The Effect of User Experience and Usability on User Satisfaction and Continuance Intention in the JConnect Mobile Application

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ABSTRACT

Technological innovation has developed in several sectors of society, such as banking. Banking digitalization in Indonesia has increased by 46.72% in 2022. With this increase, every bank will continue to strive for the quality of its mobile banking services in order to improve optimal and effective service for its customers. PT BPD East Java made similar efforts to improve digital banking branding services by launching JConnect Mobile. However, based on data, the JConnect Mobile application received a low rating, namely 3.2. From this data, it is necessary to evaluate the user experience and usability, there is user satisfaction and sustainable intentions to support the projection and direction of user satisfaction or sustainable intentions. Therefore, the aim of this research is to measure the level of evaluation of user experience and usability and its influence on user satisfaction and continuance intention. The indicators used to measure user experience and usability are the UEQ and SUS methods. This research uses a quantitative approach with linear regression analysis. Of the 8 hypotheses proposed, 3 hypotheses were rejected and 5 hypotheses were accepted. So it can be concluded that the aspects that influence user satisfaction and continuance intention are perspicuity, efficiency, novelty and usability.

Keywords: Continuance Intention; JConnect Mobile; Usability; User Experience.

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1. INTRODUCTION

Technological innovation in the digitalization era has developed rapidly to become a solution to problems and needs related to the effectiveness and efficiency of an activity or procedure [1]. Digitalization in the banking sector is developing rapidly as seen from the 46.72% increase in the number of digital banking system users in Indonesia, with a significant increase in the number of mobile banking users [2]. The Financial Services Authority issued regulations to encourage banking digitalization No.12/POJK.03/2018 in Providing Digital Banking Services by Commercial Banks. This policy encourages the efficiency of banking services by utilizing IT advances [3].

Reporting from investor.id in 2022 the three best Regional Development Banks (BPD) will be PT BPD Central Java, PT BPD West Java and Banten Tbk, and PT BPD East Java Tbk [4]. Based on the results of reviews on Google Play Store of each digital banking, PT BPD Central Java has Bima Mobile service with a rating of 3.7, PT BPD West Java and Banten has DIGI service with a rating of 3.4, and PT BPD East Java

has JConnect service with a rating 3.2. Where the lowest review was obtained by Bank Jatim's digital banking. Based on this data, JConnect Mobile was chosen as the object of this research.

Due to the rapid growth in mobile banking use and increase in bank transactions, it is necessary to identify user perceptions regarding the user experience and usability of the mobile banking application. Evaluation of the user experience and usability of the JConnect Mobile application can support application development by prioritizing ease and comfort when users interact with the system [5]. For companies, user experience and usability of a system service are crucial for company profitability. In addition, it is important to obtain data about user experience and usability to support projections and direction of customer satisfaction or sustainability intentions [6]. User experience and usability are the two main determinants for the successful adoption of any information system [7].

Therefore, this research was carried out using two methods, namely the User Experience Questionnaire and the System Usability Scale. The flexible User Experience Questionnaire method is used to measure user experience on a website or application which consists of 26 indicators [8]. Meanwhile, measuring the perceived usability of a system uses the System Usability Scale method which consists of 10 instruments. Then the user experience and usability aspects will be tested for their influence on user satisfaction and continuance intention [9]. In testing continuance intention, the model adopted is the Expectation Confirmation Model (ECM). In this model, the ECM variables used are user satisfaction and continuance intention. Meanwhile, additional variables are user experience and usability [10]. In this research, the population used is the 2022 Sidoarjo Education Scholarship recipients because based on Sidoarjo Regent Decree No. 188/505/438.1.1.3/2022 recipient must have a Bank Jatim account.

2. RESEARCH METHOD

A quantitative approach was used in this research. Quantitative methods aim to respond to research problems that can be represented by numerical or numeric data supported by hypotheses related to the research [11].
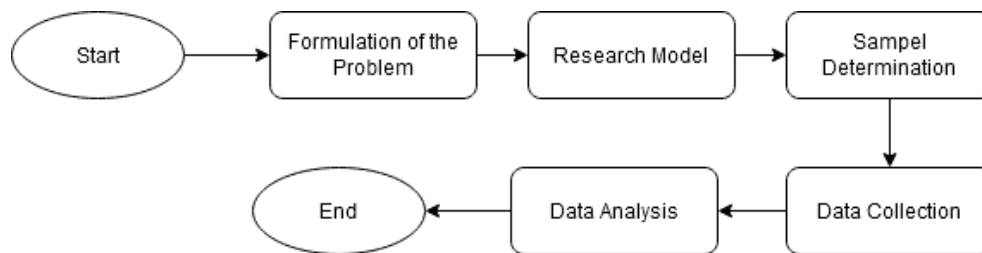

Figure 1. Research Flow

2.1. Formulation of the Problem

The initial stage of research is creating a problem formulation obtained from the research background. Phenomena that arise in society form the problem formulation for this research. In this research, the topic studied is evaluating user experience and usability as well as their influence on continuance intention in the mobile banking system.

2.2. Research Model

The model used is to adopt the Expectation Confirmation Model (ECM) which uses the main variables from the model, namely user satisfaction and continuance intention and adds user experience and usability variables. The following is a research hypothesis model.
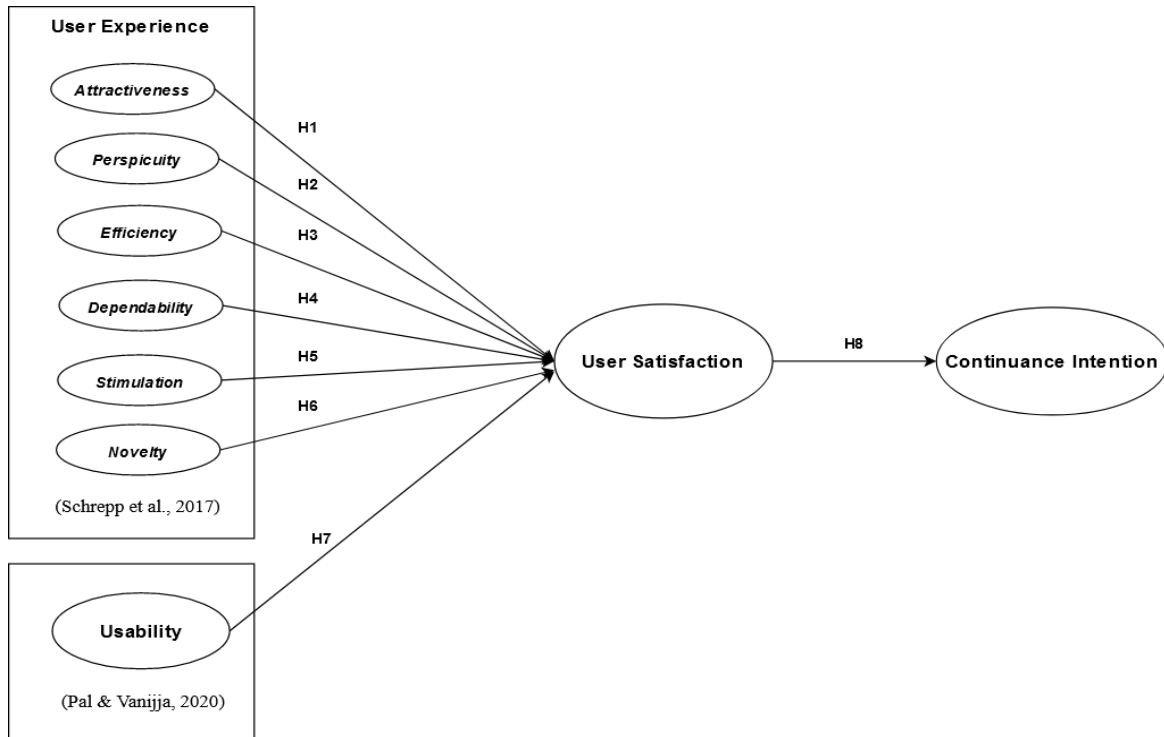
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Figure 2. Research Model

In previous research, similar research was carried out which tested the influence of user experience on user satisfaction from the Iflix application. The results showed that there was a positive influence of user experience on user satisfaction [12]. Apart from that, there is also research by Alberto on the influence of user experience on customer satisfaction, which shows that all variable indicators are interrelated between variables and other variables and all hypothesis testing can be accepted in this research [13]. And research from Baker-Eveleth & Stone which examined the influence of usability, expectation, confirmation, the results of which had a significant effect on user satisfaction and continuance intention [14].

2.3. Research Variable

Table 1. Research Variable

No.	Variable	Itemize of Questioner (Question)
1	Attractiveness (X1)	6
2	Perspicuity (X2)	4
3	Efficiency (X3)	4
4	Depandability (X4)	4
5	Stimulation (X5)	4
6	Novelty (X6)	4
7	Usability (X7)	10
8	User Satisfaction (Y1)	4
9	Continuance Intention (Y2)	4

The Likert scale is used by respondents to choose answers that describe their perceptions. There are 5 Likert scales used consisting of 1) Strongly disagree, 2) Disagree, 3) Undecided, 4) Agree, 5) Strongly agree.

2.4 Sampel Determination

The population of this research is users of the JConnect Mobile application with a sample size determined using the Purposive Sampling technique where the population of this research is limited to recipients of the 2022 Sidoarjo Education Scholarship, namely 1,414 students. When using Purposive Sampling, the research sample has certain criteria, namely as users of the JConnect Mobile application and recipients of the 2022 Sidoarjo Education Scholarship (Firmansyah et al., 2022). The Slovin formula was used to calculate the sample size for this study with an error tolerance of 7% which was formulated as follows:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{1.414}{1+(1.414 \cdot 0,07^2)}$$

$$= 178,3416 = 178$$

The results of calculations using the Slovin formula obtained a minimum sample of 178 respondents so that the measurement results achieved were optimal.

2.4. Data Collection

Data collection was carried out using a questionnaire with the aim of obtaining data from JConnect Mobile application users. Questionnaires were distributed through scholarship recipient groups on Whatsapp and Telegram. After distributing the questionnaire, 212 data were obtained, but only 180 data were declared eligible and fulfilled the requirements, namely as users of the JConnect Application.

2.5. Data Analysis

If the questionnaire results have been collected, to validate the completeness of the data it is necessary to group the questionnaire answers based on the item code for each indicator to make it easier to analyze the data. The data that has been collected will be tested for validity and reliability and then test the significance of the variables using multiple linear regression analysis using SPSS.

3. RESULTS AND DISCUSSION

3.1. Validity Testing

This validity test was carried out on 35 respondents for the trial, where the data included part of the 180 respondents obtained. Testing was carried out using SPSS with the Product Moment or Correlations validity test. Valid determination is assessed from Pearson correlation > r table and significance less than 0.05 [15]. Following are the results of the correlation test.

Table 2. Validity Test

Variabel	Indikator	Personal Correlation	r tabel	Sig. (2-tailed)	Results
Attractiveness (X1)	AT1	.758**	0.334	.000	Valid
	AT2	.753**	0.334	.000	Valid
	AT3	.691**	0.334	.000	Valid
	AT4	.663**	0.334	.000	Valid
	AT5	.658**	0.334	.000	Valid
	AT6	.794**	0.334	.000	Valid
Perspicuity (X2)	PE1	.600**	0.334	.000	Valid
	PE2	.682**	0.334	.000	Valid
	PE3	.664**	0.334	.000	Valid
	PE4	.808**	0.334	.000	Valid
Efficiency (X3)	EF1	.761**	0.334	.000	Valid
	EF2	.723**	0.334	.000	Valid
	EF3	.775**	0.334	.000	Valid
	EF4	.745**	0.334	.000	Valid
Depandability (X4)	DE1	.815**	0.334	.000	Valid
	DE2	.721**	0.334	.000	Valid
	DE3	.512**	0.334	.002	Valid
	DE4	.686**	0.334	.000	Valid
Stimulation (X5)	ST1	.571**	0.334	.000	Valid
	ST2	.830**	0.334	.000	Valid

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Variabel	Indikator	Personal Correlation	r tabel	Sig. (2-tailed)	Results
	ST3	.784**	0.334	.000	Valid
	ST4	.747**	0.334	.000	Valid
Novelty (X6)	NO1	.619**	0.334	.000	Valid
	NO2	.680**	0.334	.000	Valid
	NO3	.740**	0.334	.000	Valid
	NO4	.913**	0.334	.000	Valid
Usability (X7)	SUS1	.341**	0.334	.047	Valid
	SUS2	.606**	0.334	.003	Valid
	SUS3	.350**	0.334	.039	Valid
	SUS4	.416**	0.334	.013	Valid
	SUS5	.561**	0.334	.000	Valid
	SUS6	.668**	0.334	.012	Valid
	SUS7	.405**	0.334	.016	Valid
	SUS8	.554**	0.334	.001	Valid
	SUS9	.520**	0.334	.001	Valid
	SUS10	.655**	0.334	.000	Valid
User Satisfaction (Y1)	US1	.336**	0.334	.048	Valid
	US2	.786**	0.334	.000	Valid
	US3	.712**	0.334	.000	Valid
	US4	.797**	0.334	.000	Valid
Continuance Intention (Y2)	CI1	.702**	0.334	.000	Valid
	CI2	.868**	0.334	.000	Valid
	CI3	.751**	0.334	.000	Valid
	CI4	.795**	0.334	.000	Valid

From Table 2, the validity test results obtained show that all indicators are valid with personal correlation < r-table and significance is less than 0.05.

3.2. Reliability Testing

After the validity test stage is carried out, then carry out a reliability test which is assessed based on Cronbach's alpha which must have a value of > 0.6 to be said to be reliable [16]. The following are the results of the reliability test.

Table 3. Reliability Testing

Variable	Cronbach's Alpha	Results
Attractiveness (X1)	0.811	Reliabel
Perspicuity (X2)	0.636	Reliabel
Efficiency (X3)	0.735	Reliabel
Dependability (X4)	0.634	Reliabel
Stimulation (X5)	0.715	Reliabel
Novelty (X6)	0.700	Reliabel
Usability (X7)	0.674	Reliabel
User Satisfaction (Y1)	0.614	Reliabel
Continuance Intention (Y2)	0.701	Reliabel

Based on table 3, the results of the reliability test on Cronbach's alpha, all variables produce values greater than 0.6, so that each variable in the questionnaire gets reliable results.

3.3. Descriptive Analysis

In the description section of the variable data, this is a summary of the respondents' answers to each variable. The purpose of data distribution is to represent respondents' answers using a measurement scale.

Table 4. Average of Variable

Variable	Average of Variable
Attractiveness (X1)	3,3
Perspicuity (X2)	3,6
Efficiency (X3)	4,1
Depandability (X4)	2,8
Stimulation (X5)	3,7
Novelty (X6)	3,5
Usability (X7)	3,0
User Satisfaction (Y1)	4,2
Continuance Intention (Y2)	4,1

The average of Attractiveness (X1) is 3.3, which means that the attractiveness of the application gives an attractive impression to its users. The average Perspicuity (X2) obtained is 3.6, meaning the application is able to make it easy for users to use it. The average Efficiency (X3) is an average of 4.1, which shows that users are able to complete tasks easily and do not need excessive methods. Depandability (X4) got an average of 2.8, which means the JConnect application can make users feel they can operate and understand the application. Stimulation (X5) got an average of 3.7 which shows the user's interest in the system and the impression of being happy when using the system. Novelty (X6) got an average of 3.5, which means the innovation and creativity aspects of the application are quite attractive to users. Usability (X7) got an average of 3 which means the usability of the application is easy and can be understood quickly without requiring assistance before using it. User Satisfaction (Y1) got an average of 4.2 which shows users feel satisfied from using the application. Continuance Intention (Y2) got an average of 4.1, which means the user intends to continue using the system.

3.4. Classic Assumption Test
3.4.1. Normality Test

At this stage, testing is carried out which aims to test the normality of the research data which has been obtained whether the data on the independent and dependent variables are normally distributed or not [17]. In carrying out this normality test, the method used consists of the One Kolmogorov-Smirnov method and Probability Plots diagrams.

Table 5.Test Results from One Kolmogorov-Smirnov

Model	Asymp. Sig.
XI, X2, X3, X4, X5, X6, X7 againts Y1	.056
Y1 againts Y2	.068

Table 5 shows the normality test results of the 2 models. Data is said to be normal if it obtains Asymp. Sig. Above 0.05, it can be concluded that from the two models both have a sig value. Above 0.05 so the data obtained is normally distributed. Below are the results of the Probability Plot Diagram.
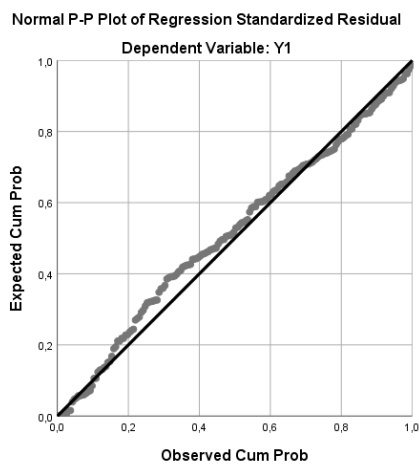

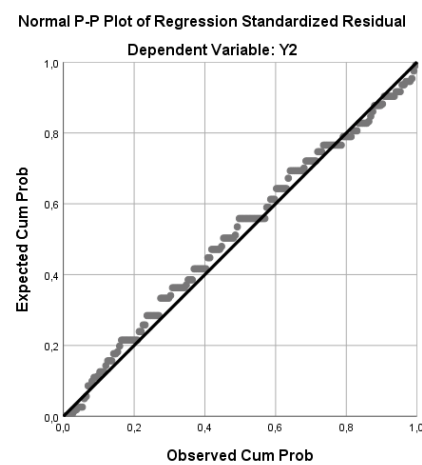Figure 3. Probability Plot Diagram Model 1   Figure 3. Probability Plot Diagram Model 2

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From the two probability diagrams it is known that the distribution of data is around the line and in the same direction as the line and there is no data that is away from the straight line, so the two models are concluded to be normally distributed.

3.4.2. Multicollinearity Test

The multicollinearity test is a test that aims to obtain the results of the Tolerance and Variance Inflation Factor (VIF) values before carrying out regression analysis to find out in the regression model whether there is a correlation between the independent variables. The results can be said to be uncorrelated if you get a tolerance score above 0.10 while the VIF score is below 10 [17].

Table 6. Multicollinearity Test Results

Model	Variable	Analysis	
		Tolerance	VIF
XI againts Y1	Attractiveness (X1)	0,203	4,918
X2 againts Y1	Perspicuty (X2)	0,358	2,794
X3 againts Y1	Efficiency (X3)	0,258	3,880
X4 againts Y1	Depandability (X4)	0,386	2,590
X5 againts Y1	Stimulation (X5)	0,379	2,640
X6 againts Y1	Novelty (X6)	0,357	2,800
X7 againts Y1	Usability (X7)	0,943	1,060
Y1 againts Y2	User Satisfaction(Y1)	1,000	1,000

From the results in table 6, each model obtained Tolerance results above 0.1 and VIF below 10, so that all models did not experience multicollinearity.

3.4.3. Heteroscedasticity Test

The next stage is the heteroscedasticity test, namely testing the differences to determine whether a residual variance is dissimilar from one observation to another. In regression analysis, it must be homoscedastic, which means that the distribution or variance is the same, and conversely, it must not be heteroscedastic or unequal in variance. The significance of a variable so that heteroscedasticity does not occur is greater than 0.05. If it is below that, heteroscedasticity will occur [17].

Table 7. Heteroscedasticity Test Results

Model	Variable	Sig
XI againts Y1	Attractiveness (X1)	0,366
X2 againts Y1	Perspicuty (X2)	0,323
X3 againts Y1	Efficiency (X3)	0,495
X4 againts Y1	Depandability (X4)	0,427
X5 againts Y1	Stimulation (X5)	0,073
X6 againts Y1	Novelty (X6)	0,629
X7 againts Y1	Usability (X7)	0,997
Y1 againts Y2	User Satisfaction(Y1)	0,089

In the Heteroscedasticity test, if the results are significant above 0.05, it represents that the data equation is homoscedastic and does not experience heteroscedasticity. So the model in table 7 does not have heteroscedasticity

3.4.4. Autocorrelation Test

This test stage is designed to test the correlation of a model based on the residuals from an observation. To find out the autocorrelation results in the regression model, you can test it using the Durbin-Watson test method. The model interpretation if there is no autocorrelation is Du < DW < 4-dU, if there is autocorrelation it will produce an interpretation of dL < DW < Dl or DW > 4-dL [18].

Table 8. Autocorellation Test Results

Model	Value			Results
	Du	Durbin Watson	4-Du	
XI, X2, X3, X4, X5, X6, X7 againts Y1	1,837	1,846	2,162	*dis*-autocorrelation
Y1 againts Y2	1,767	1,888	2,232	*dis*-autocorrelation

From these results, it can be concluded that the two models do not experience autocorrelation over a period in one variable.

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3.5. Multiple Linear Regression
3.5.1. Simultaneous Significance Test (F Test)
        At the F test stage the independent variables will be tested simultaneously to determine their effect on the dependent variable. At this testing stage, the results of Fcount will be compared with Ftable and see the significance value. If the significance results are less than 0.05, it means the variables have a simultaneous influence. However, if the results are opposite or above 0.05, it means that the independent variable does not have a simultaneous effect on the dependent variable [18].

Table 9. F Test Results

Model	Analysis	
	F	Sig.
XI, X2, X3, X4, X5, X6, X7 againts Y1	32,988	0,000
Y1 againts Y2	144,978	0,000

        The first model got a calculated F result of 32.988. Based on the criteria in this equation which has seven variables with 180 samples and a probability level of 0.05, the F table obtained is 2.063. So the conclusion from the F test results on this equation is that the calculated F value is above the F table (32.988>2.063) and is significant, namely 0.000, so the first model together has an effect on Y1. The second model obtained a calculated F of 144.978. In this F test, the F table is determined from one independent variable used and a sample of 180 with a probability of 0.05 and obtains an F table of 3.893. So the conclusion is that in this equation the independent variable has a simultaneous effect on the Y2 variable because the calculated F value is greater (144.978>3.893) and the significance is 0.000.

3.5.2. Individual Parameter Significance Test (T Test)
        This testing stage aims to determine the independent variable partially and its significance influence on the dependent variable. To find out the results of the T test by comparing the calculated T obtained to see whether it is more than the T table. If the calculated T result is more than T table then it has a positive effect, if vice versa then it has a negative effect. Meanwhile, regarding significance, whether the significance is above 0.05 or below 0.05. If the result is below 0.05 then the result is significant, if the result is the opposite then there is no significant effect [18].

Tabel 10. T Test Results

Model	Variable	Analysis		Results
		T	Sig.	
XI againts Y1	Attractiveness (X1)	1,772	0,078	Negative and Not Significant
X2 againts Y1	Perspicuty (X2)	3,219	0,002	Positive and Significant
X3 againts Y1	Efficiency (X3)	2,283	0,024	Positive and Significant
X4 againts Y1	Depandability (X4)	1,168	0,244	Negative and Not Significant
X5 againts Y1	Stimulation (X5)	-1,570	0,118	Negative and Not Significant
X6 againts Y1	Novelty (X6)	2,580	0,011	Positive and Significant
X7 againts Y1	Usability (X7)	4,871	0,000	Positive and Significant
Y1 againts Y2	User Satisfaction(Y1)	12,041	0,000	Positive and Significant

4.   CONCLUSION

        Based on the results of the analysis using multiple linear regression, the results of 8 hypotheses showed that 5 hypotheses were accepted while the other 3 were rejected. The accepted hypothesis consists of the variables Perspicuity, Efficiency, Novelty, and Usability having a positive and significant influence on the User Satisfaction variable and the User Satisfaction variable having a positive and significant influence on the Continuance Intention variable. The five accepted hypotheses show positive and significant results. Meanwhile, the hypothesis that was rejected consisted of the Attractiveness, Dependability and Stimulation variables for the User satisfaction variable because the results were negative and not significant. The results of this analysis can be used as a consideration for making improvements to the JConnect Mobile application by prioritizing variables that have a significant effect on user satisfaction and Continuance. Intention. So it is hoped that the next development can have a big impact on users and so that it can also have an impact on increasing company profitability through digital banking branding.

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