

From Phone to Finance: Indonesian Female Patterns in Store Payments

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ABSTRACT

This study investigates the influence of gender and women's employment status on mobile phone use for in-store financial transactions in Indonesia. Using microdata from the 2021 Global Findex survey and a logistic regression model, this study analyzes how being a woman and an employed woman influence the likelihood of using a mobile phone for in-store transactions. The results show that, although not significantly, women are less likely than men to use mobile phones for in-store transactions. However, employed women are more likely to use mobile phones than unemployed women. These findings demonstrate the importance of women's participation in the workforce on digital financial behavior in developing countries. Equalizing access to digital literacy and empowering women's economy are key to driving fairer digital financial inclusion. Robustness tests show that the average marginal effects obtained are consistent. This study contributes to the literature on gender-based digital financial inclusion and provides policy implications for expanding access to mobile financial services more equitably, especially in developing countries.

Keywords: *Gender Studies, Financial Inclusion, In-store Transaction, Mobile Phone*

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INTRODUCTION

Financial inclusion is one of the main agendas for global and national economic development, especially in developing countries like Indonesia. According to the World Bank (2021), financial inclusion is defined as access and use of affordable, timely, and appropriate financial services by individuals and micro, small, and medium enterprises (MSMEs). Inclusive financial services enable people to save, borrow, invest, and protect themselves from financial risks, increasing welfare and reducing social disparities (W. Chen & Yuan, 2021; Demirgüç-Kunt et al., 2022). The World Bank reported that worldwide financial account ownership increased significantly from 63% in 2017 to 71% in 2021 (Demirgüç-Kunt et al., 2022). However, many developing countries, including Indonesia, experience disparities in access to financial services, especially between men and women. Global Findex 2021 noted that around 71% of adults in developing countries have a financial account, but women are still 6% less likely than men to have one (Demirgüç-Kunt et al.,

2022). This condition hampers women's economic empowerment and the achievement of inclusive well-being (Ezzahid & Elouaourt, 2022; Ifediora et al., 2022; Sahay et al., 2020; Thaddeus et al., 2020).

The rapid development of mobile technology has revolutionized financial services, especially through the adoption of mobile money and digital payment applications (Asif et al., 2023; Michel & Rotman, 2023; Mpofu & Mhlanga, 2022; Nyaga, 2013). Mobile phones allow people to make transactions quickly, cheaply, and easily, without the need for extensive physical infrastructure (X. Chen et al., 2024). A study by Suri & Jack (2016) in Kenya confirmed that the use of mobile money increases women's economic participation by providing access to better savings and credit.

Financial digitalization, or fintech, has become an innovative breakthrough in expanding inclusive finance, especially in countries with large populations and unequal access to conventional banking, such as Indonesia. The development of digital technology, especially in internet connectivity and the use of mobile devices, has revolutionized the way people access and utilize financial services. Now, mobile phones not only functioned as a means of communication, but also become the main means for millions of people to conduct financial transactions, including payments, remittances, loans, and digital-based investments.

According to the 2021 Global Findex Database report, 76% of adults globally had an account at a financial institution or through a mobile money service provider in 2021, a significant increase from 51% in 2011 (Demirgüç-Kunt et al., 2022). Between 2017 and 2021, more than 40% of new users of formal financial services began accessing them through digital platforms such as mobile money, mobile banking, and e-wallets. This digital technology innovation has significantly accelerated financial inclusion, especially in developing countries. In Indonesia, account ownership increased from 49% in 2017 to 61% in 2021, driven by digitalizing services such as mobile banking, digital wallets, and the QRIS payment system (World Bank, 2022). The same report also noted that the COVID-19 pandemic has accelerated the adoption of digital payments and transfers, driving a significant increase in account ownership.

On the other hand, the smartphone penetration rate in Indonesia has reached more than 80% in 2024 (Statista, 2024), while internet access has reached 78.6% of the population, with most users accessing it via mobile devices (TEMPO.CO & Mahinda Arkyasa, 2022). This digital transformation has also driven the expansion of technology-based financial services even in areas that were previously unreached by formal financial services (OJK, 2023).

However, the gap in access remains a problem, primarily based on gender and employment status. Women and unemployed individuals tend to have lower access to and use of digital financial services (World Bank, 2022). This shows that inequality in the use of digital services is still a major challenge. Research by Nugroho et al. (2023) and Khusniati & Wardani (2022) concluded that education, income, and internet access factors play an important role in driving the adoption of mobile financial services in Indonesia. However,

these studies have not explained in detail how gender roles and employment status affect the behavior of using these digital services.

The rapid growth of internet access and increasing penetration of smartphone use in Indonesia has made it easier for people to access digital financial services. This development has also created a supportive environment for the expansion of technology-based financial services, especially to reach groups of people who have not previously been touched by the formal financial system.

Women play an important role in the process of adopting digital finance. Several studies have shown that women have great potential to utilize these services as a means of economic empowerment. However, their participation is still hampered by various social, economic, and technical factors (Elouardighi & Oubejja, 2023; Tripathi & Rajeev, 2023; Nair, 2022). Various studies also indicate that digital finance can be an effective tool in increasing women's economic independence by expanding access to financial products and services (Elouardighi & Oubejja, 2023; Hasan et al., 2023; Ojo, 2022; Soekarno & Setiawati, 2020). One important study by Suri & Jack (2016) in Kenya even showed that the use of electronic money (mobile money) contributed significantly to reducing poverty and improving women's welfare.

In Indonesia, studies that specifically differentiate the use of mobile phones for financial transactions between working and non-working women are still minimal. The existing literature generally still focuses on access or ownership of devices, without reviewing in more depth the role of employment status in influencing the use of digital technology for financial activities.

In addition, demographic and socio-economic factors such as age, education, income, employment status, internet access, and location of residence (urban/rural) have also been shown to play an important role in determining the behavior of using digital financial services (Mpfungu & Mhlanga, 2022; Suri & Jack, 2016). Other demographic and socio-economic variables, such as age, education, income, internet access, and location of residence, have been shown to be the main determinants of the use of digital financial services (Chipunza & Fanta, 2023; Gallego-Losada et al., 2023; Tay et al., 2022).

A longitudinal study by Asif et al. (2023), W. Chen & Yuan (2021), Soekarno & Setiawati (2020), and Tay et al. (2022) using panel data from several Asian countries showed that increasing internet access and digital literacy significantly increased the use of mobile financial services, especially among young working women. Comprehensive analysis using representative micro data such as the 2021 Global Findex that examines the influence of these variables simultaneously in Indonesia is still very minimal, especially regarding differences in mobile phone transaction behavior between working and unworking women. What are the tendencies of Indonesian women and female workers in utilizing mobile phones for direct transactions in stores?

This study aims to fill this gap by using the 2021 Global Findex micro data to analyze the influence of women and working women variables on the use of mobile phones for direct payments in stores (in-store transactions). The logistic regression method with average marginal effect is used to estimate the impact of these variables while controlling

for demographic, socio-economic, internet access, and domicile factors in six robustness models.

The novelty of this study lies in its explicit focus on working women as a group that has the potential to have higher levels of digital literacy, financial autonomy, and access to utilizing digital financial services via mobile phones. A comprehensive approach, including extensive control variables and robust models, also provides a strong methodological contribution to uncovering the determinants of women's digital transaction behavior in Indonesia.

The findings of this study are expected to provide more targeted policy recommendations to improve women's financial inclusion, especially in the context of utilizing digital technology as a means of economic empowerment. It aligns with Indonesia's commitment to the Sustainable Development Goals (SDGs), which emphasize the importance of gender equality and financial inclusion as pillars of sustainable development

METHOD

This study aims to estimate the tendency of mobile phone usage for digital financial transaction instruments in Indonesia. To analyze these factors, this study uses a quantitative approach with a logistic regression model method to determine the probability level of women using mobile phones. The logistic model is used because the dependent variable is a binary dummy: whether individuals use mobile phones for digital payments directly in stores. In order to obtain more intuitive interpretation results and capture the strength of the influence between variables, this study uses the Average Marginal Effect (AME). The potential problem of heteroscedasticity is addressed so that this study obtains consistent parameter estimates, and the variables will be controlled through robust standard errors in several different models.

Micro data from the Global Findex 2021 is used to capture the phenomenon of digitalization-financial inclusion at the individual level. This data includes respondents aged +15 years and above in Indonesia who use mobile phones as in-store payment devices. This micro data comes from Gallup World, published by the World Bank, which includes detailed information on access, use, barriers, and concerns related to financial issues in more than 120 countries, including Indonesia, making this data one of the most complete datasets to see the level of individual financial inclusion, between regions.

The use of this data describes the actual practices and access to digital financial services for individuals, including payments, savings, loans, and mobile phone use. The validity of this data is met because it is one of the most widely used data sources in development economics and financial inclusion studies in highly reputable journals (Demirgüç-Kunt et al., 2018; Klapper & Lusardi, 2020).

For each model, the probability that an individual i uses a mobile phone for transactions ($y_i = 1$) can be modeled as:

$$P(Y_i = 1) = \alpha(X_i\beta) = \frac{1}{(1 + e^{(-X_i\beta)})}$$

Where:

y_i = dependent variable (in_store_transaction or buying)

$\alpha(.)$ = cumulative logistic distribution function

X_i = vector of independent variables of individual i

β = vector of estimated regression coefficients

e = exponential number

$$\text{logit}(P_i) = \ln \frac{P_i}{1 - P_i} = \beta_0 + \beta_1 \text{woman} + \beta_1 \text{woman}_{emp} + y'z_i + \varepsilon_i$$

With:

P_i = probability that individual i uses mobile phone for transaction ($y_i = 1$)

$\ln \frac{P_i}{1 - P_i}$ = logit function (log odds)

$woman_i$ = dummy variable 1 if female, 0 if male

$woman_{emp,i}$ = dummy variable 1 if female and employed, 0 otherwise

z_i = vector of control variables (consisting of age_group, agesq, education, income, emp_status, urban, internet)

y' = vector of coefficients of control variables

β_0 = intercept

ε_i = error term

Tabel 1. Descriptive Variables

Variables Dependent	
In store transaction	1 if the respondent uses a mobile phone to pay or purchase directly in the store, and 0 if not.
Variables Independent	
Woman	1 if the respondent is female, and 0 if male.
Woman employment	1 if the respondent is a working woman, and 0 if not
Age group	Respondent age categories are grouped into five categories: 1= Adolescents (15–25 years) 2=Young Adults (26–35 years) 3= Adults (36–45 years) 4= Pre-Elderly (46–59 years) 5 = Elderly (60+ years)

Agesq	respondent's age was squared to capture the possibility of a non-linear relationship between age and mobile phone use in transactions.
Education	last level of education completed, consisting of: 1= primary (elementary school or equivalent) 2= secondary (junior high school/high school or equivalent) 3= tertiary (diploma/higher education)
Income	income quintiles, categorized as: 1= Poorest20% 2= Second20% 3= Middle20% 4= Fourth20% 5 = Richest20%
Employment status	1 if the respondent is working, and 0 if not.
Internet	1 if the respondent has internet access, and 0 if not.
Urban	1 if the respondent lives in an urban area, and 0 if in a rural area.

Source: author's analysis, 2025

FINDING AND DISCUSSION

RESEARCH RESULT

Based on Table 2. It is known that transactions in stores via mobile phones average 6.5%, indicating that the use of mobile phones for direct transactions in physical stores is still very low. Most respondents are women, and around 28.2% are working women. It illustrates that the portion of working women in the population is smaller than the total number of women, so it is important to test whether they are more active in digital finance.

Tabel 2. Descriptive Statistic

Summary Statistics	mean	sd	min	max
in_store_transaction	.0659134	.2482475	0	1
woman	.566855	.4957437	0	1
woman_emp	.2824859	.4504205	0	1
age_group				
young and Adults	.1986817	.3991959	0	1
Pre-erderly elderly	.2165725	.4121029	0	1
agesq	.259887	.438779	0	1
education	.0894539	.2855322		
Secondary	1682.372	1191.659	225	7225
Tertiary	.6544256	.4757792	0	1
income	.0404896	.1971975	0	1

Second20%	.1770245	.3818693	0	1
Middle 20%	.1949153	.3963221	0	1
Fourth20%	.1967985	.397766	0	1
Richest20%	.2608286	.4392935	0	1
urban	.6374765	.4809553	0	1
emp_status	.6308851	.4827925	0	1
internet	1.472693	.499489	1	2
<i>N</i>	1062			

Source: author's analysis, 2025

The age group control variable consists of several categories, with the highest percentage in the pre-elderly group (46–59 years) at 25.9%, followed by the adult group (36–45 years) at 21.7%, and the young adult group (26–35 years) at 19.9%. Elderly (60 years and above) only covers 8.9% of respondents. Meanwhile, the average squared age value is 1682, indicating a wide age distribution from the minimum age (15 years) to the maximum of 85 years and over (maximum squared age = 7225).

Most respondents have secondary education at 65.4%, and only 4% have tertiary education, indicating a low proportion of people with higher education. The distribution of respondents by income group is quite balanced. The majority come from the middle 20% (19.4%) and the wealthiest 20% (26%) groups, representing all income classes. As many as 63% of respondents stated that they were working, 63.7% lived in urban areas, and the majority of respondents had internet access, although some still did not.

The coefficient on the woman variable shows a negative direction and a significant effect of being a woman on the probability of making an in-store mobile transaction. It indicates that women generally have a lower probability of using a mobile phone to make store transactions than men, after controlling for the working woman variable and other demographics. However, the significance of this effect disappears after socioeconomic, location, and internet access variables are added. It suggests that the gender gap in the use of financial technology in stores is likely mediated by other structural factors such as education and access. Women employed are more likely to use a mobile phone for in-store transactions, but this effect is reduced when controlled for education, income, and internet access.

The age (age_group) and age squared (agesq) variables show that older age groups (adults to elderly) have a lower probability than the youngest age group (adolescents). The effect of age is seen to be negative and is greater in absolute terms in the pre-elderly and adult groups.

Education has a significant effect, particularly in secondary education, which has a significant positive coefficient (models 4 and 5), and higher education has a very significant effect. It shows that the higher a person's education, the more likely they are to transact via mobile phone in stores. From an economic perspective, income (income quintile) generally does not show a significant effect. However, the direction of the coefficient varies, indicating that the income factor is not a strong predictor of direct mobile payment usage.

Although the urban variable has a positive coefficient (model 5), it is not statistically significant, indicating that living in an urban area increases the tendency to use mobile payments. The Internet has a significant adverse effect in model (6) (coefficient -0.838, $p < 0.05$). This finding is counterintuitive, considering that having internet access is usually associated with increased digital literacy. However, this result may reflect that some internet users in Indonesia are not yet familiar with or trust digital payment systems directly in stores, compared to conventional cash or e-wallet users.

Tabel 3. Logit Models - In Store Transaction

	(1)	(2)	(3)	(4)	(5)	(6)
	in_store_transaction	in_store_transaction	in_store_transaction	in_store_transaction	in_store_transaction	in_store_transaction
woman	-0.0422 (0.249)	-0.648 (0.359)	-0.843 (0.367)	-0.530 (0.547)	-0.462 (0.551)	-0.373 (0.552)
woman_emp		1.002** (0.366)	1.253*** (0.378)	0.846** (0.628)	0.738** (0.633)	0.656** (0.634)
2.age_group			-0.221 (0.444)	-0.304 (0.451)	-0.270 (0.452)	-0.362 (0.447)
3.age_group			-1.201 (0.872)	-1.057 (0.889)	-1.079 (0.885)	-1.248 (0.868)
4.age_group			-1.803 (1.511)	-1.491 (1.530)	-1.540 (1.530)	-1.780 (1.500)
5.age_group			-0.354 (2.511)	0.280 (2.599)	0.155 (2.590)	-0.465 (2.563)
agesq			-0.000492 (0.000660)	-0.000476 (0.000682)	-0.000474 (0.000680)	-0.000214 (0.000670)
2.education				1.372* (0.638)	1.307* (0.639)	1.089 (0.648)
3.education				2.388** (0.751)	2.347** (0.751)	2.003** (0.765)
2.income				-0.642 (0.538)	-0.672 (0.540)	-0.735 (0.543)

3.income				0.0202 (0.439)	-0.0640 (0.443)	-0.186 (0.449)
4.income				-0.453 (0.471)	-0.552 (0.475)	-0.690 (0.482)
5.income				0.223 (0.399)	0.159 (0.401)	-0.00977 (0.411)
emp_status				0.238 (0.514)	0.287 (0.517)	0.324 (0.515)
urban					0.485 (0.296)	0.387 (0.299)
internet						-0.838* (0.412)
_cons	-2.627*** (0.186)	-2.627*** (0.186)	-1.460*** (0.352)	-2.938*** (0.816)	-3.184*** (0.832)	-1.988* (1.006)
<i>N</i>	1062	1062	1062	1062	1062	1062

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: author's analysis, 2025

DISCUSSION

The study results show a tendency to use mobile phones to make in-store transactions, with a focus on the influence of women and working women. The coefficient of AME woman in all models is not statistically significant and has a negative value. In general, being a woman tends to slightly reduce the probability of using a mobile phone for in-store transactions compared to men, but the effect is small and mostly not statistically significant. Women do not appear to be more active than men in using mobile phones for in-store payments. It may even be slightly lower, although the difference is small and statistically weak. This difference can be explained by social norms and cultural barriers that limit women's access to digital technology. Soekarno & Setiawati (2020) found that gender differences in mobile banking adoption are influenced by perceptions of usefulness and ease of use, not solely by gender factors themselves.

This study highlights the existence of a gender gap in the use of financial technology, especially among women who are below the poverty line. In addition, studies by Asongu et al. (2023), Tchamyou et al., (2021), Duncombe & Boateng (2009) show that mobile money innovation has a positive impact on gender inclusion, but the impact varies depending on factors such as education, income, digital literacy, and access to technology. Pandey et al. (2023) and Syed et al. (2024) find that internet penetration and mobile phone usage are positively associated with financial inclusion in BRICS countries, but gender differences persist in access to and use of digital financial services.

When looking at employed women, this impact changes. In models 2 and 3, employed women are more likely to transact in person using a mobile phone, especially when demographic variables are not yet controlled for. However, this effect weakens somewhat after controlling for age, education, income, urbanization, and internet. Employed women have higher exposure to technology and a need for efficiency in transactions, driving mobile payment adoption. A study by Elouardighi & Oubejja (2023) found that mobile payment usage increases the amount and frequency of purchases, especially for goods with high price elasticity.

Working women are more likely to use mobile phones for in-store transactions than non-working women. Studies by W. Chen & Yuan (2021), X. Chen et al. (2024), and Asongu et al. (2023) found that digital finance increases women's bargaining power in households, which has a positive impact on their wages. This suggests that women's participation in the workforce, supported by access to digital financial services, can increase the use of financial technology. that working women are more likely to adopt digital financial services due to the need for access to flexible financial services. The results of S. A. Asongu et al. (2024) show that mobile money innovation can reduce income inequality and increase gender inclusion, especially for economically active women, in line with the findings of (S. Asongu et al., 2023; Demirgüç-Kunt et al., 2022; Pandey et al., 2023).

All age groups (compared to baseline 15–24 years) have a negative effect on mobile phone use for in-store transactions, but it is not significant. The same thing is also seen in the very small and insignificant squared age effect, indicating that there is no strong age-related pattern in the use of mobile phones for direct payments in stores. The decline

in technology adoption among the elderly can be attributed to limitations in digital literacy and resistance to change. Although not significant, this negative trend indicates that older individuals are less likely to use mobile phones for in-store transactions compared to younger age groups.

Research shows that demographic characteristics such as age and education level have a significant impact on the level of use of digital financial services, especially in the context of mobile transactions. Junger and Mietzner (2020) noted that older age groups tend to have lower levels of trust in digital financial institutions. This is likely related to limited ability to use digital technology, unfamiliarity with modern financial systems, and concerns about the security of personal data. Supporting this finding, research by He (2024) revealed a negative correlation between age and the use of mobile payment services, where every one-year increase in age decreases the odds of adoption by 1.4%. This fact suggests that increasing age can be an inhibiting factor in the adoption of new financial technologies and has the potential to widen the digital divide between generations. Meanwhile, education is a factor that drives the use of financial technology. Individuals with secondary education are 0.05% more likely to use mobile phones as a means of payment in stores than those with only primary education. This positive impact is even greater in the group with higher education, with an increase in the odds of use by 0.14%. This positive relationship suggests that the higher a person's education level, the more likely they are to have the digital knowledge and skills needed to utilize mobile financial services.

Thus, higher education tends to encourage active engagement in the use of financial technology, while older age poses challenges in the adoption process. Therefore, it is important to develop inclusive strategies, such as digital literacy training and service approaches tailored to the needs of older age groups, to understand digital representation and increase participation in the digital financial ecosystem.

This reflects the importance of digital literacy and trust in technology. Education increases digital literacy and trust in technology, which drives the adoption of mobile payments. A study by He (2024) found that individuals with higher education have a higher probability of adopting mobile payments. This finding is also in line with the research results of Shaikh & Karjaluo, (2015) that education motivates the intention to use digital payment services.

Tabel 5. AME Models - In Store Transaction

	(1)	(2)	(3)	(4)	(5)	(6)
woman	-0.00260 (0.0153)	-0.0396 (0.0222)	-0.0485 (0.0213)	-0.0295 (0.0305)	-0.0256 (0.0306)	-0.0205 (0.0304)
woman_emp		0.0612** (0.0230)	0.0721** (0.0222)	0.0471** (0.0350)	0.0409** (0.0351)	0.0361** (0.0350)
2.age_group			-0.0173 (0.0393)	-0.0207 (0.0349)	-0.0187 (0.0350)	-0.0261 (0.0381)
3.age_group			-0.0655 (0.0584)	-0.0553 (0.0515)	-0.0561 (0.0517)	-0.0665 (0.0555)
4.age_group			-0.0798 (0.0657)	-0.0673 (0.0618)	-0.0685 (0.0615)	-0.0797 (0.0639)
5.age_group			-0.0264 (0.175)	0.0234 (0.229)	0.0124 (0.214)	-0.0324 (0.163)
agesq			-0.0000283 (0.0000380)	-0.0000265 (0.0000381)	-0.0000263 (0.0000377)	-0.0000118 (0.0000369)
2.education				0.0496*** (0.0150)	0.0477** (0.0154)	0.0420* (0.0175)
3.education				0.138** (0.0508)	0.137** (0.0506)	0.115* (0.0472)
2.income				-0.0303 (0.0250)	-0.0328 (0.0259)	-0.0379 (0.0277)

3.income				0.00122 (0.0264)	-0.00387 (0.0269)	-0.0116 (0.0283)
4.income				-0.0229 (0.0243)	-0.0281 (0.0249)	-0.0362 (0.0264)
5.income				0.0144 (0.0251)	0.0104 (0.0257)	-0.000645 (0.0272)
emp_status				0.0133 (0.0287)	0.0159 (0.0286)	0.0178 (0.0284)
urban					0.0269 (0.0164)	0.0213 (0.0165)
internet						-0.0462* (0.0229)
<i>N</i>	1062	1062	1062	1062	1062	1062

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: author's analysis, 2025

Employment status and income levels are not proven to affect individuals' opportunities (regardless of gender) to use mobile phones as a payment instrument in stores. This suggests that only employment status for women has a significant effect, possibly because women's dual roles in households and work increase the need for efficiency in transactions, while employment status does not appear to differ if gender factors are not separated.

On the other hand, the insignificance at various income levels is due to the even distribution of mobile payment technology across income groups, or because other factors such as trust and risk perception are more dominant in influencing the adoption of this technology. Although not significant, this variation may reflect that individuals with higher incomes have greater access and tendency to use mobile payments, but other factors such as trust and convenience also play an important role.

Looking at the results of the logistic model and AME, the location of residence in the city has a positive effect on encouraging the use of mobile phones as a payment instrument in stores, although it is not statistically significant. Junger and Mietzner (2020) found that individuals in urban areas are more likely to adopt digital financial services, in line with the findings of (Choung et al., 2023) noted that location influences digital financial literacy. Although digital infrastructure is better in urban areas, other factors such as consumer preferences and perceived security may be more important in mobile payment adoption.

However, internet access actually decreases the probability of individuals using direct transactions via mobile phones (seen in model 6). Internet access in general does not guarantee an increase in direct transactions in stores via mobile phones. This negative effect may reflect a shift in internet users' preferences to online shopping platforms (such as e-commerce) rather than offline transactions in stores. Higher internet access may encourage consumers to switch to online shopping, reducing the use of mobile phones for direct transactions in stores.

This study has several limitations that need to be noted. This study has not included variables related to online shopping as a comparison. In fact, a comparison between mobile phone use for direct transactions in stores (in-store) and online transactions (out-store) can provide a more comprehensive picture of people's digital financial behavior. Therefore, further research is recommended to include this dimension to explore possible differences in the probability of mobile phone use in different transaction contexts.

This study is based on individual survey data from the Global Findex 2021 which only includes general classifications of residential areas, namely urban and rural, without considering the specific effects of differences between administrative areas such as provinces. The absence of more detailed spatial elements, such as the division between Java and outside Java, or between provinces, may limit the ability to capture structural variations that may affect digital financial inclusion. Therefore, developing studies using more recent data and considering more granular territorial aspects will be essential to produce more accurate and policy-relevant analyses.

CONCLUSION

This study examines the trend of mobile phone usage patterns for in-store transactions by women and female workers in Indonesia. The results explain There is no strong evidence that women in general use mobile phones more often for in-store transactions than men. In fact, the tendency is slightly lower. However, women who are employed are significantly more likely to use mobile phones for in-store payments — suggesting that the employment/economic empowerment dimension is very important in women's adoption of financial technology. Of all the socio-demographic control variables, education is the strongest determinant, the higher the education of a person, the more likely they are to use in-store transaction technology. Attention is needed to digital access and preferences: the negative results for the internet variable suggest that simply having a connection is not enough — perhaps more women or users are turning to online shopping rather than continuing to use mobile phones for in-store transactions.

The finding that women who are employed are more likely to use mobile phones for in-store transactions suggests the importance of women's economic empowerment in driving digital financial inclusion. Policies that support women's participation in the workforce and their access to digital technology can increase the use of digital financial services.

However, there is a tendency for gender gaps in the use of financial technology, especially among women who are unemployed or below the poverty line. Therefore, targeted policy interventions, such as digital and financial literacy training, and gender-responsive financial product design, are needed to address these barriers.

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