1,009 UMKM in Bandung City in 2023. Therefore, 557 businesses will be the population in this study.

Sample is part of the population to be studied [18]. The sample selection technique is non-probability sampling, specifically using purposive sampling. Purposive sampling is an option in research because there are certain criteria as a consideration for becoming a respondent [18]. The sample criteria for this study are as follows: 1)Having a business domiciled in Bandung City, 2)Having a business engaged in the culinary sector, 3)Having a business that uses QRIS services during the period 1-31 October 2024. In this study, the sample used consists of 70 culinary business owners in Bandung City.

### 2.4. Research Model

There are thirteen hypotheses established in this study, nine associative hypotheses and four mediation hypotheses. The study employs PLS-SEM, and hypothesis testing will be conducted by evaluating the structural model (inner model) through path analysis. The research model is presented in Figure 1 below.

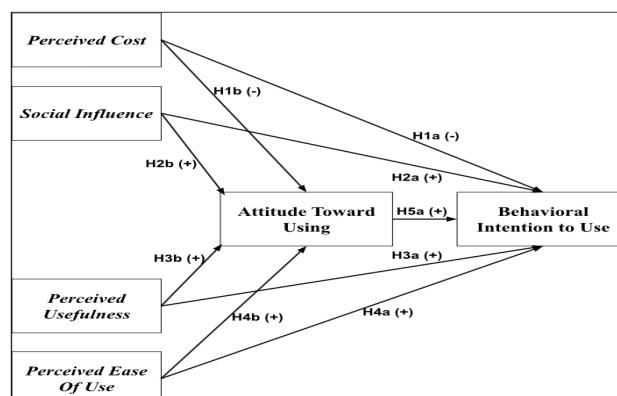


Figure 1. Research Model

Hypothesis:

- H1(a): Perceived cost has a significant negative effect on attitude toward using QRIS
- H1(b): Perceived cost has a significant negative effect on behavioral intention to use QRIS
- H2(a): Social influence has a significant positive effect on attitude toward using QRIS
- H2(b): Social influence has a significant positive effect on behavioral intention to use QRIS
- H3(a): Perceived usefulness has a significant positive effect on attitude toward using QRIS
- H4(a): Perceived ease of use has a significant positive effect on attitude toward using QRIS
- H3(b): Perceived usefulness has a significant positive effect on behavioral intention to use QRIS
- H4(b): Perceived ease of use has a significant positive effect on behavioral intention to use QRIS
- H5(a): Attitude toward using has a significant positive effect on behavioral intention to use QRIS
- H5(b): Perceived cost increases behavioral intention to use through a decreasing attitude toward using
- H5(c): Social influence increases behavioral intention to use through an increasing attitude toward using
- H5(d): Perceived usefulness increases behavioral intention to use through an increasing attitude toward using
- H5(e): Perceived ease of use increases behavioral intention to use through an increasing attitude toward using

### 3. RESULTS AND DISCUSSION

#### 3.1. Measurement Model Evaluation (Outer Model)

##### 3.1.1. Convergent Validity

Convergent validity refers to the extent to which an indicator positively correlates with alternative indicators of the same construct [20].

Tabel 1. Convergent Validity

Variable	Indicator	Loading Factor	Description	AVE
<i>Perceived Cost</i>	PC1	0.843	Valid	0.763
	PC2	0.873	Valid	
	PC3	0.884	Valid	
	PC4	0.892	Valid	
<i>Social Influence</i>	SI1	0.888	Valid	0.738
	SI2	0.847	Valid	
	SI3	0.874	Valid	
	SI4	0.827	Valid	
<i>Perceived Usefulness</i>	PU1	0.870	Valid	0.654
	PU2	0.816	Valid	
	PU3	0.749	Valid	
	PU4	0.795	Valid	
<i>Perceived Ease of Use</i>	PE1	0.827	Valid	0.691
	PE2	0.769	Valid	
	PE3	0.876	Valid	
	PE4	0.849	Valid	
<i>Attitude Toward Using</i>	AT1	0.808	Valid	0.650
	AT2	0.775	Valid	
	AT3	0.775	Valid	
	AT4	0.864	Valid	
<i>Behavioral Intention to Use</i>	BI1	0.879	Valid	0.714
	BI2	0.814	Valid	
	BI3	0.840	Valid	

Table 1 indicates that each variable has indicators with high loading factor values above 0.7 and Average Variance Extracted (AVE) values exceeding 0.5. The loading factor values demonstrate that each indicator accurately represents the corresponding variable. Furthermore, the AVE values indicate that the variables account for a substantial amount of variance in their respective measurement indicators. These results confirm that the criteria for convergent validity have been satisfied in this study.

##### 3.1.2. Discriminant Validity

Discriminant validity refers to the extent to which a construct is distinct from other constructs based on empirical standards [20].

Table 2. Discriminant Validity

Indicator	Perceived Cost	Social Influence	Perceived Usefulness	Perceived Ease of Use	Attitude Toward using	Behavioral Intention
PC1	<b>0.843</b>	-0.22	-0.189	-0.478	-0.471	-0.363
PC2	<b>0.873</b>	-0.202	-0.268	-0.518	-0.562	-0.429
PC3	<b>0.884</b>	-0.302	-0.391	-0.49	-0.607	-0.462
PC4	<b>0.892</b>	-0.188	-0.264	-0.492	-0.589	-0.427
SI1	-0.221	<b>0.888</b>	-0.065	0.4	0.559	0.439
SI2	-0.201	<b>0.847</b>	-0.071	0.411	0.395	0.398
SI3	-0.277	<b>0.874</b>	-0.015	0.444	0.525	0.49
SI4	-0.194	<b>0.827</b>	0.088	0.371	0.451	0.385
PU1	-0.314	0.03	<b>0.87</b>	0.165	0.212	0.191
PU2	-0.281	-0.091	<b>0.816</b>	0.089	0.122	0.098
PU3	-0.275	-0.027	<b>0.749</b>	0.119	0.132	0.09
PU4	-0.157	-0.016	<b>0.795</b>	0.086	0.113	0.125
PE1	-0.508	0.331	0.282	<b>0.827</b>	0.638	0.619
PE2	-0.334	0.331	0.097	<b>0.769</b>	0.628	0.566
PE3	-0.485	0.5	0.04	<b>0.876</b>	0.724	0.72
PE4	-0.543	0.397	0.096	<b>0.849</b>	0.706	0.694
AT1	-0.455	0.571	0.055	0.685	<b>0.808</b>	0.646
AT2	-0.533	0.317	0.144	0.636	<b>0.775</b>	0.658
AT3	-0.43	0.37	0.149	0.583	<b>0.775</b>	0.718
AT4	-0.642	0.555	0.254	0.712	<b>0.864</b>	0.737
BI1	-0.398	0.468	0.073	0.69	0.746	<b>0.879</b>
BI2	-0.356	0.368	0.259	0.654	0.708	<b>0.814</b>
BI3	-0.476	0.434	0.093	0.647	0.714	<b>0.84</b>

Table 2 shows that the cross-loading factor values for each indicator measuring the construct of the variables are higher than 0.7 and exceed the loading factor values of indicators for other latent variables. Therefore, it can be concluded that all variables and their indicators meet the requirements for discriminant validity testing.

### 3.1.3. Internal Consistency

Internal consistency reliability evaluates the uniformity of results across items within the same test [20]. It assesses whether the items designed to measure a specific construct produce similar scores, indicating strong correlations among them [20].

Table 3. Internal Consistency

Variabel	Cronbach Alpha	Alpha Composite Reliability	Keterangan
<i>Perceived Cost</i>	0.896	0.928	Reliabel
<i>Social Influence</i>	0.882	0.919	Reliabel
<i>Perceived Usefulness</i>	0.829	0.883	Reliabel
<i>Perceived Ease of Use</i>	0.85	0.899	Reliabel
<i>Attitude Toward Using</i>	0.82	0.881	Reliabel
<i>Behavioral Intention to Use</i>	0.799	0.882	Reliabel

Table 3 presents the results indicating that the consistency of the respondents' answers in this study can be considered reliable based on the Cronbach's alpha (CA) and composite reliability (CR) values. The CA and CR values in Table 3 are above 0.6. It can be concluded that the instruments used in this study exhibit a good level of reliability for measuring the variables under investigation, ensuring that the obtained data are trustworthy and suitable for further analysis.

## 3.2. Structural Model Evaluation (Inner Model)

### 3.2.1. Collinearity

The Variance Inflation Factor (VIF) measures the extent of collinearity among indicators within a formative measurement model [20].

Table 4. Variance Inflation Factor (VIF)

	VIF
<i>Perceived Cost (PC) -&gt; Attitude Toward Using (AT)</i>	1.611
<i>Perceived Cost (PC) -&gt; Behavioral Intention to Use (BI)</i>	1.887
<i>Social Influence (SI) -&gt; Attitude Toward Using (AT)</i>	1.304
<i>Social Influence (SI) -&gt; Behavioral Intention to Use (BI)</i>	1.54
<i>Perceived Usefulness (PU) -&gt; Attitude Toward Using (AT)</i>	1.133

Perceived Usefulness (PU) -> Behavioral Intention to Use (BI)	1.136
Perceived Ease of Use (PE) -> Attitude Toward Using (AT)	1.766
Perceived Ease of Use (PE) -> Behavioral Intention to Use (BI)	2.987
Attitude Toward Using (AT) -> Behavioral Intention to Use (BI)	4.069

Table 4 shows that the VIF values for all variables are less than 5 ( $VIF < 5$ ). Therefore, these values indicate that there is no multicollinearity that would cause a problem in this study.

### 3.2.2. Predictive Relevance (Q-Square)

According to [20], in the PLS-SEM method, Q-square is calculated using the Q-square predict approach, which evaluates the model's ability to predict the variability of endogenous variables not observed in the data.

Table 5. Relevansi Prediktif (*Q-square*)

	<i>Q Square</i>
Attitude Toward Using (AT)	0.712
Behavioral Intention to Use (BI)	0.564

Table 5 presents the Q-square values for the variables attitude toward using and behavioral intention to use. Both variables show Q-square values greater than 0, specifically 0.712 for AT and 0.564 for BI, indicating that the model demonstrates predictive relevance. These results suggest that the model has a very good predictive ability in explaining the variability in the variables attitude toward using and behavioral intention to use.

### 3.2.3. Coefficient of Determination (R-square)

According to [21], the analysis of the coefficient of determination is conducted to assess the extent to which independent variables contribute to explaining the variation in dependent variables. The R-square value ranges from 0 to 1, where higher values indicate better predictive capability of the model [20].

Table 6. Coefficient of Determination (R-square)

	<i>R-square</i>	<i>R-square adjusted</i>	Contribution	Contribution of Other Factors
PC,SI,PU,PE->AT	0.754	0.739	73.9%	26.1%
PC,SI,PU,PE,AT->BI	0.767	0.749	74.9%	25.1%

Table 6 presents the R-square values for this study. The results of the analysis show that the combined effect of PC, SI, PU, and PE on AT has an R-square value of 75.4%, which is adjusted to 73.9% after accounting for error (moderate). Meanwhile, the combined effect of PC, SI, PU, PE, and AT on BI has an R-square value of 76.7%, which is adjusted to 74.9% (moderate).

### 3.2.4. PLS Predict

PLS Predict is an evaluation procedure designed to assess the predictive power of a Partial Least Squares Structural Equation Modeling (PLS-SEM) model [20]. PLS Predict focuses on how well the model can predict new values that were not included in the model estimation process (out-of-sample predictions) [20].

Table 7. PLS Predict

	<i>Q<sup>2</sup> Predict</i>	<i>PLS-SEM_RMSE</i>	<i>PLS-SEM_MAE</i>	<i>LM_RMSE</i>	<i>LM_MAE</i>
AT1	0.5	0.79	0.688	0.971	0.794
AT2	0.361	0.849	0.685	0.828	0.643
AT3	0.298	0.943	0.791	1.069	0.89
AT4	0.601	0.729	0.611	0.766	0.617
BI1	0.415	0.9	0.741	1.075	0.896
BI2	0.358	0.859	0.659	1.02	0.809
BI3	0.372	0.855	0.709	1.027	0.864

Table 7 presents a comparison of the RMSE and MAE values for PLS and the Linear model. The analysis results indicate that most of the PLS measurement items have lower RMSE and MAE values compared to the Linear model, suggesting that the proposed PLS-SEM model has medium predictive power.

### 3.2.5. Path Analysis

Path analysis is a statistical method used to examine causal relationships between exogenous and endogenous factors in the form of paths by analyzing the path coefficients. A positive path coefficient indicates that the exogenous variable has a positive effect on its endogenous variable, and vice versa [20]. Path analysis is used to understand how independent variables influence dependent variables both directly (direct effect) and indirectly (indirect effect) through mediators. The following are the results of the path coefficient test in this study, as shown in Figure 2.

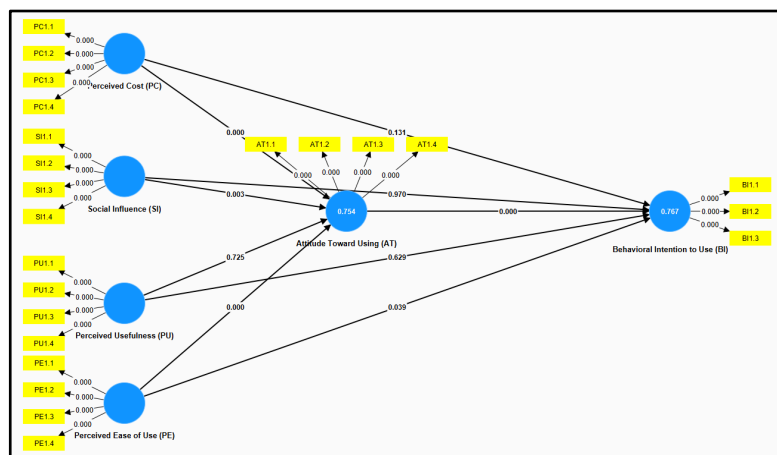


Figure 2. Path Analysis

Table 8. Direct Effect

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Standard deviation (STDEV)</i>	<i>t-statistics</i>	<i>P values</i>
PC -> AT	-0.260	-0.261	0.068	3.844	0.000
PC -> BI	0.145	0.127	0.096	1.512	0.131
SI -> AT	0.240	0.253	0.080	2.990	0.003
SI -> BI	0.004	0.029	0.099	0.038	0.970
PU -> AT	0.029	0.041	0.082	0.351	0.725
PU -> BI	0.037	0.041	0.077	0.483	0.629
PE -> AT	0.548	0.529	0.097	5.653	0.000
PE -> BI	0.285	0.296	0.138	2.070	0.039
AT -> BI	0.708	0.654	0.173	4.081	0.000

Table 8 presents the results of the direct path coefficient test. Perceived cost has a significant negative effect, while social influence and perceived ease of use have significant positive effects. However, perceived usefulness has no significant effect on attitude toward using QRIS in culinary businesses in Bandung City. Additionally, perceived ease of use and attitude toward using have significant positive effects, while perceived cost, social influence, and perceived usefulness have no significant effect on behavioral intention to use. Positive effects are indicated by original sample values greater than 0 with p-values lower than 0.05.

Table 9 Indirect Effect

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Standard deviation (STDEV)</i>	<i>t-statistics</i>	<i>P values</i>
PC -> AT -> BI	-0.184	-0.17	0.062	2.961	0.003
SI -> AT -> BI	0.170	0.161	0.062	2.739	0.006
PU -> AT -> BI	0.020	0.027	0.054	0.380	0.704
PE -> AT -> BI	0.388	0.346	0.109	3.546	0.000

Table 9 presents the results of the indirect path coefficient test, consisting of 4 influences. Social influence and perceived ease of use exhibit positive mediation, while perceived cost shows negative mediation. However, perceived usefulness has no mediation effect on behavioral intention to use through attitude toward using.

### 3.3. Mediation Analysis Results

The type of mediation effect in the relationship between perceived cost and social influence on behavioral intention to use through attitude toward using is indirect-only mediation or full mediation, as the indirect effect is significant while the direct effect is not significant. The type of mediation effect in the relationship between perceived usefulness and behavioral intention to use through attitude toward using is no-effect non-mediation. The type of mediation effect in the relationship between perceived ease of use and behavioral intention to use through attitude toward using is complementary mediation, as both the direct and indirect effects are significant and point in the same direction, both being positive.

### 3.4. Results and Discussion of Hypothesis Test

Based on the results in Table 8 and 9, it can be concluded that. Hypothesis 1(a) states that perceived cost has a significant negative effect on attitude toward using, which is **accepted**. This indicates that the lower the perceived cost of using QRIS, such as MDR fees, settlement costs, and disbursement times, the more positive the attitude toward using the technology. The findings of this study align with [22] on mobile money and [23] on mobile banking. The consistency of these results with the two previous studies is due to the similar primary objectives of mobile money, mobile banking, and QRIS technologies, which aim to facilitate digital financial transactions. As a result, users attitude toward using are based on the same criteria, namely perceived cost.

Hypothesis 1(b) states that perceived cost has a significant negative effect on behavioral intention to use, which is **rejected**. These findings are consistent with the studies by [24] and [25] on mobile payment technology and food delivery, but different from the studies by [26], [23], [27], [28], and [29] on financial technologies (mobile banking and mobile payment) in Taiwan, Bangkok, and China. The differences in results compared to the five previous studies are due to variations in perceived costs. For example, mobile banking involves monthly administrative fees and transaction costs, mobile money involves transaction and top-up fees, while QRIS involves MDR fees, settlement costs, and disbursement times, all of which influence the intention to use QRIS.

Hypothesis 2(a) states that social influence has a significant positive effect on attitude toward using, which is **accepted**. This indicates that the higher the social influence perceived by business owners from the use of QRIS, such as support from influential individuals, peers, other business owners, and the government, the more positive the attitude toward using the technology. The findings of this study are consistent with research by [22] on mobile money and [30] on digital technologies. The alignment of these results with the two previous studies is due to the early stage of QRIS, mobile money, and digital technologies. At this initial phase, users of all three technologies tend to seek social validation before fully adopting the new technology. Therefore, there is a similarity in user behavior in responding to social influence, which is when technology is used by people around, the attitude toward using tends to increase.

Hypothesis 2(b) states that social influence has a significant positive effect on behavioral intention to use, which is **rejected**. The findings of this study are consistent with those of [31], [32], [33], and [34], but different from the results of [35], [36], [37], and [13], all of which focus on QRIS technology. The differences in results with the four previous studies are attributed to differences in sample characteristics. The samples in [35], [36], and [37] consisted of individual QRIS consumers rather than business owners, while the study by [13] involved a larger sample size (296 business owners) and was spread across various regions of Indonesia.

Hypothesis 3(a) states that perceived usefulness has a significant positive effect on attitude toward using, which is **rejected**. Similar results have been found in studies by [38] on QRIS, [39] on mobile applications, and [40] on social media learning technologies, but different from the studies by [41], [36], and [42]. The differences in results with the three previous studies are due to variations in the sample characteristics. The samples in [41] and [36] consisted of individual QRIS consumers, non-business owners, in the Jabodetabek area, whereas [42] used a larger sample of 107 business owners in Medan. Furthermore, the consistent results across different technologies suggest that the TAM model has a strong, flexible theoretical framework that can be applied to various technologies.

Hypothesis 3(b) states that perceived usefulness has a significant positive effect on behavioral intention to use, which is **rejected**. Similar results have been found in studies by [36] and [42] on QRIS users, but different from the studies by [43] and [44]. The differences in results with the two previous studies are due to variations in the sample characteristics. The sample in [43] consisted of QRIS users who were students at the University of Kutai Kartanegara, whereas [44] used a sample of culinary business owners in the city of Malang. Additionally, the consistent results in the two previous studies suggest that the TAM model has a strong, flexible theoretical framework that can be applied to various technologies.

Hypothesis 4(a) states that perceived ease of use has a significant positive effect on attitude toward using, which is **accepted**. This indicates that the higher the perceived ease of use of QRIS by business owners, such as ease of understanding, use, facilitating transactions, and minimizing effort, the more positive the attitude toward using the technology becomes. The results of this study align with research by [38] on QRIS users in Yogyakarta, [41] and [36] on QRIS users in the Jabodetabek area, and [42] on UMKM QRIS users in Medan. The consistency of these findings with the four previous studies is attributed to the strong theoretical framework of the TAM model and the similarity in QRIS user behavior (both business owners and individuals) in responding to ease of use, i.e., when users perceive the technology as easy to use, their attitude toward using improve.

Hypothesis 4(b) states that perceived ease of use has a significant positive effect on behavioral intention to use, which is **accepted**. This indicates that the higher the perceived ease of use of QRIS by business owners, such as ease of understanding, facilitating transactions, and minimizing effort, the stronger the behavioral intention to use the technology becomes. Similar findings were reported by [38] on QRIS users in Yogyakarta, [36] on QRIS users in the Jabodetabek area, [42] on UMKM QRIS users in Medan, and [13] on business owners using QRIS in Indonesia. The consistency of this study's results with the four previous studies is due to the strong theoretical framework of the TAM model and the similarity in QRIS user behavior (both business owners and individuals) in responding to ease of use, when users perceive the technology as easy to use, their behavioral intention to use increase.

Hypothesis 5(a) states that attitude toward using has a significant positive effect on behavioral intention to use, which is **accepted**. This indicates that the more positive the attitude toward using QRIS by business owners, the stronger their behavioral intention to use the technology becomes. Similar findings were reported by [38] on QRIS users in Yogyakarta, [36] on QRIS users in the Jabodetabek area, [42] on UMKM QRIS users in Medan, and [13] on business owners using QRIS in Indonesia. The consistency of this study's results with the four previous studies is due to the strong theoretical framework of the TAM model and the similarity in QRIS user behavior (both business owners and

individuals) regarding attitude toward using, when users have a high (positive) attitude toward using, their intention to use tends to increase.

Hypothesis 5(b) states that perceived cost increases behavioral intention to use through a decreasing attitude toward using, which is **accepted**. The findings of this study align with research by [45] on 3G digital services. Although in a different technology context, the consistency of this study's results with [45] is due to the similarity in perceptions between QRIS users (business owners) and users of 3G digital services. Both groups tend to perceive costs that influence their attitude toward using during the adoption process of a technology. Furthermore, perceived cost can influence behavioral intention to use through an intermediary variable, namely attitude toward using. Thus, attitude toward using plays a role as a mediating variable that explains the relationship between perceived cost and behavioral intention to use.

Hypothesis 5(c) states that social influence increases behavioral intention to use through an increasing attitude toward using, which is **accepted**. The findings of this study address the inconsistency in the results regarding social influence on behavioral intention to use in the research by [31], [32], [46], and [33], which showed no effect, compared to the study by [36], which found a positive effect. The positive effect found in the study by [36] can be explained by the inclusion of the variable attitude toward using, which clarifies the relationship between social influence and behavioral intention to use. When QRIS users perceive strong social influence from their surroundings, their attitude toward using the technology becomes more positive, thereby increasing their intention to use.

Hypothesis 5(d) states that perceived usefulness increases behavioral intention to use through an increasing attitude toward using, which is **rejected**. The findings of this study different from previous research by [45], [47], and [36]. These differences are attributed to the variations in the research context and the sample used. [45] conducted their study in the context of 3G digital services, and [47] focused on mobile financial services, while this study examines the use of QRIS. Although [36] also studied QRIS, their sample consisted of individual QRIS users in the Jabodetabek area. Therefore, the perceived usefulness of QRIS does not influence technology adoption among UMKM owners.

Hypothesis 5(e) states that perceived usefulness increases behavioral intention to use through an increasing attitude toward using, which is **accepted**. The findings of this study align with the research by [45] on 3G digital services, [47] on mobile financial services, and [36]. Despite focusing on different technologies, the alignment with the two previous studies is due to the similarity in the perceptions of QRIS users, mobile financial service users, and 3G digital service users. All three groups tend to perceive ease of use, which influences their attitude toward using during the adoption process of a technology. When a technology is perceived as easy to use, the attitude toward using it becomes more positive, thus increasing the intention to use the technology. Furthermore, perceived ease of use can influence behavioral intention to use through the mediating variable of attitude toward using.

#### 4. CONCLUSION

The research findings are summarized concisely to enhance understanding. The conclusions are presented clearly and succinctly to facilitate comprehension of the study results, which involved 70 culinary business owners from 14 districts in Bandung City (with five respondents from each district who used QRIS during the period from October 1 to October 31, 2024). The conclusions are outlined as follows:

1. Perceived cost has a significant negative effect, Social influence has a significant positive effect, Perceived usefulness has no significant effect, Perceived ease of use has a significant positive effect on attitude toward using QRIS in culinary businesses in Bandung City.
2. Perceived cost has no significant effect, Social influence has no significant effect, Perceived usefulness has no significant effect, Perceived ease of use has a significant positive effect,

Attitude toward using has a significant positive effect on behavioral intention to use QRIS in culinary businesses in Bandung City.

3. Perceived cost has a significant negative effect (full mediation), Social influence has a significant positive effect (full mediation), Perceived usefulness has no significant effect (no-effect non-mediation), and Perceived ease of use has a significant positive effect (complementary mediation).

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