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Digital Skill Confirmation Factor Analysis on the Use of Mobile Banking Services in the City of Surakarta

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ABSTRACT: This study conducted in Surakarta, Indonesia aimed to examine the relationship between digital skills and mobile banking usage using Confirmatory Factor Analysis. The study revealed that operational mobile skills, information navigation skills, creative skills, and social skills were the factors that influenced mobile banking usage. However, despite the rapid development of mobile banking, there was still a digital divide. The study recommends modifying the index through Exploratory Factor Analysis for future research. The findings emphasize the significance of digital skills in mobile banking and can be useful for policymakers, mobile banking service providers, and users in Surakarta, Indonesia. This study contributes to the understanding of the relationship between digital skills and mobile banking usage and highlights the need for digital skill development in accessing mobile banking services in Surakarta, Indonesia.

Keywords: Digital skills; Mobile banking; Indonesia; Confirmatory Factor Analysis; Non-probability Sampling

INTRODUCTION

Mobile banking is one of the digital banking services that can be accessed through a registered banking application on a smartphone that is connected to the internet (Claessens et al., 2002; Lysiak et al., 2022). Mobile banking is one of the impacts of the development of digital technology supported by the PricewaterhouseCoopers banking survey on 2018, bankers argue that technological transformation is still considered a major driver in the banking industry. And Deliotte (2015) also stated this is in line with Deloitte's identification of the banking industry as having a short period of change with a large level of impact (short fuse, big bang) (Santoso et al., 2021; Umar et al., 2018; Zachariadis et al., 2019). However, Mobile banking (M-Banking) has the potential to offer unbanked customers basic banking and electronic transaction services (Anderson, 2010). This service allows customers to perform various transactions, such as fund transfers, balance inquiries, credit card payments, electricity and phone bill payments, insurance, as well as other transactions such as buying phone credit or stocks (Mas & Radcliffe, 2010). Popular mobile banking services in Indonesia as of 2022 include M-bca, Bri Mobile, M-banking Mandiri,

BNI Mobile, and CIMB Niaga Mobile. Mobile banking provides convenience and flexibility in conducting financial transactions without the need to physically visit a bank branch. Increasing use of the internet in daily life activities and how it has become an essential part of people's lives. It also mentions the high internet adoption rates in Indonesia, with internet penetration reaching 73.7% of the total population in 2022 (Asyik et al., 2022; Ciptarianto & Anggoro, 2022; Nawaz, 2022). Increasing use of mobile phones in Indonesia, with a usage rate of 65.87% in 2021 (Prasad, 2022). However, there is still a digital gap in the use of mobile banking services, especially in Surakarta City. Therefore, the purpose of this research is to confirm the digital skill factors that affect the use of mobile banking services in Surakarta City. The study is expected to provide theoretical and practical benefits, such as additional knowledge and information, a reference for further research, as well as information and advice for those involved in banking services.

The purpose of this research is to confirm the digital skills factors that affect the use of mobile banking services in Surakarta City, Indonesia. As the use of the internet and mobile phones continues to grow in Indonesia, digital banking services like mobile banking have become increasingly popular. However, Most people (especially those in older generations) lack the necessary computer skills, thus they typically prefer traditional banking that has been modernized to provide faster service. On the other hand, younger generations are more accustomed to using computers and have adequate online (Giri et al., 2017). Also there is still a digital divide in the use of mobile banking services, particularly in Surakarta City. Therefore, this research aims to identify the factors that influence the use of mobile banking services in Surakarta City, such as digital skills. The research is expected to provide theoretical and practical benefits, including adding to the body of knowledge, serving as a reference for future research, and providing information and recommendations for stakeholders in the banking industry. Conducting this research in English and ensuring its quality can also help to increase its accessibility and visibility to a wider international audience, which can further enhance its impact and significance.

The research aims to confirm the digital skills factors that affect the use of mobile banking services in Surakarta City, Indonesia. Mobile banking is a digital banking service that can be accessed through a registered banking application system on a smartphone and connected to the internet (Lan & Giang, 2021; Wazid et al., 2019). It allows customers to perform various transactions such as fund transfers, balance information, credit card payments, PLN, telephone, mobile phone, electricity, insurance, as well as other transactions such as buying credit or stocks (Ali et al., 2022; Tchouassi, 2012). Some popular mobile banking services in Indonesia in 2022 include M-bca, Bri Mobile, M-banking Mandiri, BNI Mobile, and CIMB Niaga Mobile. The use of the internet and mobile phones in Indonesia is increasing rapidly, and digitalization has entered the banking world through mobile banking services. However, there is still a digital divide in mobile banking usage, especially in Surakarta City. The research is expected to provide theoretical and practical benefits, such as additional knowledge and information, a reference for future research, and advice for parties involved in banking services.

Mobile banking refers to the use of a mobile device, such as a smartphone or tablet, to perform banking transactions, such as checking account balances, transferring funds, paying bills, and depositing checks, without the need to visit a physical bank branch. Mobile banking services in

Indonesia include those offered by traditional banks, such as Bank Mandiri, Bank Central Asia (BCA), and Bank Rakyat Indonesia (BRI), as well as those offered by digital banks, such as Jenius and Digibank.

The expected benefits of conducting research on the factors that influence the use of mobile banking services in Surakarta City include identifying the digital skill levels of users, identifying the factors that influence the adoption and usage of mobile banking services, and providing recommendations for improving the accessibility and convenience of mobile banking services in the city. The research findings can be used to guide the development of digital literacy programs and the design of mobile banking services to improve user experience and increase adoption rates. Additionally, the research can provide insights for financial institutions and policymakers to better understand the needs and behaviors of consumers in the digital economy.

The research used Confirmatory Factor Analysis (CFA) to examine the relationship between four latent variables and 30 indicator items. The four latent variables were operational mobile skills, information navigation skills, social skills, and creative skills. The research found that the model used in the study was inadequate, with some indicators not representing the hypothesized constructs and low construct reliability. Therefore, it is suggested to modify the indices through Exploratory Factor Analysis (EFA) research to obtain better results.

The research provides recommendations for intergovernmental cooperation to level up digital skill levels and develop mobile banking services that cater to users' needs and technical abilities, particularly in the city of Surakarta. The research also contributes to confirming the factors that affect digital skills in mobile banking services and provides a reference for future research.

Mobile banking is a digital banking service that can be accessed through smartphones registered with banking application systems and connected to the internet. Customers can perform various transactions such as fund transfers, balance inquiries, credit card payments, utility bill payments, insurance payments, as well as other transactions such as buying mobile credit or stocks. Some popular mobile banking services in Indonesia as of 2022 include M-bca, Bri Mobile, M-banking Mandiri, BNI Mobile, and CIMB Niaga Mobile. Mobile banking provides convenience and flexibility in conducting financial transactions without the need to physically visit a bank branch. The text highlights the increasing use of the internet in daily activities and how it has become an essential part of people's lives. It cites statistics on internet adoption globally and in Indonesia, as well as mobile phone usage rates. Supported by a statement from the increasing use of the internet in Indonesia has also had a significant impact on the banking industry, where banks have offered mobile banking services which can be seen as a bank's response to the needs of many customers who use mobile devices more often than computers (Haryanto & Giri, 2021). Despite the rapid development of mobile banking in Indonesia, there is still a digital gap in its usage, especially in Surakarta City. Therefore, the purpose of this research is to confirm the digital skill factors that affect the use of mobile banking services in Surakarta City. This research is expected to provide theoretical and practical benefits, such as adding knowledge and information, becoming a reference for future research, and providing information and recommendations for stakeholders in the banking industry.

METHOD

The research methodology for this study is quantitative and considered a need-to-know research method. This involves collecting structured data in the form of numbers using a questionnaire to gather information from banking customers in the Surakarta City area. The researcher's role is minimal, and data processing is done using AMOS software, which involves structural equation modeling and hypothesis testing (B. M. Byrne, 2016; S. Byrne, 2018). The focus of this study is on digital skills, which includes sub-variables derived from a study by Van Deursen et al. titled "Development and Validation of the Internet Skills Scale (ISS)" (Ebbers et al., 2016) . The research method is based on positivism philosophy, and it is descriptive and cross-sectional, used only to test hypotheses. The table provided summarizes the research method types used in this study.

This passage explains the research process, which starts with identifying a problem or phenomenon, formulating a research problem, and creating a hypothesis to test it. The population and sample are determined, and an instrument is developed and tested for data collection. The collected data is analyzed and discussed, and recommendations are provided to solve the problem. The population and sample in this study are bank customers in Surakarta who use banking services and mobile banking services, respectively (Whitley Jr, 2012). The study uses non-probability sampling, specifically purposive sampling, and the minimum sample size is 300 participants.

The research aims to analyze the factors that influence the use of mobile banking services, focusing on operational mobile skills, information navigation skills, social skills, and creative skills (Ebbers et al., 2016). Both primary and secondary data were used, with primary data collected through a Likert scale questionnaire distributed via social media platforms.

Table 1 Likert scale

Respondents Answer	Score
Strongly Agree (SS)	5
Agree (S)	4
Undecided (RG)	3
Disagree (TS)	2
Strongly Disagree (STS)	1

Source: (Sugiyono P.D., 2014)

The validity test is used to measure the validity of an instrument, particularly a questionnaire, in a research study. Validity is important to ensure that the collected data accurately represents the variables being studied (Whitley Jr, 2012). Internal validity refers to the researcher's confidence in the research results, while external validity relates to the generalizability of the results (Ferguson, 2004; Holtom et al., 2022). To ensure validity, each question in the questionnaire must be tested for validity using Pearson Correlation. If all the indicators in the questions meet the rTable standard, the study is considered valid. In this study, a pilot test was conducted using a questionnaire distributed online, and 38 randomly selected respondents were used for data validity testing using SPSS software.

Table 2. Validity Test Results

Variabel	Indikator	rHitung	Keterangan
Operational Mobile skills	OMS1	.565**	VALID
	OMS2	.659**	VALID
	OMS3	.708**	VALID
	OMS4	.436**	VALID
	OMS5	.702**	VALID
	OMS6	.747**	VALID
	OMS7	.678**	VALID
	OMS8	.678**	VALID
	OMS9	.648**	VALID
	OMS10	.541**	VALID
Information Navigation Skills	IN1	.637**	VALID
	IN2	.734**	VALID
	IN3	.780**	VALID
	IN4	.675**	VALID
	IN5	.746**	VALID
	IN6	.752**	VALID
	IN7	.665**	VALID
	IN8	.592**	VALID
	IN9	.706**	VALID
	IN10	.629**	VALID
	IN11	.502**	VALID
	IN12	.518**	VALID
	IN13	.652**	VALID
Creative Skills	CR1	.831**	VALID
	CR2	.779**	VALID
	CR3	.617**	VALID
Social Skills	SO1	.786**	VALID
	SO2	.675**	VALID
	SO3	.657**	VALID
	SO4	.687**	VALID

Source: Researcher's Personal Documents

Cronbach's alpha as a measure of consistency, with reliable operational variable indicators having an alpha value exceeding the rTable value (Han & Yoon, 2015; Malviya et al., 2013). The Research also introduces Confirmatory Factor Analysis (CFA) as a technique to test a measurement model, using CB SEM AMOS 24. CFA assesses instrument validity and reliability, including model identification, normality and outlier testing, and construct validity testing. The methods ensure the research data's validity and reliability.

Table 3 Loading Factor Size Based on Sample Size

Loading Factor	Ukuran Sampel
0.30	350
0.35	250
0.40	200
0.45	150
0.50	120
0.55	100
0.60	85

0.65	70
0.70	60
0.75	50

Source: (Anderson, 2010)

RESULT AND DISCUSSION

This article describes the characteristics of the respondents in a research study on mobile banking usage in Surakarta. The study collected data from 302 mobile banking users through a questionnaire distributed via social media platforms. The characteristics of the respondents, such as gender, age, education level, domicile, income, and occupation, were obtained and presented in pie charts and bar graphs. All respondents lived in Surakarta and used mobile banking services. The majority of the respondents were female (53%) and aged between 26-42 years (44%). The highest education level was senior high school (41%), and the majority of respondents (42%) had a monthly income of less than Rp 3,000,000. The respondents' occupations were dominated by employees (111), followed by students (65), entrepreneurs (41), housewives (32), educators (18), civil servants (16), daily laborers (14), and the least were 5 respondents who worked as self-employed and others.

The characteristics of respondents in this research, based on their use of mobile banking, are dominated by BRImo (Bank BRI) with 126 users, followed by BCA Mobile (Bank BCA) with 105 users, Livin' (Bank Mandiri) with 93 users, BNI Mobile (Bank BNI) with 72 users, and Bima Mobile (Bank Jateng) with 24 users. Additionally, there are 2 users who use other mobile banking services. Confirmatory factor analysis (CFA) is a technique used to test a measurement model, where the factor structure is assumed to be known or hypothesized (Suhr, 2006). CFA is used to determine how well measurement indicators measure a latent construct and is closely related to assessing the validity and reliability of measurement instruments (Lai et al., 2002; Pinho Santos & Proença, 2022; Wu et al., 2018). The steps involved in the CFA analysis are:

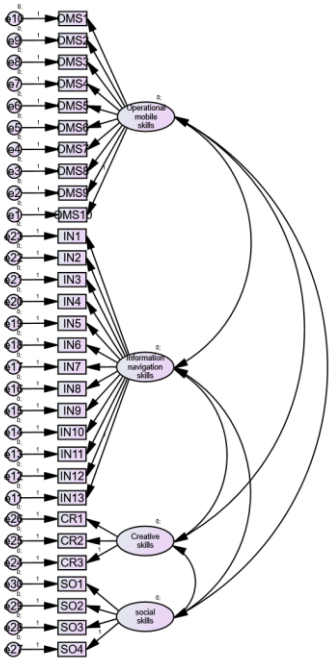

Figure 2. CFA Test Results
Source: Respondent Questionnaire (Processed data, 2023)

The identification of this model depends on the degree of freedom in the research results. Degrees of freedom or degrees of freedom. In the AMOS software in the CFA test the results of degrees of freedom can be seen in the Notes for Model folder (Albright & Park, 2009). The condition that the model is said to be identified is a positive "db" or db ≥ 0 .

Table 4 Computation of degrees of freedom (Default model).

Number of distinct sample moments:	**495**
Number of distinct parameters to be estimated:	96
Degrees of freedom (465 - 64):	399

Source: Results of data processing on AMOS (Processed data, 2023)

In this research, since the degree of freedom value is positive or ≥ 0, it can be said that the model is identified. The univariate normality test can be conducted by examining the values of skewness and kurtosis. A variable satisfies the univariate assumption if there are no skewness coefficients with absolute values greater than 3 and no kurtosis coefficients with absolute values greater than 8.

Table 5. Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
SO1	1,000	5,000	-1,285	-9,114	1,216	4,312
SO2	1,000	5,000	-,755	-5,355	-,027	-,096
SO3	1,000	5,000	-,481	-3,410	-,361	-1,279
SO4	1,000	5,000	-,889	-6,304	,911	3,233
CR1	2,000	5,000	-,761	-5,401	,410	1,454
CR2	1,000	5,000	-1,401	-9,941	2,541	9,014

CR3	1,000	5,000	-1,357	-9,631	1,983	7,034
IN1	2,000	5,000	-,370	-2,628	-,730	-2,590
IN2	2,000	5,000	-,536	-3,802	-,780	-2,765
IN3	2,000	5,000	-,565	-4,007	-,315	-1,118
IN4	2,000	5,000	-,552	-3,918	-,187	-,664
IN5	2,000	5,000	-,490	-3,475	,290	1,030
IN6	2,000	5,000	-,498	-3,533	-,633	-2,247
IN7	1,000	5,000	-,776	-5,508	1,027	3,643
IN8	1,000	5,000	-,417	-2,956	-,634	-2,248
IN9	1,000	5,000	-,851	-6,038	,266	,943
IN10	1,000	5,000	-,868	-6,155	1,225	4,345
IN11	1,000	5,000	-,854	-6,056	,311	1,103
IN12	2,000	5,000	-,545	-3,865	-,294	-1,044
IN13	2,000	5,000	-,774	-5,493	-,333	-1,182
OMS1	3,000	5,000	-1,018	-7,225	-,246	-,873
OMS2	2,000	5,000	-1,586	-11,254	2,487	8,821
OMS3	1,000	5,000	-1,535	-10,890	3,444	12,218
OMS4	1,000	5,000	-1,548	-10,980	4,339	15,392
OMS5	2,000	5,000	-1,430	-10,148	1,770	6,280
OMS6	2,000	5,000	-1,350	-9,575	2,025	7,182
OMS7	3,000	5,000	-1,441	-10,227	,951	3,373
OMS8	1,000	5,000	-1,796	-12,745	3,934	13,954
OMS9	1,000	5,000	-1,265	-8,975	1,564	5,546
OMS10	1,000	5,000	-2,170	-15,393	6,268	22,235
Multivariate					201,484	39,954

Source: Results of data processing on AMOS (Processed data, 2023)

The Skewness and Kurtosis values indicate that the data in this study is univariately normally distributed, as long as the skewness values are not greater than 3 and the kurtosis values are not greater than 8 (Cain et al., 2017) For multivariate normality assumptions, the number of multivariate critical ratios (c.r) generated in the study is used. If the total c.r value is < 2.58 for ($\propto$ =1%) and 1.96 for ($\propto$ =5%), then variables meet the multivariate normality assumptions. In this study, the total c.r value is 39.954, which shows that the data does not meet the multivariate normality assumptions, and outlier examination is necessary. The Mahalanobis table is used to check for outliers, looking at the top 5 rows that show small p1 and/or p2 values (<0.001) and the D^2 (Mahalanobis d-square) value that is larger or significantly different from the D^2 for other observations. Outliers have been removed, resulting in the values obtained in the table below:

Table 6. Mahanolobis

Observation number	Mahalanobis d-squared	p1	p2
251	57,481	,002	,401
224	57,323	,002	,101
30	56,751	,002	,025
231	56,181	,003	,006
189	55,694	,003	,002

The Validity Test is used to measure how well a concept is defined by an instrument or its measures. This test is carried out in several stages, including checking the significance level of the

parameter measured by the p-value obtained from data analysis where the value should be p-value < 0.05 (α=0.5%). In AMOS, the significance of the parameter can be seen through the regression weight table. If the p-value obtained from the research result is (***) then it can be said that the p-value is very small or less than 0.001 and can be considered significant.

Table 7. Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
OMS10	<---	Operational_mobile_skills	1,000				
OMS9	<---	Operational_mobile_skills	,489	,157	3,123	,002	
OMS8	<---	Operational_mobile_skills	,993	,145	6,866	***	
OMS7	<---	Operational_mobile_skills	,933	,129	7,251	***	
OMS6	<---	Operational_mobile_skills	1,328	,172	7,710	***	
OMS5	<---	Operational_mobile_skills	,903	,132	6,828	***	
OMS4	<---	Operational_mobile_skills	1,073	,148	7,254	***	
OMS3	<---	Operational_mobile_skills	1,038	,153	6,774	***	
OMS2	<---	Operational_mobile_skills	1,009	,135	7,487	***	
OMS1	<---	Operational_mobile_skills	1,062	,140	7,575	***	
IN13	<---	Information_navigation_skills	1,000				
IN12	<---	Information_navigation_skills	,879	,080	11,026	***	
IN11	<---	Information_navigation_skills	1,074	,093	11,516	***	
IN10	<---	Information_navigation_skills	,840	,082	10,254	***	
IN9	<---	Information_navigation_skills	1,113	,093	11,934	***	
IN8	<---	Information_navigation_skills	1,260	,099	12,687	***	
IN7	<---	Information_navigation_skills	,882	,080	11,014	***	
IN6	<---	Information_navigation_skills	,990	,091	10,901	***	
IN5	<---	Information_navigation_skills	,723	,074	9,780	***	
IN4	<---	Information_navigation_skills	,862	,083	10,379	***	
IN3	<---	Information_navigation_skills	,839	,088	9,531	***	
IN2	<---	Information_navigation_skills	1,183	,096	12,278	***	
IN1	<---	Information_navigation_skills	1,019	,092	11,064	***	
CR3	<---	Creative_skills	1,000				
CR2	<---	Creative_skills	,903	,113	7,966	***	
CR1	<---	Creative_skills	,624	,100	6,239	***	
SO4	<---	social_skills	1,000				
SO3	<---	social_skills	,982	,146	6,750	***	
SO2	<---	social_skills	1,817	,226	8,052	***	
SO1	<---	social_skills	1,306	,182	7,158	***	

Source: Results of data processing on AMOS (Processed data, 2023)

Based on the table of significance test results, the research obtained a p-value of (***) which means that the p-value is very small or less than 0.001. In the case of indicator OMS10, the result obtained was 0.002, indicating that all indicators are significant to the operational mobile skill variable. Factor loading is used to measure the significance between indicators and latent variables used in the research.

Table 8. Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
OMS10	<---	Operational_mobile_skills	,568
OMS9	<---	Operational_mobile_skills	,212
OMS8	<---	Operational_mobile_skills	,527
OMS7	<---	Operational_mobile_skills	,569
OMS6	<---	Operational_mobile_skills	,622
OMS5	<---	Operational_mobile_skills	,523
OMS4	<---	Operational_mobile_skills	,569
OMS3	<---	Operational_mobile_skills	,517
OMS2	<---	Operational_mobile_skills	,596

OMS1	<---	Operational_mobile_skills	,606
IN13	<---	Information_navigation_skills	,705
IN12	<---	Information_navigation_skills	,692
IN11	<---	Information_navigation_skills	,724
IN10	<---	Information_navigation_skills	,643
IN9	<---	Information_navigation_skills	,751
IN8	<---	Information_navigation_skills	,800
IN7	<---	Information_navigation_skills	,692
IN6	<---	Information_navigation_skills	,684
IN5	<---	Information_navigation_skills	,613
IN4	<---	Information_navigation_skills	,651
IN3	<---	Information_navigation_skills	,597
IN2	<---	Information_navigation_skills	,773
IN1	<---	Information_navigation_skills	,695
CR3	<---	Creative_skills	,706
CR2	<---	Creative_skills	,691
CR1	<---	Creative_skills	,470
SO4	<---	social_skills	,578
SO3	<---	social_skills	,541
SO2	<---	social_skills	,789
SO1	<---	social_skills	,590

Source: Results of data processing on AMOS (Processed data, 2023)

Using a sample size of 300 and based on the rule of setting factor loading limits according to (Anderson, 2010), where the minimum sample size is 250 with a limit of 0.35, all indicators studied in the variable are considered valid except for indicator OMS9, which has a factor loading value less than 0.35. Therefore, OMS9 is not considered a valid indicator for the operational mobile skill variable. In AMOS, the reliability of this indicator can be seen in the Squared Multiple Correlation results, where the estimated value should be greater than 0.5.

Table 9. Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
SO1	,348
SO2	,622
SO3	,293
SO4	,334
CR1	,221
CR2	,477
CR3	,499
IN1	,483
IN2	,598
IN3	,357
IN4	,424
IN5	,376
IN6	,468
IN7	,478
IN8	,640
IN9	,564
IN10	,414
IN11	,524
IN12	,479
IN13	,497
OMS1	,367
OMS2	,355
OMS3	,268
OMS4	,324
OMS5	,273

OMS6	,387
OMS7	,323
OMS8	,278
OMS9	,045
OMS10	,323

Based on the analysis results obtained in Table 4.5, it can be concluded that: a. Indicators IN2, IN8, IN9, IN11, SO2 have estimated values > 0.5, indicating that they are reliable. b. Indicators SO1, SO3, SO4, CR1, CR2, CR3, IN1, IN3, IN4, IN5, IN6, IN7, IN10, IN12, IN13, OMS1, OMS2, OMS3, OMS4, OMS5, OMS6, OMS7, OMS8, OMS9, OMS10 have estimated values < 0.5, indicating that they are not reliable.

Table 10. Composite Reliability

Variabel	Batas acuan	CR	Result
Operational Mobile Skills	0,70	0,7997580933	Reliabel
Information Navigation Skills	0,70	0,9239239156	Reliabel
Creative Skills	0,70	0,6590609491	Tidak Reliabel
Social Skills	0,70	0,7220039113	Reliabel

Based on table, it can be concluded that all variables are reliable, and the reliability of all instruments' CR is good because the CR value is >0.70, except for the creative skills variable where the CR value is less than 0.70. As a reference, the minimum AVE limit for reliable instruments is 0.50 (Dachlan, 2014).

Table 11. Average Variance Extacte

Variabel	Batas acuan	AVE	Result
Operational Mobile Skills	0,50	0,2942973	Tidak Reliabel
Information Navigation Skills	0,50	0,4846744615	Tidak Reliabel
Creative Skills	0,50	0,398939	Tidak Reliabel
Social Skills	0,50	0,3993465	Tidak Reliabel

Based on table, it can be concluded that there is no variable that meets the AVE criteria, which means that the instrument reliability for AVE is not good because the AVE value should be > 0.50. The model fit test is conducted to determine how well the theoretically constructed model can reflect reality. In this CFA study, the fit index used is CMIN. This measure is observed in the row value indicating CMIN and compared to the P-value in the Default model column. As a reference, the CMIN limit can be considered fit at 0.05 for ($\propto$=5%).

Table 12. Table result CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	96	1103,080	399	,000	2,765
Saturated model	495	,000	0		
Independence model	60	3799,062	435	,000	8,733

In this study, the Chi-square value obtained is 1103.080 with a p-value of 0.000. Since the p-value is less than α=5%, it can be concluded that the model is not a good fit. CFI is an index fit measure that is not sensitive to model complexity. In AMOS, the CFI result can be seen in the table titled "Baseline Comparisons". The CFI fit index value ranges from 0 (not a good fit) to 1 (perfect fit), with a threshold of ≥ 0.90 considered a good fit.

Table 13. Table Result CFI

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,710	,683	,793	,772	,791
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

Based on the cutoff value of the CFI index, this study is considered unfit because the default CFI model value is 0.791, and it is considered fit if it is above 0.90. The RMSEA is calculated based on the approximation error and estimates the approximation error per degree of freedom. The reference value or cutoff value for the RMSEA fit index is ≥ 0.05 and ≤ 0.1.

Table 14. Table Result RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,080	,074	,085	,000
Independence model	,167	,162	,172	,000

Based on the limit of the RMSEA index value, which should be ≥0.05 and ≤0.1, the results of this study are considered to be fit as the default RMSEA model value is 0.80. However, there were some measurement errors in the construct validity test and model fit test, so modifications can be made. However, the modifications should not be based solely on the indices but must consider the theory, ensure that the previously identified model remains identified, and re-evaluate the fit. The model modifications can be made by removing indicators with standardized regression weight estimates below 0.6 and adding correlations (covariances) between error variables. The results of the modification are as follows:

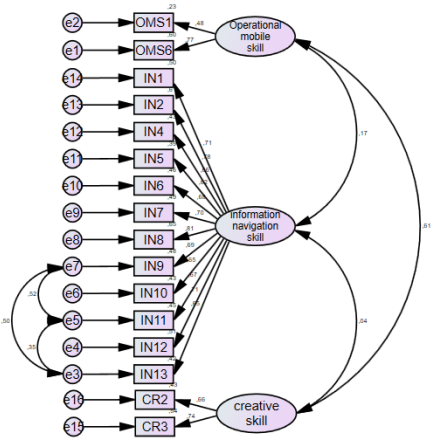

Figure 3. Modification Model

After modifying the model by creating error variable correlations, the following results were obtained Model Identification The degree of freedom value obtained was 98, which meets the requirement that an identified model should have a positive or ≥ 0 df value. Therefore, the model in this study can be said to be identified. Normality Test Based on the criteria that a variable meets the univariate assumption if there is no skewness coefficient with an absolute value greater than 3, and there is no kurtosis coefficient with an absolute value greater than 8. Based on the results, the data in this study is distributed univariately. Validity Test 1. Parameter Significance and Loading Factor The significance of the parameter size is seen from the p-value obtained from the data analysis results, where the value must be p-value <0.05 (Goodman, 1999). In the modified data analysis, all p-values obtained (***) are significant. Using a sample size of 300 and based on the rule for determining the loading factor threshold value according to (Adongo et al., 2021) (minimum sample 250 is 0.35), all indicators studied are considered valid. 2. Indicator Reliability Based on the analysis results obtained, it can be concluded that: a. The CR3, IN1, IN2, IN8, IN12, OMS6 indicators have estimation values> 0.5, indicating that they are reliable. b. The CR2, IN4, IN5, IN6, IN7, IN9, IN10, IN12, IN13 OMS1 indicators have estimation values <0.5, indicating that they are not reliable. 3. Construct Reliability

Table 15. Result data AVE dan CR

Variabel	Batas acuan	CR	Result
Operational Mobile Skills	0,7	0,5688918563	Tidak Reliabel
Information Navigation Skills	0,7	0,9181927863	Reliabel
Creative Skills	0,7	0,6534087345	Tidak Reliabel
Variabel	Batas acuan	AVE	Result
Operational Mobile Skills	0,5	0,4108045	Tidak Reliabel

Information Navigation Skills	0,5	0,4846874167	Tidak Reliabel
Creative Skills	0,5	0,486097	Tidak Reliabel

The study results indicate that the AVE value was obtained despite none of the indicators meeting the criteria, and only the information navigation skill indicator met the criteria for the CR value. The Chi-square value of 173.396 with a p-value of 0.000 suggests that the model is not fit as the p-value is less than the predetermined level of significance (α=5%). However, based on the CFI index value limit, the study is considered fit with a default model CFI value of 0.961, which exceeds the threshold of 0.90. Similarly, the study is also considered fit based on the RMSEA index value limit, with a default model RMSEA value of 0.53 falling within the range of ≥ 0.05 and ≤ 0.1.

Discussion

Based on the results of the confirmatory factor analysis using AMOS 24 software, 30 questionnaire items and 4 latent variables were hypothesized to determine whether the hypothesized indicators really affect the digital skills latent variable of mobile banking users in Surakarta City. The analysis was carried out by depicting the research model and then conducting an overall analysis, which yielded the following results: the model was identified because the positive degree of freedom value was 399 or ≥0. The data in this study was distributed normally univariately based on the Skewness and kurtosis values, and the outlier data were identified and removed. The parameter significance test results showed that the p-value was very small, less than 0.001, indicating that all indicators except for OMS9 were valid. The reliability test analysis showed that some indicators were reliable, while the reliability of the entire construct was not established. The model fit indices showed that the model did not fit well according to the Chi-square and CFI values, but it did fit well according to the RMSEA value. In summary, the research model was identified, and the data were normally distributed univariately but not multivariately. Some indicators were reliable, and some were not, while the reliability of the entire construct was not established. Finally, the model fit indices showed mixed results.

CONCLUSION

Based on the phenomenon observed and the analysis conducted, the research used 4 latent variables with 30 indicator items. It was concluded that the research model could be identified, with a df degree of 399. The data was normally distributed, meeting the univariate normality criteria, but not the multivariate normality criteria. Outliers were identified and removed. The parameter significance test showed that all parameters had a significant relationship with the hypothesized constructs. All indicators represented the hypothesized constructs except for OMS9 (I am able to use mobile banking applications anytime and anywhere via my smartphone), which did not represent operational mobile skill. The indicator reliability test showed that only IN2, IN8, IN9, IN11, and SO2 were reliable. The construct reliability test showed that the constructs used in the research were not reliable. The model fit was tested using CMIN, CFI, and RMSEA indices. The CMIN and CFI results were not fit, but the RMSEA result was fit. However, after modifying

the model by adding covariance relationships among error variables and removing loading factor values (<0.6), the model fit was considered fit. In conclusion, the loading factor values showed that each indicator of the latent variables was valid or represents each hypothesized variable, except for OMS9, which did not represent the operational mobile skill variable. All indicators building the latent variables were valid and represented, although some were not reliable. However, the research model did not fit well, indicating that the model used in the research was inadequate.

The next suggestion is to establish intergovernmental cooperation to level up digital skill levels, particularly in accessing mobile banking services, in both urban and rural areas, to provide convenience in banking transactions. Another suggestion is to develop features on mobile banking services to make it easier for users according to their needs and technical abilities, especially in the city of Surakarta, to increase the usage of mobile banking in the city. From an academic perspective, this research utilized the Confirmatory Factor Analysis (CFA) method to confirm the previous research results that discussed Exploratory Factor Analysis (EFA). The CFA study examined whether an existing indicator can truly explain a construct. Based on the analysis results, the model in this study is considered inadequate, with many analysis results failing to meet criteria ranging from normality tests, validity and reliability tests, to model fit tests. Therefore, it is suggested to modify the indices, which can be done through EFA research, so that future research on digital skills with four latent variables - operational mobile skills, information navigation skills, social skills, and creative skills - towards mobile banking services can be used as a reference for better results.

And This research is a form of contribution in confirming the factors that affect digital skills in mobile banking services and it is further recommended to modify the index which can be done through Exploratory Factor Analysis (EFA) research so that in the future research on digital skills with four latent variables operational mobile skills, information navigation skills, social skills, and creative skills on mobile banking services can be used as a research reference with better results.

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