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Account Ownership versus Digital Payments: Unequal Financial Inclusion in Indonesia

Bunga Dwi Fani Ritonga[1]
[1] Universitas Islam Negeri Sumatera Utara, Indonesia
email: bungafani99@gmail.com[1]

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Abstract

Financial inclusion inequalities cannot be adequately assessed through account ownership alone because formal access does not necessarily correspond to digital payment utilization. This study examines gender- and income-based differences in financial inclusion in Indonesia by comparing account ownership and digital payment indicators. A quantitative descriptive design was employed using cross-sectional secondary data from Indonesia's 2024 Global Findex indicators published by the World Bank. Four population categories were analyzed: women, men, the poorest 40%, and the wealthiest 60%. Descriptive comparisons were conducted using percentage-point differences without estimating causal relationships or individual-level transitions. Women recorded higher account ownership than men (58% versus 55%) but lower digital payment use (34% versus 42%). Account ownership among the poorest 40% reached 48%, compared with 62% among the wealthiest 60%, while digital payment use was 43% and 49%, respectively. Within-group differences between ownership and payment indicators were 24 percentage points for women, 13 for men, 5 for the poorest 40%, and 13 for the wealthiest 60%. These findings demonstrate that gender disparities reverse direction across indicators, whereas income disparities remain directionally consistent but differ in magnitude. Financial inclusion monitoring should distinguish formal access from actual digital utilization to support more accurate assessments of demographic inequality.

Keywords: *Account Ownership; Digital Payments; Financial Inclusion; Gender Inequality; Income Disparities.*

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INTRODUCTION

The expansion of digital financial services has transformed financial inclusion from a policy objective primarily concerned with access to formal banking institutions into a multidimensional development challenge involving account ownership, transaction capabilities, technological accessibility, and equitable participation in digital economic activities. Financial innovation has expanded opportunities for individuals and households to access financial services, yet the diffusion of financial technologies does not necessarily eliminate established socioeconomic inequalities or guarantee that individuals possessing financial accounts actively use digital payment facilities (Ha et al., 2025; Chen et al., 2023). The Global Findex Database 2025 provides an internationally comparable basis for examining these distinctions through indicators of financial account ownership, digital transactions, and demographic disparities, including those associated with gender and economic position (Klapper et al., 2025). Indonesia represents a relevant setting because its expanding digital financial ecosystem operates alongside differences in financial literacy, technological capabilities, and socioeconomic resources that may influence participation in financial services (Widyastuti, Respati, Dewi, & Soma, 2024). Research addressing digital payment adoption in Indonesia further indicates that technological accessibility and individual characteristics warrant consideration when evaluating the distribution of financial inclusion rather than interpreting service availability as evidence of equivalent participation across population groups (Pertiwi et al., 2024). The distinction between formal access and functional participation becomes particularly consequential when financial inclusion is evaluated through aggregate ownership indicators that do not independently describe the extent of digital financial utilization. Contemporary financial inclusion research consequently requires greater attention to the correspondence between ownership-based and

usage-based measures, especially where institutional assessments seek to identify demographic groups experiencing unequal opportunities to participate in an increasingly digital financial system.

Recent scholarship has developed several complementary explanations for unequal financial inclusion, particularly through investigations of technological adoption, financial capabilities, gender relations, and socioeconomic differentiation. Research examining digital financial literacy and financial well-being emphasizes that acquiring formal financial services and possessing the capabilities required to use them represent related but analytically distinguishable dimensions of financial participation (Kamble et al., 2024; Al-Afeef & Alsmadi, 2025; Alqam & Hamshari, 2024). Studies of financial technology adoption have extended this analytical orientation by incorporating behavioral characteristics, demographic variation, and contextual factors that influence individuals' engagement with digital financial instruments (Pak et al., 2026; Sam-Abugu et al., 2025). Gender-oriented scholarship provides a complementary explanation by demonstrating that differences in financial technology participation cannot be understood exclusively through the availability of formal accounts, since household responsibilities, digital competencies, socioeconomic resources, and social environments may shape financial behavior (Febrianty et al., 2024; van der Cruijsen et al., 2025). Evidence concerning women's digital financial participation in Indonesia places these questions within a national setting where financial service adoption intersects with gender and technological accessibility (Setiawan et al., 2024; Widyastuti, Respati, & Mahfirah, 2024). Research on mobile financial technology among economically disadvantaged populations similarly broadens the discussion beyond conventional banking access by considering barriers associated with technological acceptance and the circumstances of financially marginalized users (Ashoer et al., 2024). These strands of scholarship collectively establish that financial inclusion cannot be adequately conceptualized as a single outcome. Their substantive convergence lies in recognizing that formal participation, digital capabilities, and actual financial behavior may develop unevenly, while their methodological diversity illustrates the importance of selecting indicators that correspond precisely to the dimensions being investigated.

Despite these developments, a persistent analytical limitation concerns the interpretation of financial inclusion when account ownership and digital payment utilization are examined through different empirical frameworks or treated as interchangeable indicators of progress. Research addressing gender disparities increasingly distinguishes financial access from actual financial service usage, demonstrating the conceptual relevance of examining whether improvements in account ownership correspond to comparable developments in financial transactions (Kamble & Mehta, 2026). Studies investigating gender inequality across emerging markets and G20 economies further indicate that financial inclusion is shaped by institutional, technological, and demographic conditions, although their broader comparative orientations do not independently establish the distribution of ownership–usage differences within Indonesian population categories (Khan et al., 2026; Guruprasad et al., 2026; Jannah et al., 2026). Other investigations introduce socioeconomic mechanisms through which community norms, peer behavior, gender-related constraints, and financial participation may interact, but their contextual and methodological characteristics limit direct generalization to Indonesia's published aggregate indicators (Arora et al., 2026; Faton et al., 2025). Research examining digital financial services through machine learning and gender-sensitive analytical frameworks likewise advances understanding of potential inclusion disparities without eliminating the need for transparent comparisons of specific indicators at the country level (Galindo-Manrique & Rojas-Vargas, 2025). The research gap addressed in the present article is consequently not the complete absence of knowledge concerning digital financial inequality, but the more specific need for an explicitly bounded, indicator-level assessment of whether gender and income disparities in Indonesian financial account ownership exhibit the same direction and relative magnitude as disparities in digital payment use. Existing scholarship provides substantial explanations of financial exclusion and digital adoption, while the descriptive relationship between these particular indicators warrants separate examination before behavioral or causal interpretations can be justified.

The consequences of this measurement gap extend beyond methodological consistency because the selection of financial inclusion indicators can affect the identification of disadvantaged groups and the interpretation of institutional progress. Policies emphasizing account registration may appear successful when ownership increases, even though the ability to conduct digital transactions remains unequally distributed across demographic categories. Research connecting digital financial inclusion

with income inequality suggests that technological innovation and infrastructural development are relevant to broader distributional outcomes, making the measurement of financial participation consequential for development-oriented policy evaluation (Suhrab et al., 2024). Related investigations examining digital financial inclusion, women's economic empowerment, and poverty reduction reinforce the need to distinguish participation opportunities from the wider socioeconomic benefits associated with financial systems (Kumari et al., 2025; Li & Han, 2026). Evidence concerning marginalized women participating in mobile payment ecosystems further directs attention toward continued engagement rather than adoption alone, particularly when practical financial participation depends on circumstances beyond initial access (Sharmila Devi et al., 2025). Studies addressing gendered financial exclusion in Latin America and digital financial development in Saudi Arabia demonstrate the relevance of demographic and institutional differences for evaluating inclusion, although findings from these settings should not be assumed to explain Indonesian outcomes without corresponding evidence (Lorain et al., 2025; Siregar et al., 2026). Research on digital skills among economically disadvantaged consumers similarly supports examining whether formal service availability is accompanied by the capabilities required for meaningful financial participation (Vik et al., 2024). For Indonesian financial institutions and policymakers, an assessment relying exclusively on account ownership could consequently obscure distributional differences revealed by transaction-use measures. A more differentiated evaluation is scientifically necessary to prevent conceptual overextension and practically relevant for identifying where subsequent investigations of affordability, digital competence, transaction safety, and service accessibility should be directed.

The present study occupies a distinct position within this literature by prioritizing the comparability and interpretation of published financial inclusion indicators rather than developing an explanatory model of individual financial technology adoption. Whereas research on digital literacy, technological acceptance, gender relations, and socioeconomic inequality generally investigates determinants or consequences of financial participation, the proposed analysis concentrates on the relationship between two observable dimensions of inclusion: formal account ownership and digital payment use. Its methodological contribution consists of a cross-indicator gap audit using Indonesia's 2024 Global Findex indicators, organized into two separate demographic comparisons involving women and men and the poorest 40% and wealthiest 60% of the population (Klapper et al., 2025). The analytical procedure compares percentage-point differences between population groups for each indicator and examines the numerical separation between ownership and digital payment percentages within the reported categories. This approach is conceptually consistent with research distinguishing financial access from usage, while adopting a narrower empirical scope than studies that estimate individual-level behavioral mechanisms or socioeconomic determinants (Kamble & Mehta, 2026; Widyastuti, Respati, Dewi, & Soma, 2024). Its novelty lies in the explicit integration of gender-based and income-based indicator comparisons within a single descriptive framework that evaluates whether observed inequalities remain consistent across alternative measures of financial inclusion. This contribution must be distinguished from causal explanation: aggregate percentages cannot establish transitions from account ownership to digital payment adoption, identify overlapping individual users, or determine why particular demographic differences occur. The study consequently offers an indicator-sensitive interpretation of published evidence rather than claiming to discover previously unobserved individual behavior. Its contribution is an empirically bounded assessment of measurement-dependent inequality that can complement explanatory research and clarify the evidentiary requirements of more advanced financial inclusion evaluations.

This study aims to examine differences between formal account ownership and digital payment use in Indonesia using publicly reported 2024 financial inclusion indicators disaggregated by gender and income group. Specifically, the research seeks to compare account ownership and digital payment percentages between women and men, assess corresponding differences between the poorest 40% and wealthiest 60% of the population, and determine whether the direction and magnitude of demographic disparities remain consistent across the two indicators. The analysis also evaluates the numerical separation between ownership and utilization measures within each reported population category to identify patterns that may be obscured when financial inclusion is represented by a single aggregate indicator. A cross-sectional secondary-data approach is employed, with comparisons expressed in percentage points and interpreted according to the definitions and limitations of the published measures. The research does not estimate causal relationships, individual transitions between financial

access and digital payment adoption, or statistical significance because the available aggregate indicators do not provide the individual-level observations and sampling information required for such analyses. Its scientific contribution lies in refining the measurement-based interpretation of financial inclusion inequalities by demonstrating how different indicators can support different distributional assessments within the same national population. Its methodological contribution consists of a transparent and reproducible descriptive comparison that separates observed percentage differences from assumptions about behavioral mechanisms. Its practical contribution is to provide an evidence-based foundation for evaluating financial inclusion through complementary measures of formal access and actual utilization, thereby supporting more differentiated monitoring of demographic disparities and identifying priorities for subsequent research into the barriers that may prevent equitable participation in digital financial services.

RESEARCH METHODS

This study employed a quantitative descriptive research design based on a cross-sectional secondary-data audit of Indonesia's 2024 financial inclusion indicators published through the World Bank Global Findex Database 2025 and the World Bank Digital Finance platform. The research examined the distinction between formal financial access and digital financial utilization through two indicators: the percentage of adults owning a financial account and the percentage using digital payments during the applicable survey reference period. The units of analysis were published population-group aggregates rather than individual respondents, households, or financial institutions. Four population categories were examined: women, men, the poorest 40% of the population, and the wealthiest 60%. These categories formed two separate comparative dimensions, namely gender and income position, and were not interpreted as mutually exclusive categories within a single demographic classification. The selection of indicators and population groups followed their availability in the published Indonesian country-level statistics and their direct relevance to the research objectives. Data acquisition involved extracting the reported percentages for each indicator and population category from publicly available institutional statistics. The extracted values were organized into comparative tables while preserving the original reporting units, demographic classifications, and indicator definitions. No primary survey, interview, experimental intervention, participant recruitment, or individual-level data collection was undertaken. The investigation did not introduce additional observations, reconstruct unreported demographic distributions, or substitute estimated values for unavailable records.

Data processing and analysis followed a descriptive cross-indicator comparison using percentage-point differences as the principal analytical measure. For each demographic dimension, the difference in account ownership was calculated by subtracting the reported percentage of one comparison group from that of the other, with the same procedure applied independently to digital payment use. Within-group differences were calculated by subtracting the digital payment percentage from the account ownership percentage for each population category. These calculations were used to assess whether demographic inequalities exhibited consistent directions and magnitudes across the two indicators and to identify the extent to which interpretations of financial inclusion depended on the measure selected. The analytical outputs consisted of tables presenting the published percentages, derived demographic differences, and within-group indicator differences, together with a graphical representation of the observed distributions. Analytical accuracy was addressed by retaining the original published values, using percentage points rather than relative percentage changes, maintaining consistent subtraction procedures, and distinguishing source observations from arithmetic calculations. The interpretation also preserved the conceptual separation between account ownership and digital payment use because the published aggregate indicators did not establish that individuals represented in one measure were necessarily included in the other. Gender and income categories were analyzed independently, without constructing unsupported intersectional estimates. The absence of individual-level observations, subgroup sampling variances, and linked behavioral records precluded inferential significance testing, conditional probability estimation, and causal analysis. Consequently, the findings were restricted to descriptive differences observable in the published statistics, with reproducibility supported by explicit identification of the institutional data sources, population classifications, indicator measurements, and calculation procedures.

RESULTS AND DISCUSSION

Gender Contrasts in Formal and Functional Financial Inclusion

Gender-based financial inclusion in Indonesia requires distinguishing access to formal financial accounts from the actual utilization of digital payment services. The 2024 Global Findex indicators provide an empirical basis for examining these dimensions through separately reported percentages for women and men. Although both measures concern participation in financial systems, they capture different aspects of financial inclusion and cannot be interpreted as interchangeable indicators of financial behavior (Klapper et al., 2025). This distinction is analytically relevant because gender equality in formal account ownership does not necessarily establish equivalent opportunities for conducting digital financial transactions.

The published indicators record account ownership of 58% among women and 55% among men, representing a three-percentage-point difference in favor of women. Digital payment utilization follows a different distribution, with 34% of women and 42% of men reporting use of digital payments, producing an eight-percentage-point difference favoring men. These observations indicate that the direction of gender disparity changes according to whether financial inclusion is evaluated through account ownership or digital payment use. The contrast corresponds to the conceptual distinction between financial accessibility and financial technology participation examined in research on gender differences in digital finance (Chen et al., 2023; Kamble & Mehta, 2026).

The reversal between ownership and payment-use indicators has implications for interpreting apparent progress toward gender equality in financial services. An assessment based exclusively on account ownership would identify a modest female advantage, whereas an assessment based on digital payment utilization would identify a larger male advantage. The coexistence of these patterns demonstrates that the selection of measurement indicators materially influences the characterization of gender inequality within the same national population. Research examining digital financial literacy and demographic characteristics in Indonesia provides a relevant basis for treating participation in digital financial services as a multidimensional phenomenon rather than a direct consequence of account possession (Widyastuti, Respati, Dewi, & Soma, 2024).

The observed distributions are presented in Table 1 to distinguish the original published percentages from the arithmetic comparisons developed in this study. The table preserves the reported gender categories and expresses differences in percentage points rather than proportional percentage changes. Such presentation supports transparent interpretation while avoiding assumptions concerning individual transitions from account ownership to digital payment use (Klapper et al., 2025).

Table 1. Gender Differences in Account Ownership and Digital Payment Use in Indonesia, 2024

Financial inclusion indicator	Women (%)	Men (%)	Gender difference (pp)
Account ownership	58	55	Women +3
Digital payment use	34	42	Men +8
Ownership minus digital payment use	24	13	Women +11

Source: World Bank Global Findex Database 2025, Indonesia indicators for 2024.

The numerical separation between account ownership and digital payment utilization reaches 24 percentage points among women and 13 percentage points among men. This difference indicates that the two reported measures are more widely separated within the female population category than within the male category. The eleven-percentage-point difference between these indicator separations provides a descriptive measure of the unequal correspondence between formal access and digital financial participation across gender groups. It must not be interpreted as evidence that a specific proportion of account holders failed to adopt digital payments, since the published aggregates do not identify the overlap between individuals represented by the two measures (Klapper et al., 2025).

The difference between formal and functional inclusion can be interpreted through the broader literature on digital financial capabilities and gender-related constraints. Financial literacy, technological familiarity, and practical competence are relevant considerations because the ability to maintain an account does not necessarily imply equivalent confidence or capacity to use digital financial instruments. Research on gender differences in digital financial literacy and financial

behavior supports examining these potential mechanisms separately from formal account possession (Febrianty et al., 2024; Widyastuti, Respati, & Mahfirah, 2024). Nevertheless, the Indonesian aggregate indicators analyzed here do not measure financial literacy, digital confidence, or technological competence, preventing attribution of the observed gender differences to these characteristics.

Gender disparities in financial transactions may also reflect the organization of household economic responsibilities and differences in the circumstances under which financial decisions are made. Research on household payment tasks indicates that gender differences in financial activity warrant examination beyond individual access to financial instruments (van der Cruijsen et al., 2025). Studies of digital financial inclusion among women in Indonesia similarly demonstrate the relevance of investigating the circumstances surrounding engagement with financial technology rather than assuming that account availability sufficiently explains financial participation (Setiawan et al., 2024). The present indicators, however, contain no information about household decision-making, transaction purposes, or control over financial resources, meaning these explanations remain hypotheses for subsequent investigation rather than established findings.

The gender-based reversal also raises questions concerning the adequacy of conventional financial inclusion monitoring frameworks. A measurement system prioritizing account ownership could classify women as comparatively advantaged despite their lower representation in the separately reported digital payment indicator. Research examining the fintech gender gap and digital financial inclusion in emerging economies provides a foundation for distinguishing access inequalities from differences in technology-mediated financial participation (Chen et al., 2023; Galindo-Manrique & Rojas-Vargas, 2025). The empirical contribution of the Indonesian comparison lies in demonstrating that these dimensions produce different descriptive assessments when applied to the same gender categories and reference year.

The interpretation of these results requires attention to the limitations of secondary aggregate statistics. The reported percentages are rounded population-group indicators, and the available material does not provide individual-level records or subgroup sampling variances needed to assess statistical significance. Consequently, the observed differences establish descriptive contrasts but cannot demonstrate causal relationships, behavioral sequences, or statistically significant gender disparities (Klapper et al., 2025). These restrictions are consistent with the distinction between descriptive measurement and explanatory inference emphasized in research examining the determinants of digital financial inclusion (Kamble et al., 2024; Ha et al., 2025).

The gender comparison establishes that account ownership and digital payment utilization generate different distributions of financial inclusion across Indonesian women and men. Its principal analytical significance concerns the inadequacy of using formal account ownership as an exclusive representation of gender equality in digital financial participation. Future empirical investigation would require linked individual-level observations to determine whether differences in financial capabilities, household responsibilities, technological access, or transaction environments account for the observed divergence, particularly among women facing additional socioeconomic constraints (Ashoer et al., 2024; Sharmila Devi et al., 2025). Financial inclusion assessment can meanwhile benefit from reporting ownership and utilization as separate indicators, preserving the distinction between observed demographic inequalities and the untested mechanisms that may contribute to them.

Income Disparities and Indicator Selection in Digital Financial Inclusion

Income-based differences in financial inclusion represent an important dimension of socioeconomic inequality because formal access to financial institutions and participation in digital transactions may be distributed unevenly across economic groups. The Indonesian Global Findex indicators for 2024 permit a descriptive comparison between the poorest 40% and the wealthiest 60% of the population using account ownership and digital payment utilization as separate measures. These indicators provide a basis for examining whether economic differences remain consistent across distinct dimensions of financial participation without assuming that access automatically produces active financial service use. Research connecting digital financial inclusion with income inequality emphasizes the relevance of technological development and economic differentiation to the distribution of financial opportunities (Suhrab et al., 2024; Kumari et al., 2025).

The published statistics indicate that account ownership reaches 48% among the poorest 40% of the population and 62% among the wealthiest 60%, producing a 14-percentage-point advantage for the wealthier group. Digital payment utilization follows the same directional pattern, with reported percentages of 43% and 49%, respectively, resulting in a six-percentage-point difference. The unequal magnitudes indicate that income-related disparities are more pronounced for formal account ownership than for digital payment use when measured through absolute percentage-point differences. This distinction is consistent with the analytical separation between access and utilization emphasized in research examining financial capabilities and the distribution of financial inclusion across socioeconomic groups (Kamble et al., 2024; Vik et al., 2024).

The income comparison differs from the gender distribution because both financial inclusion indicators favor the wealthier population category, although the relative magnitude of the differences varies substantially. The ownership gap exceeds the digital payment gap by eight percentage points, demonstrating that the apparent extent of economic inequality depends partly on the indicator selected for evaluation. A measurement framework relying exclusively on account ownership would characterize the income disparity as considerably wider than a framework examining digital payment utilization. Studies investigating the relationship between digital finance and socioeconomic inequality provide a relevant foundation for considering why different dimensions of financial participation should be evaluated independently rather than incorporated into an undifferentiated inclusion measure (Li & Han, 2026; Ha et al., 2025).

The numerical differences are presented in Table 2 to preserve the distinction between published financial inclusion percentages and the derived comparative measures. The table reports the absolute percentage-point advantage of the wealthier group for each indicator and includes the within-group numerical separation between account ownership and digital payment use. This descriptive organization permits direct comparison across the two income categories without reconstructing individual-level financial behavior or estimating relationships unsupported by the published data (Klapper et al., 2025).

Table 2. Income-Based Differences in Account Ownership and Digital Payment Use in Indonesia, 2024

Financial inclusion indicator	Poorest 40% (%)	Wealthiest 60% (%)	Income-group difference (pp)
Account ownership	48	62	Wealthier +14
Digital payment use	43	49	Wealthier +6
Ownership minus digital payment use	5	13	Wealthier +8

Source: World Bank Global Findex Database 2025, Indonesia indicators for 2024.

Table 2 indicates that the numerical separation between account ownership and digital payment utilization is five percentage points among the poorest 40% and thirteen percentage points among the wealthiest 60%. The eight-percentage-point difference between these separations suggests that the correspondence between the two indicators varies across the reported income categories. The smaller separation among poorer adults should not be interpreted as evidence of superior financial conversion, greater transactional efficiency, or fewer barriers to digital financial participation because the underlying indicators do not establish whether the same individuals are represented in both measures. This limitation is particularly relevant to research on digital financial literacy and financial inclusion, which distinguishes the possession of financial resources from the capabilities and circumstances influencing their utilization (Al-Afeef & Alsmadi, 2025; Alqam & Hamshari, 2024).

Economic resources may influence financial participation through differences in technological accessibility, transaction affordability, digital competencies, and opportunities to engage with formal financial services. Research using consumer survey data from low-income communities identifies digital skills as a relevant dimension of financial inclusion, while investigations of financial technology innovation emphasize the interaction between technological developments and financial capabilities (Vik et al., 2024; Sam-Abugu et al., 2025). These perspectives offer plausible explanations for the higher account ownership and digital payment percentages observed among

wealthier Indonesian adults. The aggregate indicators used in this study, however, do not contain information on individual digital skills, device ownership, transaction costs, or financial service availability, preventing these potential mechanisms from being established as empirical determinants of the observed income differences.

The relationship between income and digital financial participation also warrants examination because financial inclusion can be both associated with socioeconomic conditions and implicated in broader processes of economic development. Research examining digital finance and income inequality investigates how technological innovation and infrastructure may interact with distributional outcomes, while studies of digital financial inclusion and women's empowerment consider connections between financial participation and poverty reduction (Suhrab et al., 2024; Kumari et al., 2025). These relationships cannot be inferred directly from the Indonesian percentages because the available data describe differences between income groups rather than changes in income, poverty, or economic welfare attributable to digital financial services. The present findings consequently contribute to the measurement of distributional differences without establishing that digital financial inclusion has reduced or intensified socioeconomic inequality.

The comparatively narrower digital payment difference also raises an interpretive issue concerning the relationship between financial service ownership and transaction participation. A smaller income-group disparity in digital payment use does not necessarily indicate that digital financial systems have eliminated socioeconomic barriers, particularly when the published indicators do not identify transaction frequency, monetary value, service quality, or the economic circumstances of individual users. Research addressing mobile financial technology among economically disadvantaged populations suggests that the conditions surrounding financial participation may remain consequential even where digital services are available (Ashoer et al., 2024). Similarly, investigations of financial participation among marginalized women highlight the need to distinguish initial adoption from sustained engagement with digital payment systems (Sharmila Devi et al., 2025). The Indonesian comparison supports a narrower conclusion: income-related differences persist in both indicators, but their observed magnitudes are not equivalent.

Methodological considerations further constrain the interpretation of these income-based comparisons. The poorest 40% and wealthiest 60% are complementary income categories, whereas the gender comparison examines a different population classification, making direct reconstruction of combined gender–income groups inappropriate without underlying microdata. The reported percentages are aggregate estimates, and the available material does not provide sampling uncertainty or linked individual responses required for inferential comparisons, conditional probability calculations, or causal analysis (Klapper et al., 2025). These restrictions prevent conclusions about whether income differences remain independently associated with digital payment utilization after accounting for education, geographic location, gender, or other demographic characteristics. Research on digital financial inclusion and economic inequality demonstrates the relevance of such factors for more comprehensive investigation, but their individual contributions cannot be quantified through the descriptive calculations employed here (Li & Han, 2026; Kamble et al., 2024).

Income-based financial inclusion in Indonesia is characterized by a consistent advantage for the wealthier population category across both account ownership and digital payment utilization, accompanied by substantial differences in the magnitude of inequality between indicators. The 14-percentage-point ownership gap and six-percentage-point digital payment gap establish that financial access and transaction use yield distinct descriptive assessments of socioeconomic disparities. These findings reinforce the need for multidimensional financial inclusion monitoring that preserves differences between formal accessibility and functional participation rather than interpreting a single indicator as a comprehensive measure of financial equality (Ha et al., 2025; Widyastuti, Respati, Dewi, & Soma, 2024). Subsequent research using linked individual-level data could examine the mechanisms underlying these differences, while the present evidence provides a transparent empirical basis for identifying income-related disparities and the limitations of indicator-dependent interpretations.

Inclusive Financial Service Design and Multidimensional Monitoring Implications

Financial inclusion monitoring requires a distinction between the institutional provision of financial access and the actual utilization of digital financial services across socioeconomic groups.

The Indonesian Global Findex indicators for 2024 reveal that account ownership and digital payment use produce different assessments of inequality depending on whether comparisons are organized by gender or income position. This divergence raises a measurement concern because financial inclusion policies evaluated primarily through account registration may overlook distributional differences in transaction participation. Contemporary scholarship on financial technology and inclusion similarly emphasizes the analytical relevance of distinguishing access, utilization, and the broader conditions influencing participation in digital financial systems (Ha et al., 2025; Kamble et al., 2024).

The gender and income comparisons reveal two distinct patterns that have implications for interpreting financial inclusion performance. Women demonstrate a three-percentage-point advantage in account ownership but an eight-percentage-point disadvantage in digital payment use, whereas the wealthier income category maintains advantages of fourteen and six percentage points across the respective indicators. These observations indicate that demographic inequality cannot be adequately represented through a single directional assessment because the relationship between formal access and digital utilization varies according to the population classification examined. Research on financial technology adoption and gender-related digital participation provides a relevant basis for recognizing that demographic differences may appear differently across measures of financial accessibility and actual service engagement (Chen et al., 2023; Widyastuti, Respati, & Mahfirah, 2024).

The observed indicator divergence also challenges assumptions that expanding account ownership necessarily produces comparable improvements in digital payment participation. Formal financial access establishes an institutional relationship with financial service providers, but the reported aggregate indicators do not establish whether account owners undertake digital transactions or how frequently financial accounts are used. Research investigating financial literacy, technological competence, and digital financial inclusion identifies capabilities and behavioral circumstances as relevant considerations when evaluating financial participation beyond initial access (Al-Afeef & Alsmadi, 2025; Pak et al., 2026). The Indonesian evidence supports separating these measurement dimensions, although it does not establish which individual characteristics account for the differences between ownership and digital payment percentages.

The descriptive findings can be integrated into a multidimensional monitoring framework that preserves the distinction between observed indicators and additional dimensions requiring independent measurement. Table 3 consolidates the four population categories examined in the study and reports the percentage-point separation between account ownership and digital payment use. The comparison provides a reproducible overview of indicator-level differences without introducing additional observations or treating aggregate percentages as individual transition probabilities (Klapper et al., 2025).

Table 3. Cross-Indicator Differences in Financial Inclusion by Gender and Income Group in Indonesia, 2024

Population category	Account ownership (%)	Digital payment use (%)	Indicator difference (pp)
Women	58	34	24
Men	55	42	13
Poorest 40%	48	43	5
Wealthiest 60%	62	49	13

Source: World Bank Global Findex Database 2025, Indonesia indicators for 2024.

The indicator differences presented in Table 3 range from five percentage points among the poorest 40% to twenty-four percentage points among women. The relatively large separation observed for women demonstrates that formal account ownership and digital payment utilization represent particularly different aggregate percentages within this demographic classification. The smaller separation among the poorest population category cannot be interpreted as stronger individual adoption performance because the available statistics do not establish whether the same respondents are represented in both indicators. Research examining the transition from financial access toward

financial service usage supports treating such numerical differences as measurement signals rather than direct estimates of behavioral conversion (Kamble & Mehta, 2026).

The implications for financial service design concern the distinction between institutional accessibility and the conditions required for effective digital participation. Programs focused on increasing account registration may improve formal inclusion indicators while leaving practical obstacles associated with digital competence, transaction costs, technological accessibility, or consumer confidence insufficiently examined. Studies involving financially marginalized populations and small enterprises in Indonesia provide relevant grounds for investigating digital literacy and financial technology adoption as separate components of participation (Al-Shami et al., 2024; Setiawan et al., 2024). The present aggregate statistics do not identify these barriers directly, but the divergence between ownership and payment-use measures indicates that their potential relevance should be assessed through additional evidence rather than inferred from account ownership alone.

Gender-responsive financial inclusion monitoring requires particular attention because the Indonesian indicators produce opposite directional assessments of inequality across formal access and digital transactions. An institutional evaluation relying exclusively on account ownership could characterize women as comparatively advantaged, while a utilization-based evaluation would identify a lower percentage of women participating in digital payments. Research examining gender disparities, women's economic empowerment, and digital financial inclusion indicates the relevance of considering the social and economic conditions that may influence participation beyond the formal availability of services (Faton et al., 2025; Guruprasad et al., 2026; Arora et al., 2026). These studies provide conceptual grounds for investigating differentiated financial needs and participation constraints, although the Indonesian evidence does not independently establish the presence or relative importance of particular gender-related mechanisms.

Income-sensitive financial inclusion policies similarly require a distinction between narrowing disparities in formal access and addressing inequalities in transaction participation. The substantially wider income-based ownership difference indicates that formal account access remains unevenly distributed, while the narrower digital payment difference demonstrates that the magnitude of inequality changes when utilization is selected as the assessment criterion. Research connecting digital financial inclusion with socioeconomic inequality and poverty reduction supports the relevance of evaluating financial participation through distributional measures rather than treating technological expansion as an inherently equalizing process (Suhrab et al., 2024; Kumari et al., 2025; Li & Han, 2026). The reported Indonesian percentages cannot establish whether digital financial services improve household welfare or reduce poverty, but they provide an empirical basis for identifying where subsequent distributional investigations may be warranted.

The methodological implications extend to the interpretation of national financial inclusion dashboards and institutional performance assessments. Published aggregate indicators offer valuable comparative information, yet their interpretation requires consistency in population definitions, reference periods, measurement units, and the distinction between observed percentages and derived arithmetic differences. The absence of linked respondent-level observations prevents conclusions concerning the probability that an account holder uses digital payments, while the absence of subgroup sampling variances limits assessment of statistical uncertainty. Research employing more extensive demographic or analytical frameworks demonstrates the potential value of investigating financial inclusion through additional variables, but such approaches require data that cannot be reconstructed from the published percentages analyzed here (Galindo-Manrique & Rojas-Vargas, 2025; Jannah et al., 2026; Khan et al., 2026). A methodologically defensible monitoring framework should consequently report access and utilization separately and distinguish descriptive observations from explanations requiring additional empirical testing.

The central contribution of the cross-indicator assessment lies in demonstrating that financial inclusion inequalities in Indonesia are sensitive to the measures used to characterize demographic participation. Gender-based differences change direction between ownership and payment use, while income-based differences retain their direction but differ substantially in magnitude, indicating that formal access alone provides an incomplete account of distributional financial participation. Evidence concerning financial capabilities, household payment responsibilities, and sustained engagement with digital financial services reinforces the relevance of collecting additional indicators of affordability, accessibility, transaction safety, and repeated utilization when evaluating inclusion beyond initial

account registration (van der Cruijsen et al., 2025; Vik et al., 2024; Sharmila Devi et al., 2025). The findings support a multidimensional monitoring approach grounded in observable differences while preserving the need for individual-level evidence before attributing inequalities to particular social, technological, or institutional determinants.

CONCLUSION

The findings demonstrate that formal account ownership and digital payment utilization produce different assessments of financial inclusion inequality in Indonesia. Gender-based comparisons reveal that women have higher account ownership than men, at 58% and 55%, respectively, representing a three-percentage-point female advantage, while digital payment use is lower among women, at 34% compared with 42% among men, indicating an eight-percentage-point male advantage. Income-based comparisons show that the poorest 40% of the population have an account ownership rate of 48%, compared with 62% among the wealthiest 60%, producing a fourteen-percentage-point disparity. Digital payment utilization reaches 43% and 49% in the respective income categories, reflecting a narrower six-percentage-point difference. The numerical separation between ownership and digital payment indicators also varies across demographic groups, reaching twenty-four percentage points among women, thirteen among men, five among the poorest 40%, and thirteen among the wealthiest 60%. These findings establish that gender disparities change direction across financial inclusion indicators, whereas income disparities maintain a consistent direction but differ in magnitude. The principal scientific contribution lies in demonstrating the measurement-dependent character of financial inclusion inequality through a transparent comparison of published demographic indicators, without treating aggregate differences as evidence of individual financial behavior or causal relationships.

The findings have methodological and practical implications for evaluating financial inclusion policies and monitoring equitable participation in digital financial services. Institutional assessments based exclusively on account ownership risk overlooking differences in actual digital payment utilization, particularly where demographic disparities follow contrasting patterns across indicators. Financial inclusion monitoring should consequently distinguish formal access from transaction participation and incorporate complementary measures of affordability, digital capabilities, service accessibility, and transaction safety when appropriate data become available. The cross-indicator comparison provides a reproducible descriptive framework for identifying distributional differences while maintaining a clear distinction between published observations and derived percentage-point calculations. Its explanatory capacity remains limited by the use of rounded aggregate statistics, the absence of linked individual-level records, and the unavailability of subgroup sampling variances, which prevent statistical significance testing, estimation of conditional usage probabilities, and identification of underlying behavioral mechanisms. Future research should employ individual-level data to investigate whether demographic characteristics, technological accessibility, financial capabilities, and socioeconomic circumstances explain the observed differences between financial access and digital utilization. The study contributes to a more precise evaluation of financial inclusion by establishing that equitable participation cannot be adequately assessed through account ownership alone and that policy interpretations must remain consistent with the scope and limitations of the available empirical evidence.

REFERENCES

Al-Afeef, M. A., & Alsmadi, A. A. (2025). Digital empowerment: Unraveling the impact of digital literacy on financial mastery. Discover Sustainability, 6, Article 311. https://doi.org/10.1007/s43621-025-01137-5

Alqam, M. A., & Hamshari, Y. M. (2024). The impact of financial literacy on financial inclusion for financial well-being of youth: Evidence from Jordan. Discover Sustainability, 5, Article 528. https://doi.org/10.1007/s43621-024-00704-6

Al-Shami, S. A., Damayanti, R., Adil, H., Farhi, F., & Al Mamun, A. (2024). Financial and digital financial literacy through social media use towards financial inclusion among batik small enterprises in Indonesia. Heliyon, 10(15), e34902. https://doi.org/10.1016/j.heliyon.2024.e34902

Arora, R., Garikipati, S., & Kaur, S. (2026). Community norms, peer influence, and women's digital financial inclusion: Evidence from India. World Development, 201, Article 107314. https://doi.org/10.1016/j.worlddev.2026.107314

Ashoer, M., Jebarajakirthy, C., Lim, X. J., Mas'ud, M., & Sahabuddin, Z. A. (2024). Mobile fintech, digital financial inclusion, and gender gap at the bottom of the pyramid: An extension of mobile technology acceptance model. Procedia Computer Science, 234, 1253–1260. https://doi.org/10.1016/j.procs.2024.03.122

Bonfert, A. T., & Norris, A.. (2025). More women have financial accounts, yet equal access and use remain works in progress. https://blogs.worldbank.org/en/opendata/more-women-have-financial-accounts--yet-equal-access-and-use-rem

Chen, S., Doerr, S., Frost, J., Gambacorta, L., & Shin, H. S. (2023). The fintech gender gap. Journal of Financial Intermediation, 54, Article 101026. https://doi.org/10.1016/j.jfi.2023.101026

Faton, C. Y., Nonvide, G. M. A., & Chabossou, A. F. (2025). Digital financial inclusion and the reduction of gender inequalities in Africa. Discover Global Society, 3, Article 25. https://doi.org/10.1007/s44282-025-00146-z

Febrianty, Yuliansyah, Hamzah, R. S., & Annisa, M. L. (2024). Gender issues in digital financial literacy and financial behavior among millennials. Jurnal Economia, 20(1), 79–94. https://doi.org/10.21831/economia.v20i1.56529

Galindo-Manrique, A. F., & Rojas-Vargas, N. P. (2025). The role of digital financial services in narrowing the gender gap in low–middle-income economies: A Bayesian machine learning approach. Risks, 13(5), Article 96. https://doi.org/10.3390/risks13050096

Guruprasad, L. S., Ramasamy, K. R. A. B. A., & Kulkarni, S. (2026). Gender disparities in financial inclusion: Promoting women's economic empowerment in G20 countries for sustainable development. Digital Policy, Regulation and Governance, 28(4), 411–431. https://doi.org/10.1108/DPRG-10-2024-0269

Ha, D., Le, P., & Nguyen, D. K. (2025). Financial inclusion and fintech: A state-of-the-art systematic literature review. Financial Innovation, 11, Article 69. https://doi.org/10.1186/s40854-024-00741-0

Jannah, A. R., Hermanto, H., & Ahmad, F. S. (2026). The relationship between digital finance and financial inclusion with the moderating role of gender inequality: Evidence from G20 countries. Jurnal Ekonomi dan Kebijakan Pembangunan, 15(1), 29–47. https://doi.org/10.29244/jekp.15.1.2026.29-47

Kamble, P. A., & Mehta, A. (2026). From access to usage: The shifting gender gap in India's financial inclusion. Bulletin of Economic Research, 78(4), 803–825. https://doi.org/10.1111/boer.70056

Kamble, P. A., Mehta, A., & Rani, N. (2024). Financial inclusion and digital financial literacy: Do they matter for financial well-being? Social Indicators Research, 171(3), 777–807. https://doi.org/10.1007/s11205-023-03264-w

Khan, H. H., Khan, S., Akhtar, T., Anwar, A., & Ahmad, M. R. (2026). Fintech environment and gender disparity in financial inclusion: Empirical evidence from emerging markets. Borsa Istanbul Review, 26(2), Article 100787. https://doi.org/10.1016/j.bir.2026.100787

Klapper, L., Singer, D., Starita, L., & Norris, A. (2025). The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy. World Bank. https://doi.org/10.1596/978-1-4648-2204-9

Kumari, D., Giri, A. K., & Saruparia, C. (2025). Role of gender-based digital financial inclusion and women empowerment in poverty reduction: Evidence from Asian countries. Discover Sustainability, 6, Article 283. https://doi.org/10.1007/s43621-025-01095-y

Li, N., & Han, X. (2026). Exploring the role of digital inclusive finance in narrowing gender income inequality: An analysis of the mediating effect of educational attainment. Finance Research Letters, 101, Article 110035. https://doi.org/10.1016/j.frl.2026.110035

Lorain, M.-A., Pernas, J. B., Jannes, G., Grande, E. U., Sánchez, P. L., & Sierra, J. (2025). Unraveling financial exclusion during the COVID-19 pandemic: A gender perspective in Latin American countries. World Development, 188, Article 106924. https://doi.org/10.1016/j.worlddev.2025.106924

Pak, T. Y., Chatterjee, S., & Choung, Y. (2026). Navigating digital finance: How digital financial literacy influences digital financial services use and benefits in Korea. Financial Innovation, 12, Article 42. https://doi.org/10.1186/s40854-025-00820-w

Pertiwi, C., Widyastuti, U., & Iranto, D. (2024). Determinan digital financial inclusion pada pengguna digital payment di Jabodetabek. Jurnal Masharif Al-Syariah: Jurnal Ekonomi dan Perbankan Syariah, 9(1). https://doi.org/10.30651/jms.v9i1.21917

Sam-Abugu, C., Luo, X., & Wong, B. (2025). The combined role of FinTech innovation and financial literacy in sustainable financial inclusion in Nigeria. International Review of Economics, 72, Article 14. https://doi.org/10.1007/s12232-025-00490-1

Setiawan, B., Phan, T. D., Medina, J., Wieriks, M., Nathan, R. J., & Fekete-Farkas, M. (2024). Quest for financial inclusion via digital financial services (Fintech) during COVID-19 pandemic: Case study of women in Indonesia. Journal of Financial Services Marketing, 29, 459–473. https://doi.org/10.1057/s41264-023-00217-9

Sharmila Devi, R., Janis Bibiyana, D., Mohanraj, P., Bagilesh, K., Salvius, J. J. J., & Dinesh Babu, M. (2025). Sustaining engagement with digital finance: Mobile payment adoption among marginalized women street vendors in an emerging market. Discover Sustainability, 6, Article 1004. https://doi.org/10.1007/s43621-025-01890-7

Siregar, T. H., Bakather, A. A., & Galariotis, E. (2026). Women's reforms, digital payments, and financial inclusion in Saudi Arabia: Evidence from Global Findex 2014–2024. FinTech, 5(2), Article 30. https://doi.org/10.3390/fintech5020030

Suhrab, M., Chen, P., & Ullah, A. (2024). Digital financial inclusion and income inequality nexus: Can technology innovation and infrastructure development help in achieving sustainable development goals? Technology in Society, 76, Article 102411. https://doi.org/10.1016/j.techsoc.2023.102411

van der Cruijsen, C., Broekhoff, M.-C., & Knoben, J. (2025). Mind the gap: Gender differences in household payment tasks. De Economist, 173, 385–424. https://doi.org/10.1007/s10645-025-09449-7

Vik, P. M., Kamerāde, D., & Dayson, K. T. (2024). The link between digital skills and financial inclusion—Evidence from consumers survey data from low-income areas. Journal of Consumer Policy, 47, 373–393. https://doi.org/10.1007/s10603-024-09567-w

Widyastuti, U., Respati, D. K., & Mahfirah, T. F. (2024). Digital financial literacy and digital financial inclusion: A multigroup analysis based on gender. Humanities and Social Sciences Letters, 12(1), 33–42. https://doi.org/10.18488/73.v12i1.3617

Widyastuti, U., Respati, D. K., Dewi, V. I., & Soma, A. M. (2024). The nexus of digital financial inclusion, digital financial literacy and demographic factors: Lesson from Indonesia. Cogent Business & Management, 11(1), Article 2322778. https://doi.org/10.1080/23311975.2024.2322778

World Bank. (2025). Digital financial services: Indonesia country indicators. https://digitalfinance.worldbank.org/country/indonesia

World Bank. (2025). The Global Findex Database 2025. https://www.worldbank.org/en/publication/globalfindex/report