



# Patterns of trust in financial services: critical factors and gender differences

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## Abstract

This study investigates the interrelationships among factors of trust in financial services. Additionally, it examines how these factors correlate with gender differences, offering insights into trust patterns in emerging markets. Ethiopia, characterised by economic and financial volatility, was selected as a case study for an emerging market. A sample of 470 individuals was surveyed with the assistance of interviewers to overcome language and literacy obstacles, with balanced representation across key demographics, particularly gender, enabling robust statistical analysis. Logistic regression and correlation matrices were employed to analyse trust. The study reveals that correlations between trust factors vary widely but are predominantly positive, with only one exception. Gender differences in trust factors are evident but do not represent significant schisms in financial behaviour. Unexpectedly, digital trust exhibits a strong positive correlation with age, challenging assumptions about generational preferences for financial technologies. While the sample size aligns with standard practices in similar studies, expanding the dataset would improve the precision of the analysis. The complexity of administering detailed surveys at scale poses a challenge for single studies. This study demonstrates the utility of combining traditional determinants of trust with advanced statistical methods, such as logistic regression, to uncover probabilities and interactions among trust factors. Gender differences in trust patterns exist but are less pronounced than expected, even in a society with significant gender disparity. Other demographic factors, such as age, education, and income, play more substantial roles in shaping trust behaviours, suggesting that financial inclusion efforts should prioritise these variables. This research highlights the transformative potential of digital trust, which extends beyond traditional definitions of trust. Despite operating in a society with high gender disparity, the findings indicate that gender is not a significant concern in financial trust patterns.

**Keywords** Trust · Financial services · Banking services · Net promoter score · Gender difference · Broad-scope trust · Narrow-scope trust

## Introduction

It is widely recognised that trust is a critically important factor in financial services, yet it is a complex and multifaceted concept for several reasons (Van der Crujisen 2023). Measuring dissatisfaction is often easier than measuring satisfaction, as is commonly seen with product/service

reviews—unhappy customers are more likely to leave negative reviews. In contrast, satisfied customers often do not leave positive feedback. Conversely, measuring distrust is much more complex than measuring trust. Customers who lack trust in the financial system may often refrain from openly expressing this distrust. For instance, while financial inclusion is relatively high in developed countries, cash usage remains prominent (Ashworth and Goodhart 2020). One evident reason is mistrust in the financial system regarding tax and social security matters. This distinction highlights the need to differentiate between formal and informal (or obligatory and voluntary) financial exclusion, though the latter is challenging to measure. Trust is a major driving force, even for formal financial inclusion (Ghosh 2021).

Not only is trust a convoluted concept, but it is also constantly evolving. Introducing new services, tools, and

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platforms creates new trust-related issues. For instance, trust and privacy concerns in interactions with bank chatbots have gained unprecedented importance (Lappeman et al. 2023). Furthermore, some studies delve into the multidimensional aspects of trust, exploring deeper psychological dimensions, such as the link between trust and empathy in relationships with bank customers (Kumra and Sharma 2022).

Various methods have been proposed for scaling trust, including unidimensional approaches (McEvily and Tortoriello 2011) and multifaceted approaches (Moin et al. 2021). Distrust is often viewed as an inverse indicator of trust (Lewicki et al. 1998). Bachmann et al. (2006) argue that asymmetric information between financial institutions and customers often results in a lack of trust. Such challenges create a research gap, hindering a holistic understanding of trust and its implications.

Trust's psychological, cultural, societal, and political roots further complicate its nature (Currall and Judge 1995). Understanding the patterns of trust in financial services requires examining the impact of various factors, including ethnicity. Among these, gender stands out as an area of considerable interest, particularly in light of the increasing participation of women in the workforce and their engagement with financial services.

Although the general perception is that women are typically risk-averse, Schubert et al. (1999) argue that this is mainly contextual, and under equal circumstances, such perceptions amount to prejudice. A cross-country study by Heyert and Weill (2023) demonstrated that women tend to trust the banking system more than men. They hypothesised that greater gender equality correlates with increased trust among women in financial institutions.

Despite these findings, there is no universal consensus on gender differences in trust within banking systems. While several studies report higher levels of trust among women (e.g. Fungáčová et al. 2019; Tranter and Booth 2019), others suggest the opposite (e.g. Naumann 2018). A fundamental limitation of many such studies is their reliance on secondary data from broad surveys like the World Values Survey (Fungáčová et al. 2019; Heyert and Weill 2023). These datasets, while valuable, are not explicitly designed to measure trust in financial systems conceptually.

There are two significant drawbacks to using secondary data in this context. First, the questionnaires used in such surveys are often too general or ambiguous, failing to distinguish between competence-based trust and intentional trust (Nooteboom 2022). Second, the agreement among numerous reports in the literature is partly due to the intrinsic reliance on the same datasets. To advance this field, alternative data sources are essential for cross-examining research findings.

This study aims to shed light on the patterns of trust, with a specific focus on gender differences. To address the abovementioned limitations, a tailored questionnaire has

been developed to measure trust as a driving factor in the financial system, avoiding the reliance on secondary data.

By adopting a multidimensional approach, as proposed by Moin et al. (2015, 2021) and McEvily and Tortoriello (2011), this research seeks to provide a more tailored assessment of trust. Measuring trust across various dimensions will contribute to the ongoing discourse on its conceptualisation and operationalisation (van Esterik-Plasmeijer and Fred van Raaij 2017). Trust extends beyond individual interactions to encompass broader systemic factors, and scaling it into different dimensions allows for a more comprehensive understanding of its manifestations.

Additionally, this study explores trust in emerging financial services, such as electronic banking and mobile money. These innovations have the potential to reshape trust perceptions in the financial landscape. The implementation and quality of these services are believed to play a crucial role in shaping trust (Rajaobelina 2018). By examining trust in these services, this research contributes to understanding trust within the context of financial technologies.

To fill the gap in trust research in developing countries, this study focuses on Ethiopia as a case study. Ethiopia, a rapidly growing emerging economy, presents a unique context for exploring trust. The Jimma Zone, a densely populated area with a growing economy and improving quality of life, provides an ideal setting to investigate trust dynamics in an emerging economy. Given the limited research on trust in developing countries, this case study offers valuable insights into the underlying dynamics.

The study employs a survey instrument explicitly designed for data collection. The sampling method combines cluster, stratified, and convenience sampling techniques to ensure representativeness. This approach facilitates an in-depth exploration of gender influences on trust. Conducting the study in Ethiopia is particularly significant due to the country's rapid economic growth, political reforms, and increasing focus on women's rights.

Participants for the study are drawn from the Jimma Zone, Ethiopia's largest region. This diverse participant base ensures that the study captures various perspectives and experiences relevant to the research objectives.

## A brief literature review

### Trust and financial services

Trust plays a pivotal role in shaping customer behaviour in financial services, underpinning relationships between institutions and their clients. Gefen et al. (2003) emphasise that trust significantly influences the adoption of new financial technologies, such as online banking and digital payment platforms. Similarly, Chaudhuri and Holbrook



(2001) explore trust as a determinant of long-term relationships between consumers and institutions, highlighting its role in fostering loyalty and mitigating perceived risks. These insights underline that trust is not merely a static feature of financial services but a dynamic factor influenced by systemic, relational, and institutional elements.

### Recent developments in trust dimensions

The concept of trust has evolved into a multidimensional framework encompassing various psychological and contextual factors. Schoorman et al. (2007) propose that trust is built on three pillars: ability, benevolence, and integrity. These dimensions collectively determine how trust is formed, maintained, and eroded in financial relationships. Meanwhile, Rotter (1980) discusses trust as a generalised personality trait which can influence systemic trust in institutions. Together, these perspectives provide a robust framework for understanding trust as an interpersonal attribute and a systemic characteristic vital to financial systems.

### Gender and trust

Gender differences in trust have been the focus of numerous studies, particularly in contexts where risk preferences play a significant role. Croson and Gneezy (2009) argue that gender differences in risk aversion are contextual and influenced by societal norms and expectations. In financial services, these differences manifest in contrasting levels of trust towards institutions and their offerings. Mesch and Schwirian (2015) extend this understanding by exploring gender disparities in technology adoption, noting that women often exhibit higher levels of caution and scrutiny when engaging with digital financial tools. These findings provide a basis for further exploration of gendered trust dynamics, particularly in emerging economies.

### Trust and technology in financial services

The intersection of trust and technology is a burgeoning area of research, particularly with the proliferation of digital financial services. Pavlou (2003) highlights the role of trust in fostering user adoption of online platforms, noting that privacy, security, and transparency are critical components. Kim et al. (2008) build on this by proposing a trust-building model for e-commerce, emphasising the need for institutions to address users' concerns. These studies are particularly relevant in mobile money and electronic banking, where trust remains a crucial barrier to widespread adoption.

### Trust in developing countries

Trust in financial services is intricately linked to financial inclusion and socioeconomic development in developing countries. Beck et al. (2009) explore how trust barriers prevent marginalised populations from accessing financial systems, thereby exacerbating inequality. Dupas and Robinson (2013) further illustrate this dynamic by examining savings behaviours in Kenya, where distrust in financial institutions often drives individuals towards informal savings mechanisms. These findings underscore the importance of tailored trust-building strategies in enhancing financial inclusion in developing contexts like Ethiopia.

### Distrust versus trust in financial systems

The distinction between trust and distrust provides additional complexity to understanding financial relationships. Hardin (2002) argues that distrust is not simply the absence of trust but a separate construct influenced by perceived risks and systemic failures. Giddens (1990) examines distrust in the context of modern institutions, linking it to systemic risks and uncertainties inherent in complex financial systems. These perspectives highlight that understanding distrust is as critical as understanding trust, particularly in environments characterised by high uncertainty and rapid change.

### Broadening trust as a multidimensional construct

Trust research increasingly emphasises its multifaceted nature, encompassing dispositional, situational, and institutional components. McKnight et al. (2002) propose a framework that integrates these dimensions, offering a comprehensive lens for examining trust in diverse contexts. Mayer et al. (1995) provide an integrative model that links trust to organisational performance, suggesting that trust is not merely an outcome but a driver of institutional success. These studies reinforce the need for multidimensional approaches to trust, particularly in complex domains like financial services.

### Constructs and measurements of trust

Early conceptualisations of trust in digital contexts emphasise that trust is not monolithic but is best understood as comprising multiple facets (Devlin et al. 2015). Building on this multidimensional framework introduced the “trust index” specifically tailored to financial services, as proposed by Ennew and Sekhon (2007). Their work operationalises trust by aggregating consumer perceptions into a single index value, reflecting various trust dimensions (e.g. confidence in the institution's service quality and ethical standards). This approach provides financial service providers



with a quantifiable measure to benchmark and monitor trust over time.

Measuring trust in financial services has evolved from simple Likert scale surveys to more complex composite indices that reflect its multidimensionality. McKnight et al. (2002) utilised psychometrics to translate the descriptive surveys into quantitative data. The survey questions are usually indirect questions targeting what the participants think or feel about different factors, which could be translated into trust and ultimately result in trust-related behaviours. For this purpose, trust is often divided into psychometric dimensions such as character-competence, congruence, communication, commitment and context (Moin et al. 2021).

## Theoretical framework

The study of trust in the literature is often framed within three primary approaches: dimensions, determinants, and scopes. Questionnaires typically examine clients' perspectives on various aspects of a bank's operations, representing specific determinants that align with defined scopes or dimensions. While this standard method of measuring trust is practical for general purposes, it can sometimes fail to capture the underlying essence of trust as a holistic construct. This study seeks to move beyond these conventional frameworks by adopting a broader perspective.

First, trust is measured directly rather than being inferred through its determinants. In other words, the questionnaire explicitly asks clients about their trust in financial institutions, building on the well-established scopes of narrow-scope trust (focused on specific interactions or services) and broad-scope trust (encompassing overall perceptions of the institution). This approach ensures a more direct understanding of trust levels and avoids potential biases associated with indirect measures.

Second, while narrow-scope and broad-scope trust comprehensively cover the concept of trust, there are emerging scopes that only partially fit within these categories. For example, trust in novel financial services like digital banking products may straddle both scopes or fall outside their traditional definitions. Kozuch (2021a, b) highlights the unique characteristics of digital trust, noting its dependence on factors like privacy, security, and user interface design. Therefore, this study examines digital trust as a separate dimension, recognising its growing importance in the era of financial technology.

Third, although trust is commonly understood as interpersonal, this study incorporates a novel dimension by examining trust perception—the extent to which clients feel trusted by bank officers. This addition acknowledges that trust is not a one-way construct but is instead influenced by mutual perceptions of reliability and confidence. As Fukuyama (1995) and other scholars have noted, trust perception is crucial in

reinforcing long-term relationships, particularly in service-oriented contexts like banking.

Fourth, the study addresses factors closely related to trust, which may act as its basis and outcomes. For instance, satisfaction and net promoter score (NPS) are often seen as outcomes of trust, yet they also influence its formation and reinforcement. Traditionally considered a determinant of trust, transparency is treated here as a multifaceted factor that interacts dynamically with trust. This perspective aligns with Gillespie and Mann's (2004) assertion that transparency fosters trust and reflects an institution's trustworthiness. Considering these intertwined factors, the study adopts a more targeted view of trust beyond linear cause-and-effect relationships.

Finally, examining the statistical relationships between these interconnected factors provides valuable insights into the multidimensional nature of trust, particularly in understanding contextual variations, such as gender differences. For example, previous studies, such as those by Croson and Gneezy (2009), suggest that trust-related behaviours often differ between genders due to societal, cultural, and psychological factors. By analysing these relationships, this study aims to uncover deeper patterns in trust dynamics, offering a comprehensive framework that integrates traditional and emerging scopes of trust.

## Methodology

### Factors of trust

The study identifies multiple factors influencing trust, as outlined in Table 1. These factors form the foundation for the survey design and subsequent analysis, focusing on trust dimensions encompassing financial behaviours, inclusion, and perceptions.

### Assisted surveys

The surveys for this study were conducted in collaboration with Jimma University, a partner institution in Ethiopia. The questionnaire was designed to collect both descriptive and quantitative data. In the present paper, only quantitative data from the surveys were used. Since there are tens of different local languages in Ethiopia, the questionnaires were translated into two major languages of the country. Furthermore, owing to the low rate and quality of literacy, expert interviewers assisted the participants in filling out the surveys. However, the process could not be considered an interview, as the interviewers helped the participant better understand the questions and choose the appropriate response. Of course, the interviewers had a more crucial job in translating the collected data back into English for the



**Table 1** The trust dimensions examined in this study

Question	Dimension
How much do you trust your bank?	Broad-scope trust
How much do you trust the banking system?	Broad-scope trust
How much do you trust your financial adviser or the bank officer?	Narrow-scope trust
Do you think the bank officers trust you?	Trust perception
Would you trust a bank from the other regions such as Amhara?	Broad-scope trust
Will you recommend your bank to your family or friends?	Net promoter score
How would you rate the quality of banking services you currently use?	Satisfaction
How much do you feel well-informed about bank products, services and charges?	Transparency
Do you trust mobile money?	Digital trust
Do you trust ATM or electronic banking?	Digital trust

research team. The questionnaire covered various financial behaviours, though the present study focuses specifically on its trust-related components.

The questionnaire had both quantitative and qualitative questions, but only quantitative questions were used for the present study. For straightforward interpretation of quantitative data from the answers, the trust questions are preliminary designed based on the approach proposed by Ennew and Sekhon (2007) for developing the trust index.

### Sampling method

The study adopted a probabilistic sampling approach rather than a non-probabilistic one to ensure representative sampling. This method enhances the reliability and unbiased nature of the findings. Within the probabilistic framework, two widely used techniques—simple random sampling and stratified random sampling—were considered.

#### Simple random sampling

This method gives each participant an equal chance of selection, ensuring that the sample represents the population and facilitates accurate standard error calculation. However, this approach is suitable only for populations with relatively homogeneous characteristics, such as education level, age, and income distribution.

#### Stratified random sampling

Given the heterogeneity of the target population in terms of education, income, and employment status, stratified random sampling was deemed more appropriate. In this approach, the population was divided into distinct strata, and random sampling was applied within each stratum to ensure that all subgroups were adequately represented.

The final sampling strategy combined cluster sampling, stratified sampling, and convenience sampling:

#### Cluster sampling

The study population was initially narrowed to Jimma town and district, representing a diverse urban and rural population.

#### Stratified sampling

The population was divided into strata based on employment status (employed, micro-enterprises, and small enterprises) and gender (male and female). Equal weights were assigned to each subgroup to ensure proportional representation.

#### Convenience sampling

This method was employed to achieve the desired number of participants in each group, with micro-enterprises defined as having  $\leq 5$  full-time equivalent (FTE) employees and small enterprises having  $> 5$  FTE.

#### Data collection

The data collection process relied on face-to-face interviews, given the limitations of literacy and infrastructure for remote surveys. Potential participants were approached in public spaces and provided a brief explanation of the study's purpose. Only those who provided informed consent participated voluntarily. Interviewers used a pen-and-paper format, reading each question aloud and allowing participants time to reflect and respond. The responses focused exclusively on participants' perspectives rather than those of their households, enterprises, or broader society. Table 2 presents the demographic distribution of the sample population.

#### Logistic regression

The study employed logistic regression to analyse the trust-related survey data. Logistic regression is a statistical method well-suited for modelling binary outcomes, making



**Table 2** Demography and categories of the participants in the survey

Profile of respondents (total 470 individuals)		
	Female	Male
<i>Rural/urban</i>		
Urban	78	71
Rural	157	164
<i>Job category</i>		
Employees	74	79
Micro business owners	106	80
Small business owners	55	76
<i>Age</i>		
18–19	10	7
20–29	100	97
30–39	91	96
40–49	27	20
50–59	4	12
60–69	3	3
<i>Marital status</i>		
Single	69	80
Married	166	155
<i>Income</i>		
0–1000	21	29
1001–5000	60	67
5001–10,000	76	56
10,001–15,000	21	24
15,001–20,000	18	16
> 20,000	7	15
I don't want to say	31	26
<i>Education</i>		
Completely illiterate	1	0
No formal education	1	1
Primary and secondary	35	36
High school	88	89
Junior college	36	32
Undergraduate	59	62
Masters's degree/above	15	15

it ideal for studying trust as a dynamic concept. Trust-related questions in the survey were treated as binary outcomes (e.g. “trust” or “distrust”, “agree” or “disagree”). Although some survey questions used a Likert scale (1–5), these were recoded to represent probabilities of trust for consistency in modelling.

Logistic regression offers several advantages:

### Binary nature of trust

The method captures the binary nature of trust measurements, modelling the probability of trust or its absence as a function of predictor variables.

### Predictor variables

Logistic regression accommodates both categorical and continuous predictor variables, enabling analysis of demographic factors such as age, gender, education, and income.

### Probability interpretation

The model estimates the trust probability, allowing insights into how demographic and contextual factors influence trust dynamics.

### Interpretable results

Results are presented as odds ratios, which quantify the impact of predictor variables on the likelihood of trust.

### Robustness

Logistic regression is resilient to non-normality and outliers, making it particularly suitable for social science research.

The logistic function, also known as the sigmoid function, maps a linear combination of predictor variables to a probability value between 0 and 1. This approach enables assessing how various demographic and contextual factors influence trust dynamics in the studied population.

### Statistical analysis

All statistical analyses were conducted using the R programming language, leveraging its robust statistical packages:

### Correlation matrices

Constructed using the *corrplot* package to identify relationships between trust factors.

### Logistic regression models

Visualised and interpreted using the *visreg* package, providing insights into the predictors of trust.

The trust scores derived from survey responses were scaled between 0 and 1, eliminating the need for normalisation. No additional data curation was performed; all analyses were conducted directly on the raw survey results to preserve the integrity of the data.



## Findings and analysis

### Traditional scopes of trust

The analysis of broad- and narrow-scope trust across typical demographics reveals similar patterns (Fig. 1). Both types of trust exhibit a reverse peak with age, where middle-aged customers report lower trust levels than younger and older generations. This aligns with the notion that trust evolves but does not follow a linear trajectory, as reported in the literature (e.g., Ennew et al. 2011). However, no linear dependency is observed between either scope of trust and education or income, highlighting the complexity of these relationships.

A significant challenge in the study of trust lies in the interchangeable use of terms such as aspects, determinants, factors, and dimensions. To address this, the current study organises trust into independent dimensions that collectively build an overall trust index (Table 1). For instance, broad-scope trust refers to institutional trust in the bank as a corporation, while narrow-scope trust reflects interpersonal trust in the bank officer. An additional dimension, reciprocal narrow-scope trust, captures the customer's perception of being trusted by bank officers. This approach prioritises the customer's perspective on trust dynamics.

Trust in local versus out-of-region services is critical in financial services, particularly in Ethiopia, where regional divisions reflect tribal and linguistic diversity. Unlike developed countries where banks operate seamlessly nationwide, Ethiopia offers a unique context for examining regional trust. Customers may perceive banks from different regions as distinct entities, influencing their trust behaviours. This regional trust dynamic parallels the concept of trust in new technologies, where customers' affinity for innovation affects their engagement.

A notable finding is that Ethiopia's observed broad-scope versus narrow-scope trust patterns are opposite to those reported in developed markets. For example, Bijlsma et al. (2022) found that narrow-scope trust was significantly higher among customers of small Dutch banks, especially during crises like COVID-19. By contrast, broad-scope trust appears to dominate Ethiopia, reflecting systemic differences between developed and emerging markets. Similarly, Fungáčová et al. (2022) demonstrated that banking crises in developed markets erode trust over time, whereas Ethiopia's persistent instability resembles a perpetual crisis, shaping long-term trust behaviours.

Age plays a pivotal role in trust dynamics. While trust generally increases with age, middle-aged customers consistently report lower levels of both narrow- and broad-scope trust. This pattern contrasts with Fungáčová et al.

(2019), who observed no decline in trust with age using global datasets like the World Values Survey. These findings underscore the unique demographic and contextual factors influencing trust in Ethiopia.

### Digital trust

Digital trust—trust in technologies such as ATMs and mobile money—shows distinct patterns compared to traditional scopes of trust (Fig. 2). Digital trust increases sharply with income and education, as expected. However, an unexpected rise in digital trust with age is observed, diverging from prior studies that associate digital trust primarily with younger generations (Moin et al. 2017). This anomaly may reflect the novelty of digital products in Ethiopia. For younger customers, familiarity with smartphone apps may drive their digital trust, whereas older customers may favour products like mobile payment systems that mimic familiar tools such as text messaging.

Msweli and Mawela (2020) emphasise that elderly customers in developing countries often face barriers to adopting digital products, including security concerns and a lack of trust. However, the current findings suggest that these barriers may not apply universally. In Ethiopia, digital financial tools' perceived usefulness and simplicity likely contribute to higher trust levels among older customers. Of course, as highlighted by Nugroho and Paramita (2023), digital trust is intertwined by perceived risk.

### Trust perception

Trust perception—the extent to which customers feel trusted by bank officers—emerges as a critical dimension of trust (Fig. 3). This perception increases linearly with age and income, reflecting greater self-confidence among these groups. A significant jump is observed at the university education threshold, where customers report a sharp increase in trust perception. Beyond this level, education appears to have no further effect.

Trust perception correlates strongly with narrow-scope trust, confirming its foundation in interpersonal interactions. However, trust perception diverges from reciprocal narrow-scope trust, reflecting interpersonal dynamics. While trust perception increases with age across genders, younger customers perceive a lack of trust as a dynamic of marketing importance. Kidron and Kreis (2020) describe trust as a two-way street, emphasising the need to consider customer and institutional perspectives. Similarly, Thompson et al. (2021) advocate integrating behavioural insights into traditional know your client (KYC) methods to enhance mutual trust.



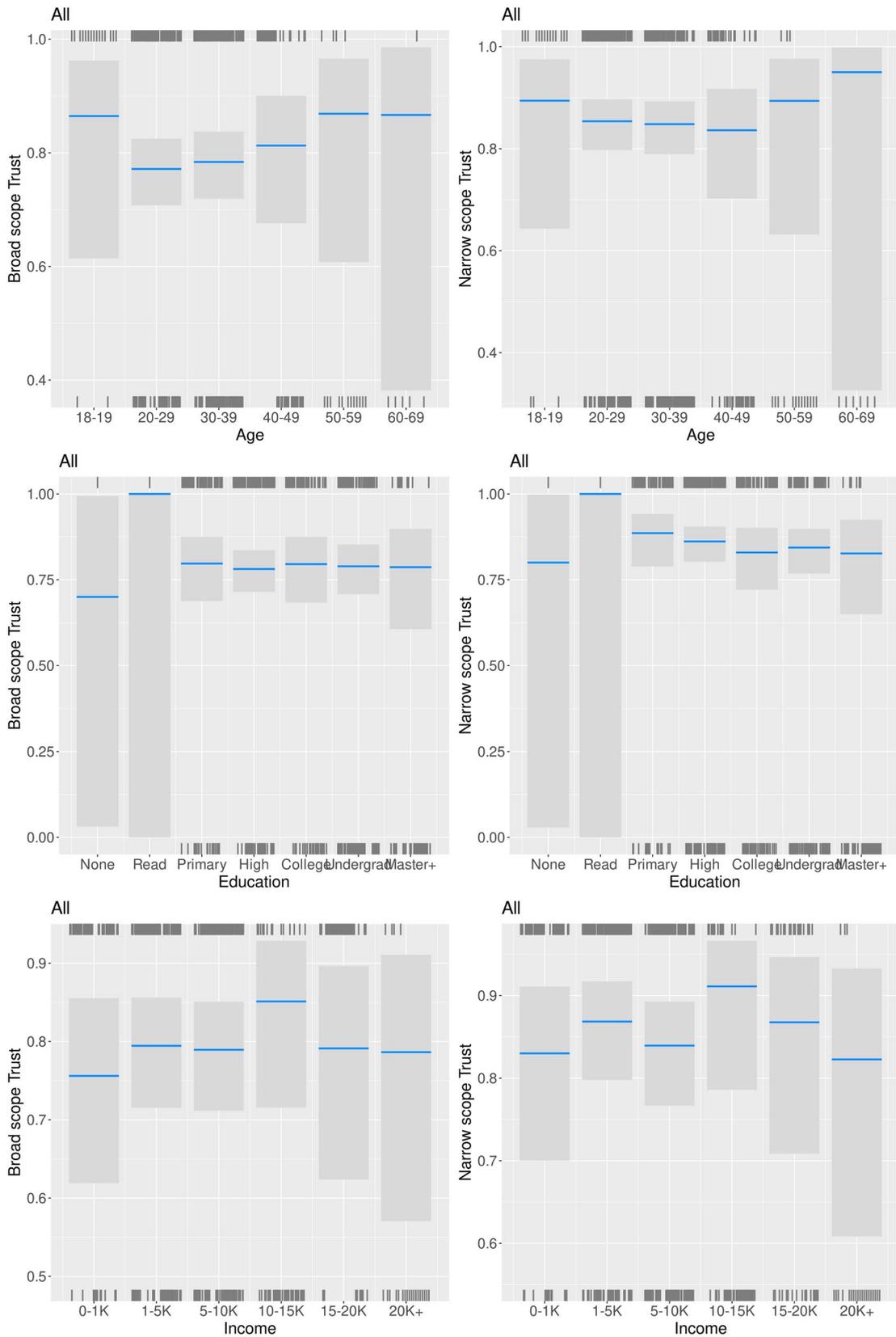
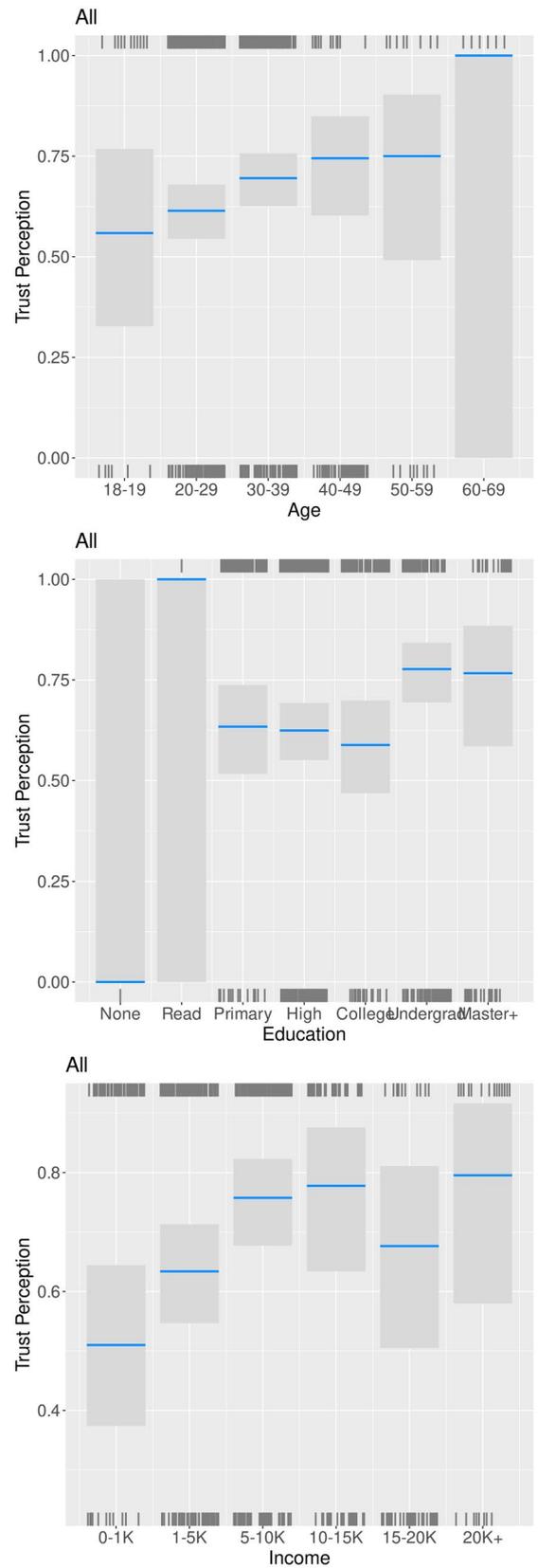
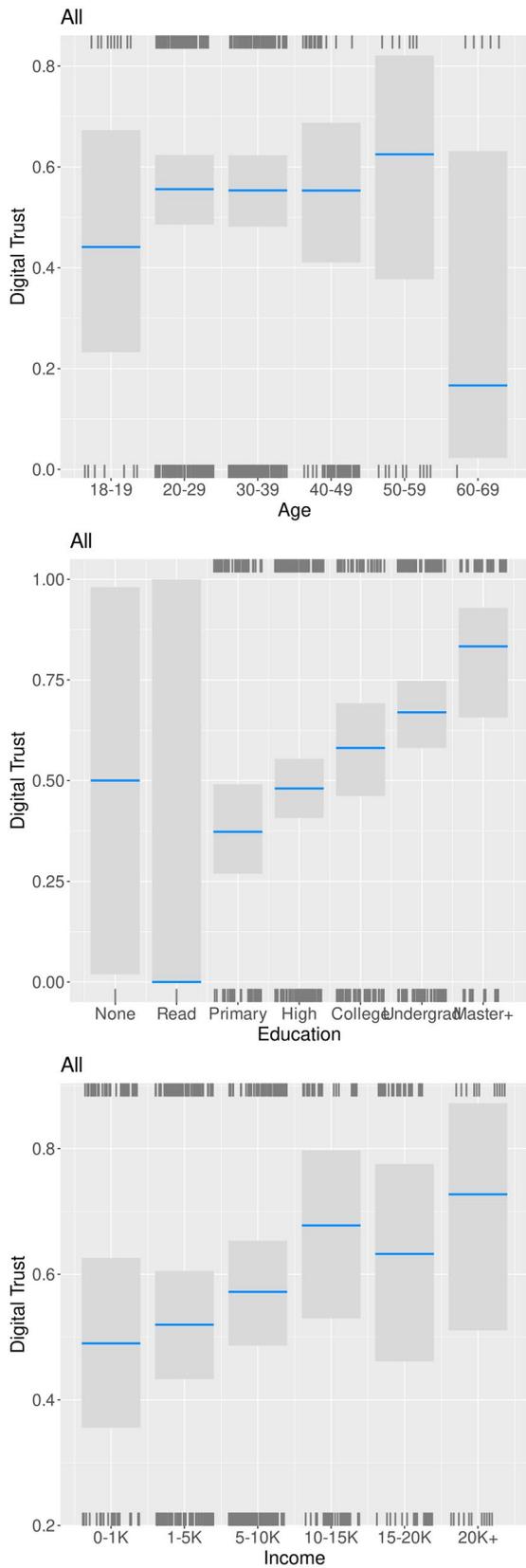


Fig. 1 The overall dependencies of broad- and narrow-scope trust on standard demographics





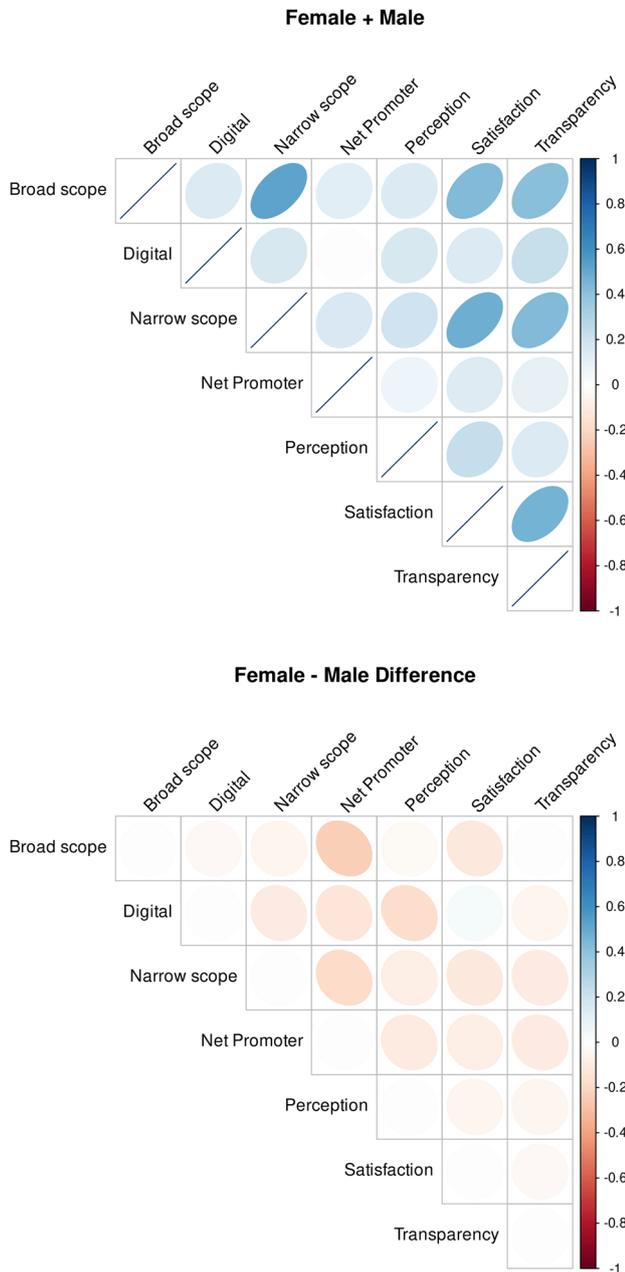
**Fig. 2** Digital trust as a function of the customer’s age, education, and income were presented by logistic regression of the dependencies

**Fig. 3** The impact of standard demographics on trust perception, as measured by how the customers feel bank officers trust them



### Marketing aspects of trust

From a marketing perspective, net promoter scores (NPS) and customer satisfaction are critical indicators of trust (Fig. 4). NPS, interpreted as “trust to recommend”, and satisfaction, seen as “trust in service quality”, are related but not strongly correlated. This suggests that while satisfied customers may not always promote their bank, promoters base their recommendations on factors beyond satisfaction.



**Fig. 4** The correlation matrix of various factors of trust. The difference between the corresponding matrices for women and men is also presented to highlight the gender difference



Transparency is another critical determinant of trust. Hidden fees are a common source of distrust, making transparency in fee disclosure essential. A strong correlation between narrow-scope trust and transparency highlights the importance of personal interactions in shaping perceptions of institutional honesty. Conversely, broad-scope trust shows weaker correlations with transparency, indicating that systemic trust alone does not guarantee confidence in service disclosure.

### Gender differences

Gender emerges as a critical factor influencing trust. Ethiopia, with its wide gender gap in higher education (only 10% female participation), provides a unique context for examining gendered trust dynamics. The correlation matrices for men and women reveal weaker relationships between trust dimensions for women, suggesting more complex dependencies (Figs. S1–S7).

Women exhibit stronger net promoter scores, even when overall trust is low, indicating their willingness to recommend services despite reservations. Gender-specific patterns also appear in narrow- and broad-scope trust, with women aged 30–39 reporting significantly higher narrow-scope trust than men. Education further amplifies women’s trust levels, as trust perception increases linearly with education for women but not for men. Satisfaction, however, declines with education for men while increasing for women.

Digital trust rises with education for both genders but shows a steeper increase for men. Income-related trust patterns are mixed, with high-income women reporting unexpectedly weaker trust perception. These findings highlight the need for targeted strategies to address gender-specific trust concerns.

### Correlation analysis

Correlation analysis reveals meaningful relationships between trust dimensions (Fig. 4). While most pairs of factors show positive correlations, digital trust and net promoter scores diverge: the correlation is damaging for women but positive for men (Fig. S5). This suggests that women may recommend services even when they lack confidence in associated technologies.

Plotting trust dimensions against overall trust reveals linear relationships for trust perception, satisfaction, digital trust, and transparency (Fig. S8). Low overall trust often coincides with high broad-scope trust but low trust perception, particularly among men. This dynamic underscores the importance of interpersonal interactions in maintaining trust when systemic confidence is lacking.

For customers with low trust, dimensions such as trust perception, transparency, and digital trust emerge as critical

for rebuilding confidence. By contrast, narrow-scope trust and satisfaction will most likely erode trust. These findings emphasise the need for tailored interventions addressing interpersonal and systemic trust factors.

### Descriptive analysis

Trust is a fundamental component of financial markets, shaping financial behaviour and relationships with institutions. The concept of trust in financial institutions encompasses various forms and motivations. According to Sirdeshmukh et al. (2002), trust in financial institutions reflects customers' expectations that the service provider is reliable and capable of fulfilling its promises. Survey participants reported diverse reasons for trusting financial institutions. Approximately 20% of respondents indicated their trust stemmed from believing their money was safe. Other notable reasons included the reliability of accessing funds during emergencies (15%) and the ease of accessibility (10%). Additionally, 10% of participants highlighted data protection and secure transactions as critical drivers of their trust in financial institutions.

In many countries, trust in banking systems declined after financial crises (Hurley et al. 2014). Interestingly, the situation in Ethiopia differs. Among survey respondents, 80% expressed complete trust in their bank, while 55% reported complete trust in the banking system. Drawing from institutional theory, system trust plays a vital role in shaping trust at the institutional level (Hansen 2014). Hansen's study found that financial health, knowledge, and satisfaction positively influence trust in financial institutions. However, reverse causality may also occur, where positive experiences with an institution can enhance trust in the broader system. For instance, a higher proportion of respondents in this study trusted their bank (80%) compared to the banking system (55%). Additionally, 40% of respondents fully trusted banks from other regions, such as Amhara, compared to a lower level of trust in financial advisors (39%). However, 20% of respondents distrusted banks from other regions, while only 3% expressed distrust of financial advisors.

Low trust in financial advisors can hinder their ability to influence clients' financial decisions (Lusardi and Mitchell 2014). In this study, 39% of participants fully trusted their financial advisors, yet an overwhelming 95% indicated they would recommend their bank to family members. Reasons for these recommendations included a large number of branches, high-quality services, and the perceived trustworthiness of the banks. Financial instability was the predominant concern for participants who refrained from recommending their bank. These findings align with Sekhon et al. (2014), who identified vital factors influencing trust: expertise, integrity, consistency, communication, shared values, and benevolence.

The ownership structure of financial institutions—whether private or state-owned—also impacts trust levels. It has been argued that state-owned banks often outperform private banks in gaining customer trust due to their perceived integrity, accessibility, and regulation. This notion is supported by the survey results, where 45% of respondents trusted only state-owned banks, while only 3% trusted private banks exclusively. Furthermore, 37% of participants held accounts in state-owned banks, compared to only 10% in private banks. Interestingly, more than half of respondents had accounts in both types of institutions, and a similar proportion expressed trust in both. Those who trusted both types of banks cited strong regulation and fair treatment of customers as critical factors. Notably, the percentage of respondents without bank accounts was negligible (1%).

Trust in financial services and products differs from trust in banking institutions. Ennew and Sekhon (2007) define *trust* in financial services as an individual's willingness to accept vulnerability based on positive expectations of another party's intentions or behaviour in situations of interdependence and risk. In this study, 58% of respondents trusted automated teller machines (ATMs) and electronic banking, preferring these services over physical branches. However, trust in mobile money services was lower, with only 50% of participants expressing trust in this technology. This finding aligns with Slade et al. (2015), who found that trust significantly influences behavioural intention to adopt remote mobile payments, particularly among individuals with prior knowledge of such technologies. Building trust in these emerging services is vital for fostering customer loyalty in a competitive market (Sekhon et al. 2014).

The high level of trust in banks among participants may reflect their satisfaction with the quality of financial services and products. Over 70% of respondents rated their bank's services as excellent or very good, with only 3% expressing dissatisfaction. Additionally, one-third of respondents reported feeling well-informed about available banking services and products, suggesting that knowledge shapes trust.

The final part of the analysis focused on customers' perceptions of trustworthiness from the perspective of bank officers. Approximately 60% of respondents believed that bank officers trusted them. The most commonly cited reasons for this perception included understanding banking concepts (22%) and demonstrating loyalty (18%). Other reasons included timely instalment payments (13%), operating profitable businesses (12%), and working in government positions (11%). Conversely, 25% of respondents felt that bank officers distrusted them. Commonly cited reasons included having low-paying jobs (40%) or being perceived as poor (26%). These findings illustrate that socioeconomic factors influence perceptions of trustworthiness and reflect broader dynamics of mutual trust between customers and institutions.



## Discussions

The findings of this study highlight the multifaceted and dynamic nature of trust in financial services, revealing significant insights into traditional and emerging dimensions of trust, as well as the interplay of demographic factors. By examining trust through various scopes—broad, narrow, perception, and digital—the study contributes to a deeper understanding of trust as a critical determinant of financial behaviour.

### Trust across traditional scopes

The contrasting patterns of broad- and narrow-scope trust in Ethiopia, compared to developed markets, underscore the unique context of trust in emerging economies. The dominance of broad-scope trust, in contrast to the findings of Bijlsma et al. (2022) for developed markets, reflects the structural and cultural dynamics of Ethiopia's financial system. This divergence may be attributed to the reliance on institutional trust in regions where banking infrastructure and systemic stability are less entrenched. Moreover, the lower narrow-scope trust among middle-aged individuals aligns with their heightened scrutiny and potentially more complex financial needs, as Moin et al. (2017) suggested.

The role of crises in shaping trust dynamics also merits attention. While financial crises in developed markets, as reported by Fungáčová et al. (2022), erode systemic trust over time, the Ethiopian context illustrates a form of trust resilience amid perpetual instability. This finding suggests that customers in emerging markets adapt their trust frameworks to cope with systemic uncertainties, emphasising the importance of institutional dependability in these contexts.

### Digital trust: a transformative dimension

The rise of digital trust in education and income and its unexpected increase with age challenge prevailing assumptions in the literature. In contrast to Moin et al. (2017), who associated digital trust with younger generations, our findings suggest that familiarity and practical utility drive trust in digital products such as ATMs and mobile money. Older customers, who may find these tools analogous to existing behaviours like text messaging, demonstrate greater trust than anticipated. These results resonate with the observations of Msweli and Mawela (2020), who emphasised the barriers to security and usability for elderly users in developing countries. Here, Ethiopia presents a case where the simplicity and accessibility of digital financial tools mitigate these barriers.

This shift in digital trust dynamics highlights a broader implication: Trust in technology is not solely a generational phenomenon but is deeply intertwined with context-specific adoption patterns and the perceived relevance of the tools to everyday life.

### Trust perception and reciprocal trust

Trust perception emerges as a cornerstone of interpersonal trust in financial services. The linear increase of trust perception with age and income reflects growing confidence among these demographics. The sharp threshold observed at the university education level underscores the transformative effect of higher education on customers' ability to engage with financial institutions.

Trust perception, as a dimension has been less studied in traditional trust frameworks, but provides valuable insights into the mutuality of trust in financial relationships. Kidron and Kreis (2020) described trust as a “two-way street” essential for fostering long-term relationships. While older customers report feeling more trusted, the lower reciprocal trust perceived by younger customers reveals a critical gap that financial institutions must address. This is particularly important for attracting and retaining younger clients, who are often more sceptical and sensitive to interpersonal interactions.

### Marketing implications of trust

The marketing aspects of trust, including net promoter scores (NPS), satisfaction, and transparency, reveal relationships that challenge conventional assumptions. The lack of a strong correlation between NPS and satisfaction highlights the complex motivations behind customer advocacy. Customers may recommend a bank for reasons beyond personal satisfaction, such as institutional reputation or perceived reliability.

Transparency, a critical determinant of trust, demonstrates strong correlations with narrow-scope trust but weaker associations with broad-scope trust. This finding underscores the importance of direct customer interactions in shaping perceptions of honesty and fairness. Institutions aiming to build transparency must focus on the frontline experience, as trust in individual officers strongly influences perceptions.

### Gendered dimensions of trust

Gender differences in trust dynamics provide a rich area for discussion. Women exhibit more potent NPS than men, even when overall trust levels are lower, suggesting their advocacy behaviours are less contingent on personal trust experiences. This aligns with the observation that women's



trust in financial services increases linearly with education, reflecting their growing confidence and empowerment through access to knowledge.

The distinct trust patterns among women in the 30–39 age group further highlight the interplay of demographic factors. This group's significantly higher narrow-scope trust suggests a unique opportunity for targeted engagement strategies. Similarly, the divergence in satisfaction trends between men and women underscores the need for gender-sensitive customer service and product design approaches.

### **Integrating traditional and emerging trust dimensions**

The correlation analysis reveals meaningful relationships between traditional and emerging dimensions of trust. The linear association of digital trust, transparency, and satisfaction with overall trust emphasises the interconnected nature of these factors. However, despite high broad-scope trust, the low perception observed in men highlights critical vulnerabilities in interpersonal relationships.

The role of technology in trust-building deserves particular attention. The strong correlation between digital trust and overall trust suggests that promoting technology adoption can enhance systemic trust. However, the gendered disparity in digital trust, where women's trust decreases with NPS, indicates a need for tailored strategies to address their specific concerns.

### **Implications for policy and practice**

The findings of this study have significant implications for financial institutions operating in emerging markets. The interplay between demographic factors, trust dimensions, and marketing metrics underscores the need for tailored interventions. Institutions must prioritise personalised engagement, particularly for younger customers and women, to address reciprocal trust and satisfaction gaps.

Building transparency and enhancing the frontline experience is critical for fostering narrow-scope trust, which, in turn, strengthens perceptions of institutional reliability. Moreover, leveraging digital tools to bridge trust gaps can drive broader financial inclusion, particularly in contexts where systemic trust is fragile.

### **Limitations and future directions**

While this study provides valuable insights, its scope is limited to Ethiopia and may not directly generalise to other emerging markets with different cultural and institutional dynamics. Future research should explore trust dynamics across diverse contexts, incorporating longitudinal

analyses to capture the evolution of trust over time. Additionally, integrating behavioural and experimental approaches could provide deeper insights into the mechanisms driving trust formation and erosion.

## **Conclusion**

This study examined the complex landscape of trust in financial services. It focused on distinctions among various dimensions, including broad-scope trust, narrow-scope trust, digital trust, trust perception, and their intricate interrelationships. The findings contribute significantly to understanding trust dynamics in the financial sector, particularly in emerging markets like Ethiopia.

## **Key findings**

Our analysis of demographic factors uncovered critical patterns influencing trust. While age generally correlated positively with trust, a reverse peak was observed for middle-aged individuals, who exhibited lower trust levels than younger and older generations. Gender differences were evident, particularly in the interplay between trust and education, where women demonstrated a linear increase in trust with higher education, unlike men. Income levels also influenced trust, though the trends were inconsistent, with trust perception unexpectedly declining for high-income women, possibly due to differing expectations in advanced financial services.

The exploration of trust dimensions revealed noteworthy trends. While broad-scope and narrow-scope trust exhibited demographic-specific variations, reciprocal narrow-scope trust—representing customers' perception of being trusted by bank officers—showed an inverse relationship with age. This highlights a critical gap in interpersonal trust, particularly among younger customers, with significant implications for customer engagement strategies. Satisfaction and transparency were closely linked to narrow-scope trust, emphasising the role of personal interaction in shaping overall trust.

The findings on digital trust were particularly intriguing, with trust in technologies such as ATMs and mobile money showing a sharp increase with age, contrary to expectations from prior literature. This phenomenon reflects the accessibility and practicality of digital products in Ethiopia, which resonate more with older generations. However, gender differences persisted, with men exhibiting stronger digital trust overall, even as women showed a linear increase in education.



## Practical implications

The study emphasised the practical dimensions of trust, including trust perception, satisfaction, digital trust, and transparency, demonstrating linear relationships with overall trust. Transparency emerged as a critical determinant, with its strong correlation with narrow-scope trust underscoring the importance of frontline customer interactions. Gender-specific variations, such as the higher net promoter score among women despite lower overall trust, highlight their potential as influential promoters and the need for targeted engagement strategies.

The study also identified vulnerable dimensions of trust—such as trust perception and trust in transparency and technology—that, when compromised, could erode confidence in the financial system. Conversely, improving these dimensions could enhance customer satisfaction and promote trust in financial institutions, particularly in emerging markets.

## Future directions

This study represents an essential step towards understanding the multidimensional nature of trust in financial systems. However, the findings also point to the need for further research. Multivariate analyses could deepen insights into the underlying mechanisms driving trust behaviours across demographic groups. Expanding the sample size would allow for a more granular exploration of subgroups, enabling multidimensional statistical analysis to uncover patterns that remain obscured in smaller datasets.

Incorporating longitudinal studies could also provide valuable insights into the evolution of trust over time, particularly in response to systemic changes or crises. Additionally, future research could explore integrating behavioural analytics and technology acceptance models to understand better the drivers of digital trust and its implications for financial inclusion.

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## Declarations

**Conflict of interest** The authors declare that they have no conflict of interest.

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