April 2025

Small Firms, Big Impact

Digitization, Financial Services, and Climate Resilience in Five Emerging Markets

AUTHORS | Edoardo Totolo, Paul Gubbins, Lucciana Alvarez Ruiz, Anindita Chakraborty, Liz McGuinness, Colin Rice

CENTER for FINANCIAL INCLUSION | ACCION

Executive Summary

Micro and Small Enterprises (MSEs) are a critical engine of economic activity in emerging markets, yet their ability to thrive is shaped by an evolving mix of technological, financial, and environmental challenges. This report presents findings from a representative survey of over 4,000 MSEs across Addis Ababa, Jakarta, Lagos, Delhi, and São Paulo, offering a new perspective on the interplay between digital adoption, financial services, and business resilience. Using Adaptive Cluster Sampling (ACS) — a research methodology designed to capture geographically dispersed businesses — this study provides one of the most comprehensive assessments of MSE financial health to date. It examines the overall health of MSEs through the lens of key enablers like digitization and finance, while also exploring the risks they face — from consumer protection issues and fraud to the growing impact of climate-related shocks.

The findings highlight the transformative potential of digital tools for micro and small enterprises, while also revealing significant disparities in adoption across cities. In São Paulo and Delhi, digital payments are widely used, while in Lagos and Jakarta, messaging apps are commonly leveraged to engage customers, with more advanced tools like social media gaining traction among better-educated entrepreneurs and more sophisticated firms. Businesses that adopted digital tools were up to 10 percent more likely to report revenue growth and also showed higher labor productivity. In Delhi, where digital payments are nearly universal, firms using them report substantially stronger performance, including higher growth and revenue per employee. In contrast, adoption remains limited in Addis Ababa, where poor internet connectivity continues to pose a major barrier. Even in more connected cities, the use of e-commerce platforms is still relatively low, suggesting untapped potential for deeper digitization of business operations.

Despite the benefits of digitization, financial health remains a major challenge for MSEs. Across the five cities, businesses reported using between 1.8 and five formal financial services, yet access alone does not always translate into resilience. While credit is one of the more commonly used financial tools, there is limited evidence that it significantly improves resilience. Still, this does not diminish its potential value. Many MSEs continue to rely on informal safety nets, such as personal savings or family support, when facing financial distress. The low uptake of insurance and

emergency credit highlights a persistent gap in financial products tailored to the realities of small businesses, especially in times of crisis. To meaningfully support resilience, financial services must evolve to be more flexible, timely, and aligned with the real-world needs of entrepreneurs, particularly during economic shocks or climate-related disruptions.

Gender disparities emerge as a significant factor shaping business outcomes. The representation of women-owned MSEs varies widely across cities, from 70 percent in Jakarta to just 11 percent in Delhi, reflecting cultural, economic, and regulatory differences. Women entrepreneurs face additional barriers to finance, technology, and business networks, limiting their ability to scale or build financial resilience. In many cases, these businesses operate out of necessity rather than strategic choice, making them more vulnerable to economic shocks and fluctuations in demand. Addressing these disparities requires financial solutions and business support programs that account for the specific constraints women entrepreneurs face, including access to credit, digital literacy, and market linkages.

The impact of climate change on small businesses is another urgent concern. On average, one in three MSEs reported being affected by droughts, floods, or other environmental shocks with significant variation across cities, from two in three in Delhi to about one in ten in Addis Ababa. Yet only about 20 percent of affected businesses reported being able to access emergency funds within a week. The study also finds that entrepreneurs who had already experienced climate shocks were more likely to make proactive investments in climate adaptation, such as stockpiling essential materials or reinforcing their business premises. However, these adaptations are largely self-financed, as formal financial mechanisms for climate resilience — such as insurance or disaster relief credit — are rarely utilized. The lack of structured financial support for businesses in climate-vulnerable regions underscores the need for innovative financial solutions that enable MSEs to anticipate and manage environmental risks rather than merely reacting to them after crises occur.

A core theme of this study is that financial inclusion alone is not enough to ensure business resilience. While access to financial services remains a priority, it must be coupled with consumer protection, digital infrastructure, and targeted business support to create an enabling environment for small businesses. The study highlights the risks associated with increased digitization, including fraud, hidden fees, and inadequate grievance mechanisms, which can erode trust in financial services. Regulatory frameworks must evolve to ensure that MSEs — especially the smallest and most vulnerable — are protected in an increasingly digital financial landscape.

This research provides one of the most detailed portraits to date of how MSEs in emerging markets are navigating the intersection of digital transformation, financial services, and resilience. While the advantages of digital tools are clear, the study calls attention to the structural barriers that prevent MSEs from fully leveraging these opportunities. Policymakers, financial institutions, and development organizations must design financial products and regulatory frameworks that align with the realities of MSEs — prioritizing stability, flexibility, and protection. Without such tailored interventions, the potential of small businesses to drive economic growth and job creation in emerging markets will remain constrained.

CONTENTS

Executive Summary ii
1. Introduction 1
1.1 Rethinking Financial Health for MSEs 2
1.2 Methodological Innovations in Studying MSEs 4
1.2.1 Why Methodology Matters 6
1.3 Unpacking the Data: Descriptive Insights and Predictive Signals 7
1.4 Limitations of the Study 8
1.5 How to Navigate This Report 9

2. The Business Landscape 11
2.1 Business Density and Concentration 12
2.2 Patterns of Women's Participation in Entrepreneurship Across Regions 13
2.3 Entrepreneurial Patterns and Market Dynamics in MSEs 15
2.4 Assessing Productivity Levels of MSEs 17

3. The Small Firm Owner 19
3.1 Core Demographics and Socioeconomic Characteristics of MSEs 19

4.Digital Technologies 27
4.1 The Digital Divide 28
4.2 Enablers, Barriers, and Benefits of Digital Adoption 35
4.3 Digitization and Financial Health of MSEs 40
4.3.1 Digitization and MSE Growth 40
4.3.2 Digitization and Resilience 43

5. Financial Services: Use, Drivers of Adoption, and Impact 45
5.1 Overview of Financial Services Use in the Five Target Markets 46
5.2 Account Use 47
5.3 Merchant Payments 50
5.4 Access to and Use of Credit 53
5.5 Access to Insurance 55
5.6 How Does Finance Associate with Financial Health of MSEs? 56
5.6.1 Financial Services and MSE Growth and Financial Sustainability 56

6. Risk Exposure 61
6.1 Endogenous: Consumer Protection and Digitization Risks 62
6.1.1 Overindebtedness 63
6.1.2 Fraud, Unexpected Fees, and Poor Treatment 64
6.1.3 Recourse 66
6.1.4 Assessing What Drives Exposure to Consumer Protection Risks 67
6.2 Exogenous: Climate Change Risks 69
6.2.1 Exposure to Climate Shocks 70
6.2.2 Impact and Coping Mechanisms 72
6.2.3 Exposure to Climate Shocks and Financing Behaviors 76

7. Resilience 79
7.1 Financial Resilience of MSEs 80
7.2 Other Dimensions of Business Resilience 81

8. Conclusion: Lessons Learned and the Road Ahead 84
8.1 Key Lessons Learned 84
8.2 The Need for Further Research 86

ANNEX 1 88

ACKNOWLEDGEMENTS

This report is the result of a collaborative effort by the Center for Financial Inclusion at Accion. The project team was composed of Edoardo Totolo, Paul Gubbins, Lucciana Alvarez Ruiz, Anindita Chakraborty, Liz McGuinness, and Colin Rice, with strategic guidance from Nataša Goronja. The team is grateful for the valuable technical and editorial inputs provided at various stages of the research by Chris Coxon, Iain Brougham, Jonathan Morduch, Gillous Harris, Jayshree Venkatesan and Hayze Chilson. Special thanks to Rachel Hoffman for copyediting and Karla Vazquez for design.

We are especially thankful for the generous support of the Mastercard Center for Inclusive Growth, and for the engagement and feedback from Payal Dalal, Leslie Meek-Wohl, Ali Fellner-Schmidt, and Carolina Zuluaga throughout the project. We also extend our appreciation to the research firms who supported fieldwork across the five cities, particularly Multicultural Insights, Laterite, and Devsol, whose local knowledge and execution were vital to this study. While this report reflects a collaborative effort, responsibility for any remaining errors rests with the project lead.

01 Introduction

This report presents findings from a representative survey of over 4,000 Micro and Small Enterprises (MSEs) in five dynamic metropolitan areas: Delhi, Lagos, Addis Ababa, Jakarta, and São Paulo. Employing Adaptive Cluster Sampling (ACS) — a geospatial methodology designed to systematically capture representative data from geographically dispersed populations — this research aims to shed light on the challenges and opportunities that define the trajectory of MSEs in rapidly changing markets.

MSEs in these five markets are navigating profound shifts — technological, economic, and environmental — that are reshaping business landscapes. Digital tools offer MSEs greater efficiency, expanded markets, and new growth opportunities. However, digitization is challenging, especially for smaller enterprises facing resource constraints, limited access to technology, and heightened vulnerability to economic and climate shocks. Despite their critical role in local economies and employment, we lack a comprehensive understanding of how these factors shape the trajectories of MSEs.

This study addresses knowledge gaps around the digital transformation, financial services, and risk landscape of MSEs, examining both the forces that drive or limit their adoption of

new tools and the ways these choices impact resilience and growth. Through demand-side research with MSEs in five large urban markets, we seek to answer fundamental questions: What drives digital adoption among different MSE segments in emerging markets? Why are some businesses more likely than others to embrace technology? How do factors like gender, industry, and entrepreneurial outlook shape these decisions, and what distinct challenges do women-owned businesses encounter? Equally vital, what tangible effects does digital adoption have on MSE growth and resilience?

As the digital economy expands, new risks emerge alongside opportunities for growth. Consumer protection issues, data privacy concerns, and disparities in access to digital platforms are part of this new economic landscape. Additionally, climate change introduces both physical risks (like extreme weather events) and transition risks related to shifting market and regulatory environments. Women-owned MSEs face their own unique challenges related to cultural norms, caregiving responsibilities, and legal barriers that can create additional obstacles to access technology, finance, and social networks. This study seeks to pinpoint the key enablers of growth and resilience for MSEs and offers insights that can inform targeted interventions. By identifying where support is most needed, we aim to ensure that the evolving digital economy truly benefits all segments of the small business community.

1.1 RETHINKING FINANCIAL HEALTH FOR MSES

This study focuses on understanding the drivers of financial health, a critical area often overlooked in existing research on MSEs. In low- and middle-income countries, MSEs are a vital source of livelihoods, yet sustaining financial health for these businesses, especially in volatile environments, is complex. Building on the financial health framework developed by the Center for Financial Inclusion (CFI) in 2020, this research refines the focus to consider resilience and financial sustainability as essential components of financial health.[1] We recognize that traditional metrics like profitability, productivity, and growth may not fully capture the priorities of many small businesses, which often prioritize stability and continuity over rapid expansion.

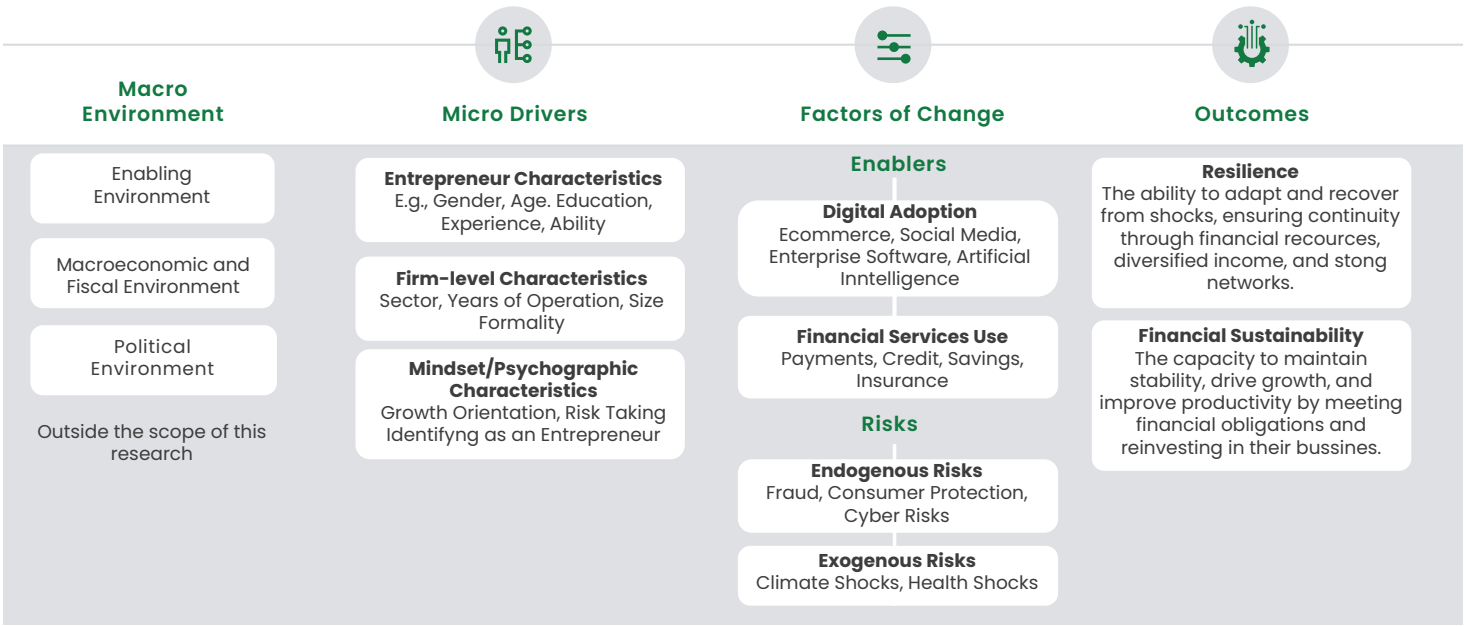
1 See Noggle E., J. Foelster and T. Johnson (2020) "A Framework for Understanding the Financial Health of MSME Entrepreneurs" https://www.centerforfinancialinclusion.org/a-framework-for-understanding-the-financial-health-of-msme-entrepreneurs/

Drawing on insights from initiatives like the Small Firm Diaries,[2] we incorporate redefined metrics that align with MSEs' aspirations for stability within their unique economic contexts.

Resilience, in particular, plays a crucial role in MSE financial health. For small businesses, resilience involves more than financial reserves; it requires "resilience capital," or the combination of resources MSEs can mobilize to withstand crises. Resilience capital encompasses both the capacity to generate emergency funds and the ability to draw on broader value chains, diverse customer and supplier bases, and social and business networks. Many entrepreneurs face significant interdependencies with their personal lives, where household-level shocks such as health crises can directly impact business operations and survival. This multidimensional approach captures how small businesses interconnected financial, social, and operational structures contribute to their resilience and highlights the need for further empirical testing to fully understand resilience capital's impact on financial health.

Ultimately, this study aims to offer a nuanced, data-driven perspective on the factors driving financial health for MSEs in the digital era. By examining the roles of digital adoption and access to financial services in fostering resilience and financial sustainability, this research seeks to provide actionable insights that will guide policymakers, financial service providers, and development organizations in creating a more supportive environment for MSEs.

FIGURE 1



2 Small Firm Diaries. (n.d.). Homepage. https://www.smallfirmdiaries.org/

1.2 METHODOLOGICAL INNOVATIONS IN STUDYING MSES

Designing a study that accurately represents micro and small enterprises (MSEs) across five major metropolitan areas is no small feat, especially given the challenges inherent in identifying and sampling these businesses. MSEs often operate informally, are not recorded in official databases, and are distributed unevenly across urban landscapes. To overcome these challenges, this study employed an innovative and rigorous approach — Adaptive Cluster Sampling (ACS)[3] — to ensure a representative sample that captures the realities of small business environments in Addis Ababa, Delhi, Jakarta, Lagos, and São Paulo.

The ACS method is well suited for studies like this, where the target population is dispersed and challenging to locate systematically. Originating from fields like ecology, ACS has been successfully adapted by the World Bank and other research organizations to survey informal businesses across various low- and middle-income countries. By allowing the sampling process to adapt based on field observations, ACS can efficiently expand sampling in areas where MSEs are clustered, ensuring that we capture a representative picture of these businesses within each city's unique urban environment.

3 Adaptive cluster sampling (ACS) targets a clustered population and is well suited for surveying informal businesses. In this sampling method, the discovery of some occurrences of a "rare" species propagates further exploration in nearby areas. Several existing areas of research have shown that such informed exploration can be unbiased and generate substantial gains in fieldwork efficiency. Although the population of informal businesses is not very rare, when using ACS, it can be measured more efficiently because it is clustered. For more information, please refer to: Jolevski, F. et al. (2023, February 24). Gathering data on populations that are hard to reach: surveying informal businesses. World Bank Blogs. https://blogs.worldbank.org/en/developmenttalk/gathering-data-populations-are-hard-reach-surveying-informal-businesses

Box 1: Adaptive Cluster Sampling – In a Nutshell

The sampling methodology is based on a four-step process:

1. Defining Sampling Boundaries and Grids
   Each city's metropolitan area was divided into a grid of 150m x 150m blocks, creating a primary sampling framework that covers both built and unbuilt spaces. Using satellite data and administrative boundaries, only blocks with a significant built-up area (over 75 percent) were retained for the study, ensuring a focus on areas where businesses are most likely to be found. This final grid served as the sampling boundary, with each block representing a possible location for business enumeration.

2. Selecting Initial Blocks and Expansion Thresholds
   From the final grid, 125 blocks were randomly selected in each city as the initial sample. Enumerators visited these blocks to identify eligible businesses, recording their locations and basic data. If the team found a high concentration of eligible businesses in a block — a pre-set "expansion threshold" — the survey expanded to include all neighboring blocks. This adaptive expansion continued until no further blocks met the threshold, creating clusters of sampling blocks around high-density business areas. This approach maximized efficiency, focusing resources on areas where MSEs were more concentrated.

3. Defining Eligibility and Sampling Criteria
   The study's definition of an eligible business included small enterprises with fewer than 10 employees operating from a permanent or semi-permanent structure, such as shops, stalls, or home-based businesses with visible signs of commercial activity. Temporary vendors or international franchises were excluded to maintain focus on local, small-scale entrepreneurs. Additionally, a systematic selection rule was applied during interviews: Only every third eligible business was interviewed to avoid bias and ensure randomness.

4. Data Collection and Final Sample
   The fieldwork yielded two datasets: an enumeration dataset covering all identified businesses and a survey dataset with responses from face-to-face surveys with the selected sample. Each record included geospatial coordinates (where privacy laws permitted), facilitating spatial analysis of business distributions and enabling precise estimates of MSE characteristics at the city level. This methodology ensured that the sample was not only statistically representative but also highly relevant to the study's research objectives.

1.2.1 Why Methodology Matters

This methodology represents a significant investment in the quality and reliability of data. Unlike traditional MSE surveys, which might rely on outdated business directories or convenience samples, ACS use a geospatial grid and block enumeration to create a sampling frame that grows organically, adapting to the real distribution of businesses within each city. This adaptive nature is crucial in urban settings where small businesses are not evenly distributed, often forming clusters in areas that might be overlooked by conventional methods. By capturing these clusters and systematically including businesses that might otherwise go uncounted, this study offers a more complete and accurate representation of the MSE sector.

A primary objective of this study is to deliver representative and generalizable insights into the MSE population across five diverse cities. These findings aim to provide a solid foundation for understanding MSE dynamics, enabling policymakers, financial institutions, and support organizations to craft targeted strategies that foster digital adoption and drive economic transformation among MSEs.

Box 2: What MSEs Are Included (or Not Included) in This Study

This survey provides a representative snapshot of MSEs that operate in urban areas across five major cities, capturing the heartbeat of local economies. **Eligible businesses include those with 10 or fewer employees, operating from permanent or semi-permanent structures — whether storefronts, market stalls, or even home-based businesses with visible commercial activity.** The survey focuses on businesses that people can see and access, from tailors and repair shops to neighborhood grocery stores and service providers.

However, the survey intentionally excludes certain types of businesses. Street vendors, hawkers, and other temporary operators without fixed premises are not included, as they often move locations and do not align with our focus on more established businesses. Similarly, international franchises and high-end retail chains aren't part of this study, as we are spotlighting local, independent enterprises that serve as lifelines to their communities.

FIGURE 2

Demand-side research with MSEs

CROSS-COUNTRY RESEARCH

This study explores how micro and small enterprises (MSEs) in five major metro areas navigate technology, finance, and resilience. By addressing key knowledge gaps, it examines how digital adoption impacts business outcomes, the drivers of resilience, and the unique risks faced by MSEs, particularly those owned by women. Our findings offer actionable insights into supporting MSE growth and adaptability in an evolving digital and climate-sensitive landscape.

Focus segment: Businesses with <10 employees, operating in fixed locations, regardless of formality. Household businesses were included as long as visible and accessible from public locations.

20k

BUSINESSES ENUMERATED

We conducted an enumeration of over 20,000 MSEs, systematically recording each business to establish a detailed and representative dataset of micro and small enterprises across the study areas.

4k

BUSINESSES INTERVIEWED

Over 4,000 entrepreneurs were interviewed face-to-face to explore their use of technology, access to finance, exposure to risk, and the impact of these factors on their business.

1.7m

REPRESENTED

A rigorous sampling approach was employed to ensure that the data accurately represents MSEs in the five metropolitan areas, covering nearly 1.7 million businesses across these markets.

The surveys were complemented with **FOCUS GROUPS** covering MSEs use of digital financial and non-financial services, exposure to climate and other risks, and coping mechanisms.

São Paulo | Jakarta | Addis Ababa | Delhi | Lagos

1.3 UNPACKING THE DATA: DESCRIPTIVE INSIGHTS AND PREDICTIVE SIGNALS

In this report, we blend descriptive and predictive analyses to reveal both broad patterns and more intricate relationships within the MSE ecosystem. Descriptive statistics provide a high-level view of the landscape, offering essential information about the demographics, business profiles, and foundational characteristics of MSEs in each urban market. This layer of analysis is complemented by predictive models using regression analysis, which allow us to explore potential associations between MSE behaviors — such as digital adoption, financial service usage, and risk exposure — and outcomes linked to financial health and resilience. Additionally, qualitative insights from focus group discussions conducted in each market enrich the analysis, providing context to the quantitative findings and highlighting the lived experiences of entrepreneurs.

While these predictive models provide valuable insight, it is important to view them as signals rather than definitive

conclusions. These are observational findings that reveal correlations, but they do not establish causality. Many intervening factors, which are not measured here, could influence the observed outcomes. For instance, MSE resilience and digital engagement can be shaped by variables like local economic conditions, regulatory frameworks, and community support networks — factors that add depth and complexity to any predictive analysis.

Our approach aims to create a nuanced understanding of the interplay between digital tools, financial services, and business outcomes. By presenting these insights in a balanced way, we offer actionable takeaways while also recognizing the need for further research to untangle the causal dynamics at play. This method not only supports policymakers, financial institutions, and development organizations in making data-informed decisions but also highlights areas where targeted interventions may be needed to support MSE resilience and growth.

1.4 LIMITATIONS OF THE STUDY

Every research endeavor faces its own set of challenges and limitations, and this study is no exception. Conducting representative, in-person data collection across diverse urban landscapes posed significant obstacles that, while carefully managed, inevitably influenced the results. One primary consideration is the variation in urban environments across cities. Each city has its own unique layout, density, and infrastructure, which likely impacted the types and locations of businesses our teams could effectively enumerate. In denser areas, businesses were clustered in ways that allowed for easier identification and sampling, while more dispersed layouts or hidden enterprises in complex urban settings might have eluded our efforts, affecting the full picture of the MSE ecosystem.

Security concerns in specific neighborhoods also necessitated a measured approach. Certain areas were deemed inaccessible after thorough discussions with field teams, particularly in locations where the safety of enumerators could not be guaranteed. While every effort was made to ensure that the sampled areas reflect the broader business landscape, these exclusions may have introduced some level of sampling bias, as some communities with potentially distinctive business profiles were left out.

Timing further complicated fieldwork, especially in cities affected by climate shocks. Data collection in Delhi, for instance, coincided with an intense heat wave, adding substantial difficulty to field activities and potentially affecting respondent availability and comfort. The influence of environmental disruptions on both business operations and responses should be considered when interpreting the findings.

Cultural factors also shaped the subjective responses in this study. Entrepreneurial mindset, self-assessment of risk tolerance, and growth aspirations are all areas where cultural norms can deeply influence how individuals perceive and report their behaviors and ambitions. Differences in cultural expectations around entrepreneurship may affect how business owners perceive and express their objectives, making it important to interpret mindset-related data with local context in mind.

Lastly, this study is observational, meaning it captures associations rather than causal relationships. Observations around resilience, growth, and financial sustainability reflect correlations that suggest possible trends but should be viewed cautiously, as they may not directly imply cause and effect. This study provides valuable insights and patterns, yet further research would be essential to establish causal pathways within the MSE landscape.

1.5 HOW TO NAVIGATE THIS REPORT

This report is organized to provide a comprehensive journey through the dynamics, challenges, and opportunities of MSEs across five distinct urban markets. We begin with Chapter 2, The Business Landscape, which sets the stage by analyzing business density, concentration, and labor productivity. This chapter offers a broad look at the types of businesses operating in each city, revealing the diverse market dynamics and economic contributions of MSEs.

Next, Chapter 3, The Small Firm Owner, delves into the profiles of MSE entrepreneurs, examining not only their core demographics and socioeconomic characteristics but also exploring how these elements influence business strategies and resilience.

Chapter 4, Digital Technologies, investigates both the digital divide and factors that drive or hinder adoption of digital services and tools among MSEs. Here, we explore the nuanced relationship between digitization and MSE financial health, focusing on growth, resilience, and the critical

barriers that MSEs face in leveraging digital tools for business sustainability.

Chapter 5, Financial Services, provides a thorough examination of MSEs' engagement with financial tools. From account usage to credit access and insurance adoption, this section looks closely at how financial services support or challenge MSEs' financial sustainability and resilience. It also assesses how these services align with broader financial health objectives.

Chapter 6, Risk Exposure, addresses both endogenous risks, such as consumer protection issues, and exogenous risks, particularly those linked to climate change. This section provides insight into the specific vulnerabilities MSEs face, from digital risks to the impacts of climate shocks on financing behaviors.

Chapter 7, Resilience, consolidates our findings on financial resilience, highlighting the importance of resilience capital in business survival. This chapter broadens the lens beyond immediate financial health to include other critical dimensions of resilience, such as social networks, adaptability, and resourcefulness. Chapter 8 concludes and summarizes the key insights and road ahead.

02 The Business Landscape

This chapter provides a comprehensive exploration of the diverse landscapes of MSEs across five cities. By employing a methodology that facilitates city-level projections and generalizations, the findings deliver a rare, representative, and comparable snapshot of the five urban economies. This approach offers a clearer understanding of the size, density, and composition of the business population, equipping key stakeholders with actionable insights to inform effective interventions and uncover market opportunities.

The economic geography of these metropolitan centers is shaped by distinct patterns of business clustering, barriers to entry, and socioeconomic and gender norms. These cities host vibrant but varied business landscapes, where the concentration and composition of enterprises are driven by regulatory frameworks, access to infrastructure, cultural practices, and market dynamics. Social and gender norms further influence who participates in entrepreneurial activities and in what ways, adding complexity to the economic fabric. For instance, women's participation in entrepreneurship varies widely, from 11 percent in Delhi to an impressive 70 percent in Jakarta, reflecting how cultural and structural factors shape local economies.

While this study does not aim to comprehensively describe the economic geography of each city, its methodology — rooted in adaptive cluster sampling — highlights critical spatial and demographic patterns. For example, business density ranges from Delhi's remarkable 1,400 establishments per square kilometer to Addis Ababa's lower density of around 400. These findings offer

unique insights into the interplay of business size, sectoral focus, and broader economic structures, revealing patterns that are essential for understanding the opportunities and constraints faced by MSEs in rapidly changing urban environments.

2.1 BUSINESS DENSITY AND CONCENTRATION

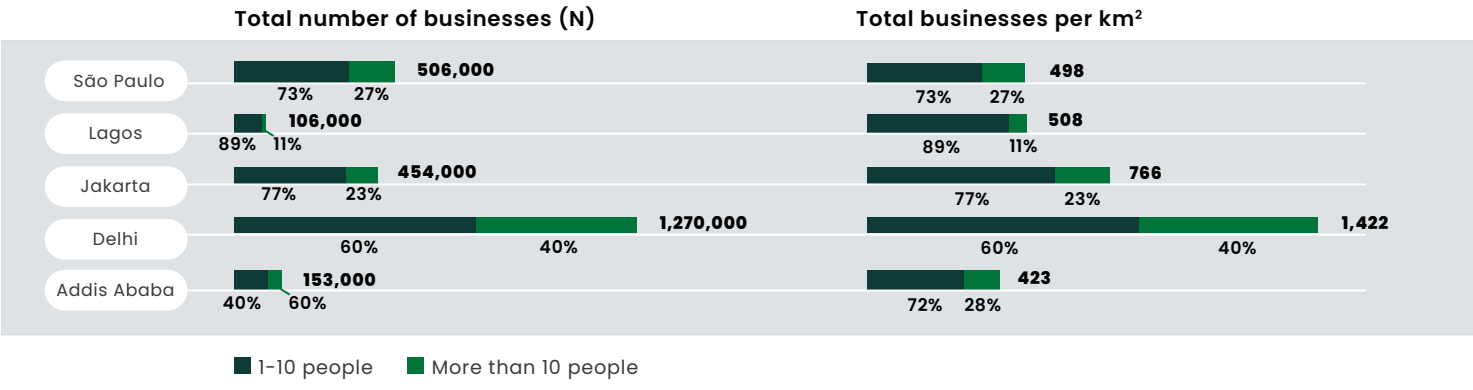
This study found significant variation in the density and concentration of visible MSEs across five major urban centers, with Delhi having the highest concentration of business establishments at 1,400 per square kilometer, while Addis Ababa, Lagos, and São Paulo range between 400 and 500 per square kilometer.

The estimated total population of visible business establishments varies from 106,000 in Lagos to 1.3 million in Delhi. Relative to the total area of each city's sampling boundary, the density of businesses per square kilometer varies from 423 in Addis Ababa at the low end, 766 in Jakarta in the middle, and over 1,400 in Delhi at the high end. It is important to note that these population estimates exclude some common business types, such as those that are mobile and operating from temporary locations, as well as those operating out of the home that are not visible from public locations.[4]

Across most cities, over 70 percent of these visible businesses are small, with fewer than 10 employees. Delhi stands out for its relatively high share of larger businesses, which make up 40 percent of the total eligible establishments. Larger businesses with more than 10 employees, though outside the scope of this survey, were relatively more prominent in Delhi than in Lagos or Jakarta, suggesting notable differences in the business composition across these cities.

FIGURE 3

Total estimated business population and population density in each study area



4 Note that the study includes household-based businesses, but only when these are identifiable and accessible from the street. Business establishments that are not visible were not included in the research.

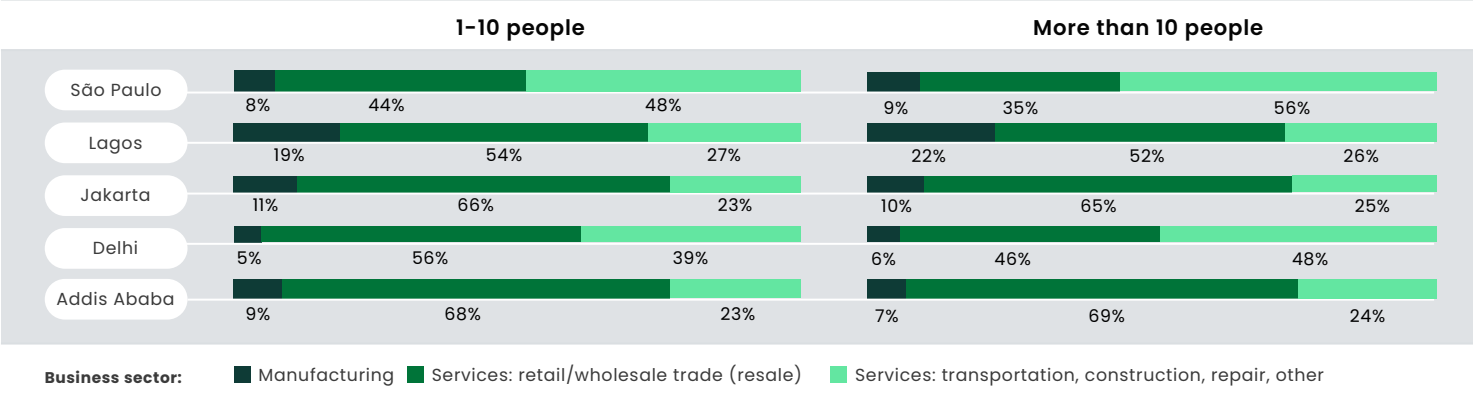
Small businesses across the five cities surveyed are concentrated in retail trade, with significant roles in food production and distribution, though sector composition varies by city.

Within each city, smaller and larger firms are broadly similar in terms of their distribution across sectors. Across cities, Lagos has a larger concentration of manufacturers. Delhi and São Paulo, on the other hand, show a greater presence of service firms in sectors such as professional services, transportation, repair, and construction, suggesting greater diversification in these economies.

The sectoral distribution of businesses across the five cities is broadly similar, with retail and resale services dominating across both small and larger firms. However, Lagos stands out for its higher concentration of manufacturing enterprises, while Delhi has a relatively larger share of businesses in non-retail service sectors such as construction, transportation, and repairs. In Addis Ababa and Jakarta, nearly seventy percent of MSEs are engaged in food production or distribution, highlighting their role in local food systems. In contrast, Delhi and Lagos show a broader mix of sectors, with 20 to 34 percent of small firms in food-related businesses. São Paulo is even more diverse, with only 25 percent of small firms involved in food production or distribution. Lagos stands out with the highest proportion of manufacturing firms with less than ten employees at 19 percent, reflecting a more production-oriented small business landscape.

FIGURE 4

Industry composition of business population, by employee size



2.2 PATTERNS OF WOMEN'S PARTICIPATION IN ENTREPRENEURSHIP ACROSS REGIONS

The stark differences in women's participation in entrepreneurship across the five cities studied — ranging from just 11 percent in Delhi to 70 percent in Jakarta — highlight the varying social, cultural, and economic landscapes shaping women's entrepreneurial opportunities. These differences align with findings from other

studies, offering a broader context for understanding the dynamics at play.

This survey reveals striking disparities in the gender composition of entrepreneurs across the five cities studied, as shown in Figure 5. Women entrepreneurs represent 70 percent of MSE owners in Jakarta but just 11 percent in Delhi, with intermediate figures of 43 percent, 53 percent, and 35 percent in Addis Ababa, Lagos, and São Paulo, respectively. These differences are reflective not only of the local cultural and socioeconomic contexts but also of the specific target segments studied in this research.

The survey's sampling methodology, which included visible MSEs operating in fixed locations, likely influenced these findings. Including mobile entrepreneurs, such as hawkers, or narrowing the sample to either formal or informal businesses might have resulted in different gender compositions. For example, studies that focus on formal businesses often report lower women's participation due to systemic barriers to formalization that disproportionately affect women.[5] Similarly, informal or mobile businesses, where women often play a significant role, might paint a more balanced picture in some contexts.

These results largely align with existing research. For example, in India, the 2022 World Bank Enterprise Surveys[6] estimate women's participation in formal small businesses at 3.4 percent, which is even lower than our findings, likely due to our inclusion of both formal and informal businesses. The 2022 Mastercard Index of Women Entrepreneurs[7] reports a similarly low figure, with a women-to-men entrepreneurial ratio of just 5 percent. By contrast, a GIZ study[8] provides a somewhat higher estimate of 20.37 percent but confirms that women remain significantly underrepresented. Conversely, in Indonesia, studies such as those by the Center for Global

5 Gardner, J., Walsh, K., & Frosch, M. (2022). Women and Men in the Informal Economy: A Statistical Brief. International Labour Organization (ILO) Working Paper 84. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@dgreports/@stat/documents/publication/wcms_861882.pdf

6 World Bank Group. (2022). India Enterprise Survey Report. https://espanol.enterprisesurveys.org/content/dam/enterprisesurveys/documents/country/India-2022.pdf

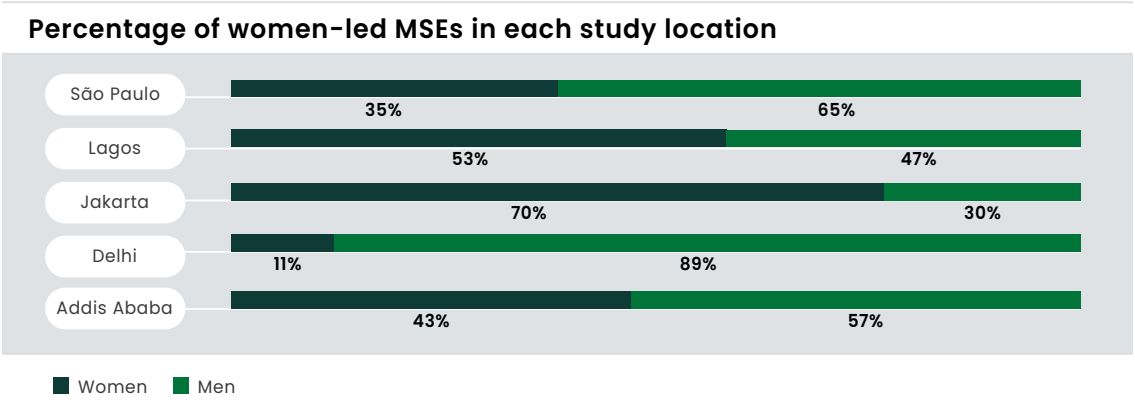
7 Mastercard. (2022). 2022 Mastercard Index of Women Entrepreneurs. https://www.mastercard.com/news/media/phwevxcc/the-mastercard-index-of-women-entrepreneurs.pdf

8 Mehta, I. (2022). Promoting Women Entrepreneurship in Delhi: Research and Policy Recommendations. GIZ. https://www.giz.de/en/downloads/giz2022-en-Promoting-Women-Entrepreneurship-in-Delhi.pdf

Development[9] and Babbitt et al.[10] estimate women's participation at approximately 60 percent, aligning closely with our findings in Jakarta.

The dramatic differences in women's participation across cities emphasize the need for tailored interventions to foster inclusive entrepreneurial ecosystems. Understanding the nuanced dynamics of each local context is critical for designing policies that empower women and maximize their contributions to urban economies.

FIGURE 5



2.3 ENTREPRENEURIAL PATTERNS AND MARKET DYNAMICS IN MSES

Across the five cities, MSEs reveal distinct entrepreneurial patterns, with solo entrepreneurs and household-based businesses playing a significant role in shaping local economies. These dynamics are influenced by broader social, cultural, and economic factors unique to each region.

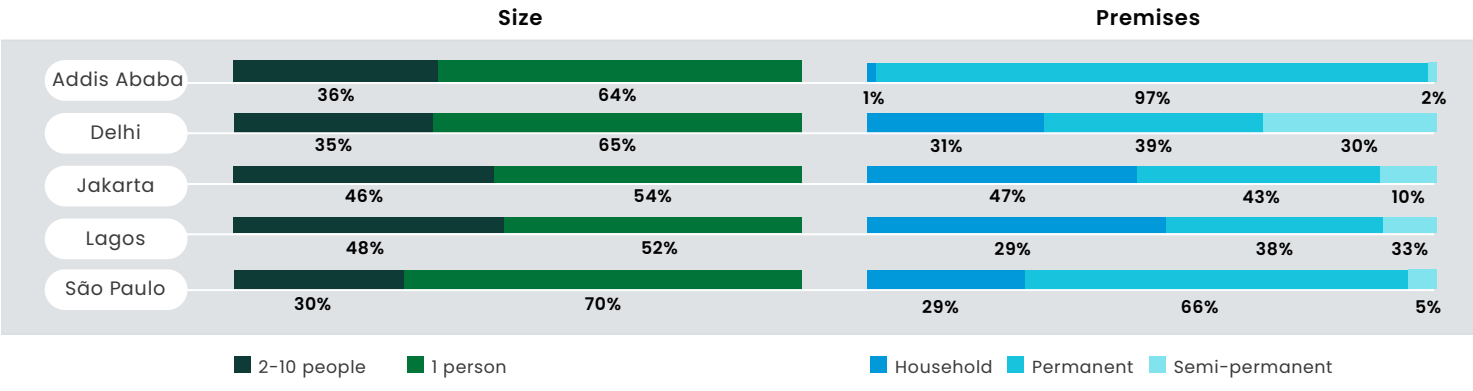
In Jakarta and Lagos, a large number of businesses operate without employees, reflecting the prominence of solo enterprises in these cities. Nearly half of the MSEs in both cities fall into this category, compared to about one-third in Addis Ababa, Delhi, and São Paulo. This trend is linked to a higher prevalence of household-based businesses in Jakarta and Lagos, where 47 percent and 53 percent of businesses, respectively, operate from homes. These regions also have the highest proportions of women's business ownership, with 70 percent of businesses in Jakarta and 53 percent in Lagos led by women. This overlap underscores how household-based businesses often provide women with a viable path to entrepreneurship — allowing them to balance income generation with caregiving responsibilities and navigate prevailing gender norms.

9 Buvinic, M., & Jaluka, T. (2018). Unequal Ventures: Baseline Study on Gender and Entrepreneurship in East Java, Indonesia. Center for Global Development. https://www.cgdev.org/publication/unequal-ventures-baseline-study-gender-and-entrepreneurship-east-java-indonesia-factsheet

10 Babbitt, L., Brown, D., & Mazaheri, N. (2015). Gender, Entrepreneurship, and the Formal-Informal Dilemma: Evidence from Indonesia. World Development, 72, 165–174. https://www.sciencedirect.com/science/article/abs/pii/S0305750X15000522#:~:text=Domestic%20responsibilities%20can%20impede%20entrepreneurial,women%20who%20eventually%20become%20entrepreneurs

FIGURE 6

Characteristics of the MSE population



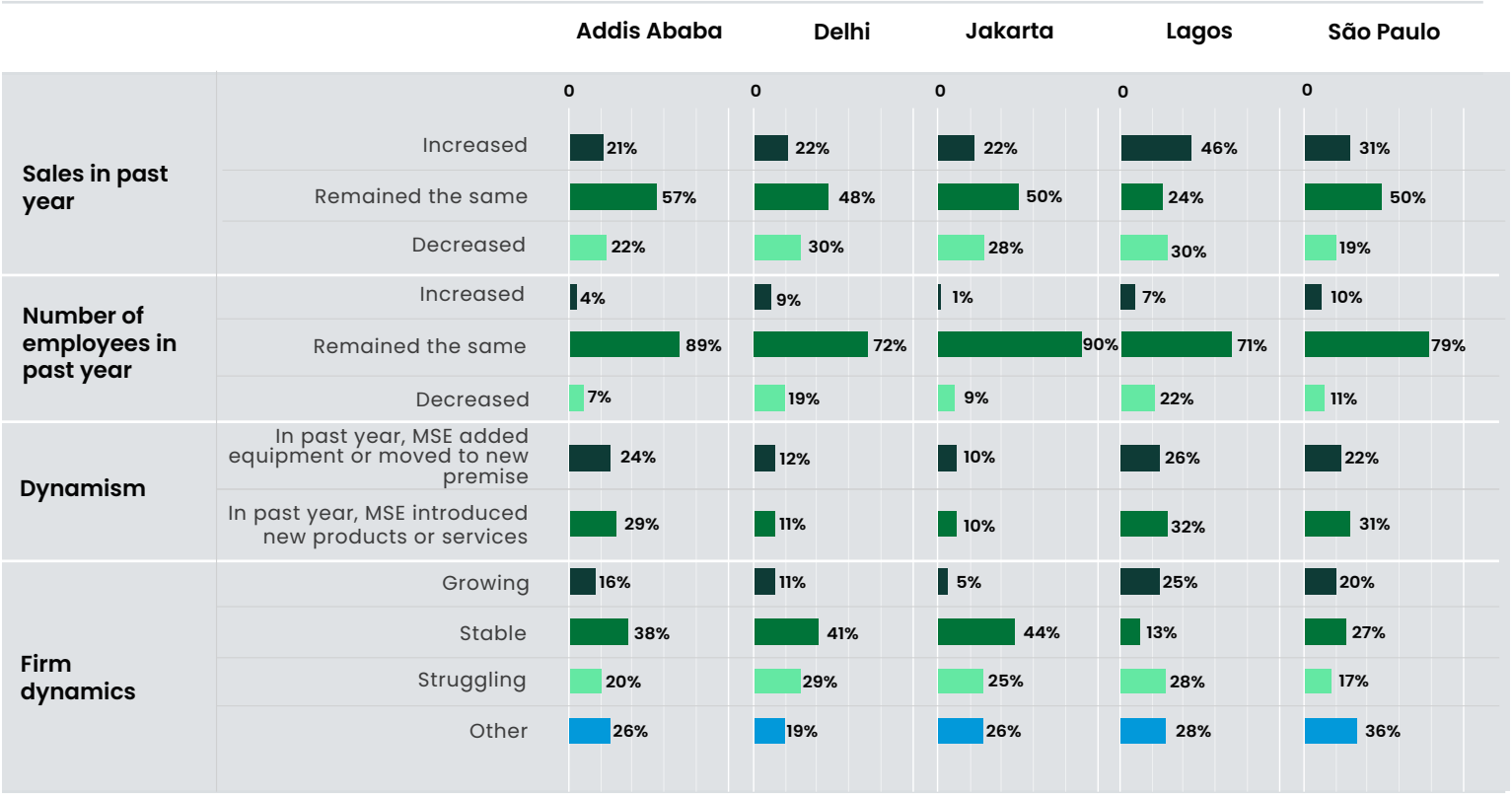
MSEs across most of the cities reported stability in both sales and employee numbers, with Lagos standing out as an exception for its more volatile business environment.

Based on owners' or managers' self-reported evaluations, the share of small firms that are growing ranges from as low as 5 percent in Jakarta to as high as 25 percent in Lagos. Firms categorized as stable — those with revenues and employee numbers remaining the same over the past year and no investments in capital or products — account for as much as 44 percent of businesses in Jakarta and as little as 15 percent in Lagos. It is important to note that these evaluations are subjective and not verified through external means, potentially reflecting other factors influencing an individual's optimism or perception of their business growth.

In terms of business dynamism, firms in Addis Ababa, Lagos, and São Paulo show greater activity, with higher levels of product innovation, investment in new equipment, or moves to new premises. Delhi and Jakarta have the highest percentage of businesses classified as stable, with over 40 percent of firms reporting no significant changes in revenue, employee numbers, or investments. While the large majority of businesses did not hire new employees in all markets, we observe more businesses reporting revenue growth. About 1 in 5 businesses in Jakarta, Delhi, and Addis Ababa reported growing revenues, compared to as many as one in two businesses in Lagos.

FIGURE 7

Changes in business outcomes in past year
MSEs (%)



2.4 ASSESSING PRODUCTIVITY LEVELS OF MSES

MSEs across most markets operate at significantly lower productivity levels compared to national economic averages, highlighting the persistent gap between small business performance and broader economic benchmarks. São Paulo stands out as an exception, where MSEs demonstrate productivity levels that align more closely with the national average, reflecting a stronger integration into the formal economy.

To better understand the productivity dynamics of MSEs, we compare their average daily revenue per employee to the national GDP per person employed, an aggregate indicator of economic productivity. This comparison offers insights into the relative performance of MSEs within the broader economic context. While the approach provides a useful benchmark, it is important to note key distinctions: daily revenues reflect gross income and do not account for costs or value added, unlike GDP per person employed. Furthermore, national GDP metrics capture the output of high-productivity sectors, potentially exaggerating the gap when compared to MSEs, which are often concentrated in lower-margin industries. Despite these limitations, this comparative approach is valuable for illustrating cross-city differences and distances

to the benchmark, though it must be interpreted with caution, as cities reflect diverse economic geographies, industrial structures, and levels of market development that uniquely shape MSE performance.

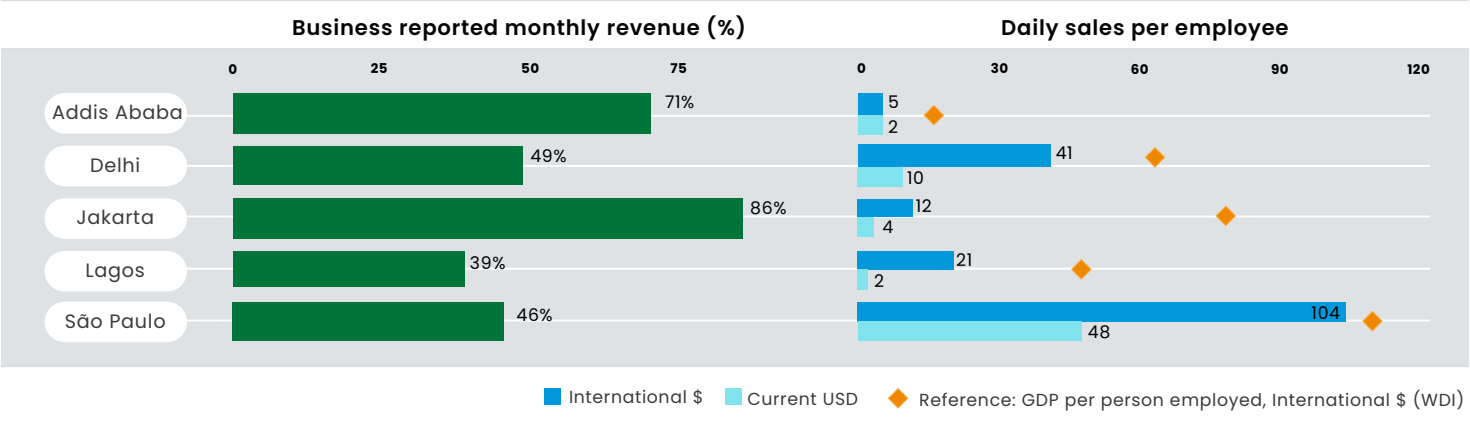
Against this backdrop of differing economic contexts, the analysis highlights substantial disparities in MSE productivity across cities. In Jakarta, for example, the productivity gap is stark. Median daily revenue per MSE employee is $12 (purchasing power parity-adjusted), just 15 percent of the national benchmark of $80 GDP per person employed. This gap may reflect constraints such as limited access to technology and capital, as well as lower skill levels among employees. By contrast, São Paulo's MSEs exhibit productivity levels that closely align with the national average, with median daily revenues of $104 per employee, nearly matching the national benchmark of $105. This alignment suggests that São Paulo's MSEs benefit from factors such as better infrastructure, integration into the formal economy, and higher consumer demand.

These patterns illustrate the uneven productivity landscape of MSEs across markets and emphasize the importance of addressing structural barriers to enable these enterprises to close the productivity gap. The following sections will explore the role of technology, physical capital, and human capital in driving productivity improvements in the MSE sector.

FIGURE 8

MSE revenues and productivity

Median monthly sales and standardized daily sales per worker



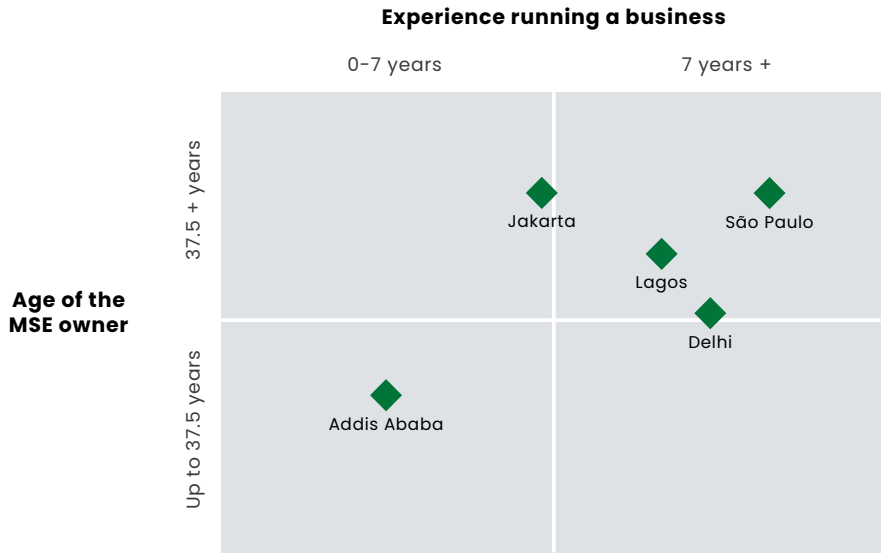
03 The Small Firm Owner

3.1 CORE DEMOGRAPHICS AND SOCIOECONOMIC CHARACTERISTICS OF MSES

The educational profiles of entrepreneurs across the five cities reveal both similarities and differences in their backgrounds. A consistent finding across all cities is that the majority of entrepreneurs have attained at least a secondary level of education, reflecting a foundational level of formal education among MSE owners.

However, notable variations emerge when comparing cities. Addis Ababa stands out with a relatively higher proportion of entrepreneurs who have no formal education and a slightly higher share with only primary education compared to other cities. Similarly, Jakarta also shows a somewhat larger percentage of entrepreneurs with primary-level education. Delhi, on the other hand, shows a concentration of entrepreneurs with secondary or higher education levels, presenting a more uniform educational profile.

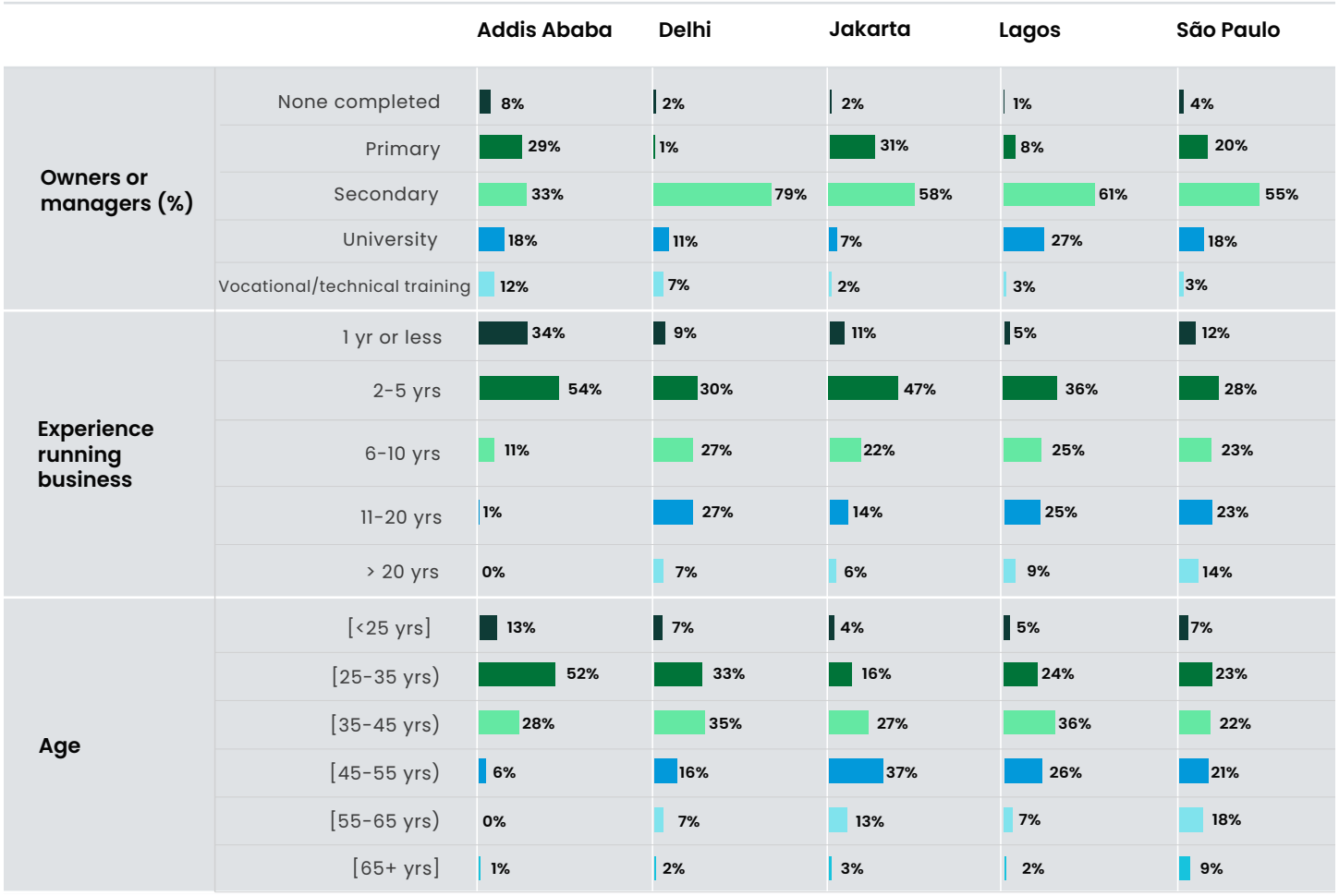
FIGURE 9: ENTREPRENEURS' EXPERIENCE AND AGE IN THE FIVE STUDY LOCATIONS



Age and experience also differ significantly across cities. MSE owners in Addis Ababa and Delhi are typically in their 30s, while in São Paulo and Lagos, they tend to be in their early 40s. Addis Ababa has the least experienced entrepreneurs, with an average of 2.8 years in business, compared to São Paulo, where entrepreneurs average 10 years of experience, pointing to more established MSEs.

FIGURE 10

Age, education and experience of MSE owners or managers
MSEs (%)



Entrepreneurial motivations across cities reflect a blend of ambition and necessity, with distinct patterns emerging in how business owners view growth and risk.

In Addis Ababa, Delhi, and Lagos, around three in four business owners became entrepreneurs by choice, driven by the desire to start a business. Meanwhile, in São Paulo and Jakarta, only about half of business owners reported similar motivations, with a larger share citing lack of opportunities or other reasons as their entry into entrepreneurship. Despite these variations, the dominant goal for most MSE owners across all cities is to grow their business over the next 12 months. However, in São Paulo, nearly one in three business owners indicated their primary focus is either covering costs or planning to exit the business, highlighting different economic pressures in this market.

In Jakarta, entrepreneurship is often necessity-driven, with only half of MSEs indicating they desire to be entrepreneurs, and more than one in three indicating they started a business due to lack of other opportunities. Yet entrepreneurs in Jakarta are the most likely to indicate tolerance towards taking risks. This combination suggests that while economic constraints push individuals into business ownership, there remains a dynamic drive for growth and expansion, creating a unique blend of necessity and ambition that needs further research.

FIGURE 11

Entrepreneurial mindset and pyschology

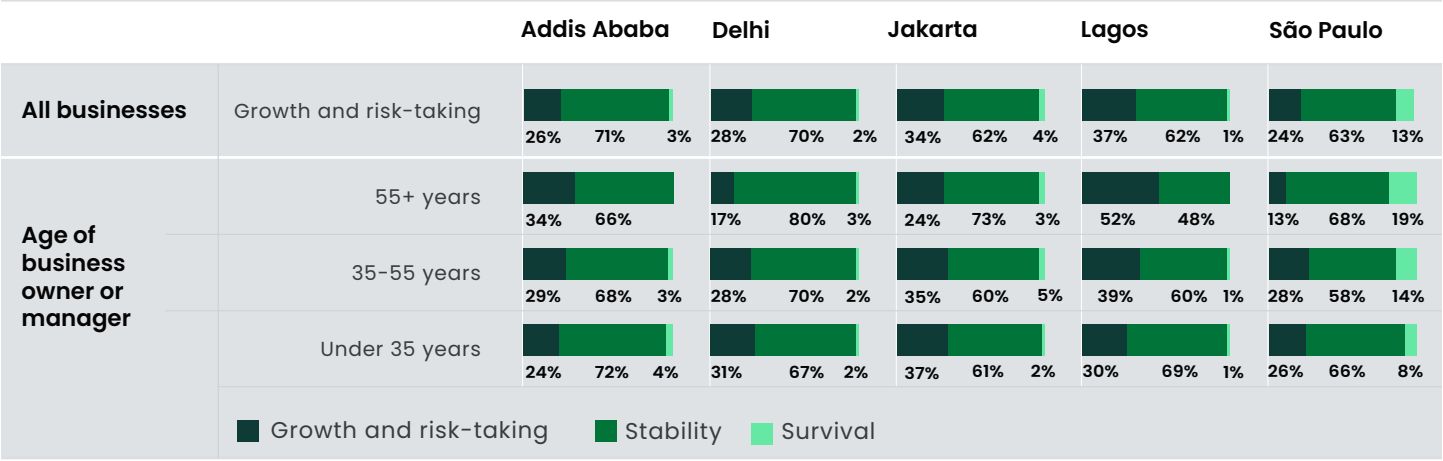
MSE owners or managers (%)

		Addis Ababa	Delhi	Jakarta	Lagos	São Paulo
Pyschographic orientation	Growth and risk taking	26%	28%	34%	37%	24%
	Stability	71%	70%	62%	62%	63%
	Survival	3%	2%	4%	1%	13%
Motivation to start business	Desire to have own business	73%	73%	52%	78%	54%
	Lack of other income opportunities to generate additional income	24%	17%	37%	17%	29%
	Inherited business or other reason	3%	10%	9%	3%	11%
Main goal in next 12 months	Grow the business	92%	93%	86%	97%	68%
	Cover business costs	6%	5%	9%	3%	22%
	Leave business to get a regular wage-paying job or other	2%	2%	5%	0%	10%
Risk tolerance	Aggresively pursue risk opportunities that could generate a little income	23%	6%	46%	15%	18%
	Cautiously pursue risk opportunities that could generate a little income	21%	38%	36%	48%	44%
	Avoid risks even if they could generate additional income	56%	56%	18%	37%	38%

Note: Some percentages do not add up to 100 percent due to a small number of missing responses from surveyed business owners.

FIGURE 12

Entrepreneurial mindset and pyschology
MSE owners or managers (%)



Box 3: Ayu's Path to Entrepreneurship in Jakarta

Ayu is a 38-year-old entrepreneur operating in Jakarta's suburbs.[11] Like many women in her community, Ayu's journey into business ownership reflects a blend of tradition, necessity, and ambition. Her story sheds light on the diverse motivations driving women entrepreneurs in Jakarta and highlights the resilience and creativity that define their ventures.

For Ayu, entrepreneurship runs in the family. She inherited her late mother's small retail shop, a cornerstone of their neighborhood for decades. While honoring her mother's legacy, Ayu has adapted the business to modern demands, incorporating digital payment options and diversifying her inventory to attract younger customers. Her shop now serves as both a practical livelihood and a tribute to her family's entrepreneurial spirit.

11 Ayu is a fictional character, a "persona" crafted to represent the common themes and stories shared by many women entrepreneurs during our focus group discussions in Jakarta. While Ayu's story is not tied to a specific individual, the quotes are from real people who were interviewed for this study, reflecting the lived experiences, challenges, and motivations described by MSEs in Jakarta.

Ayu also exemplifies the growing drive for independence among women entrepreneurs in Jakarta. After leaving her job in a textile manufacturing firm to focus on raising her children, she saw self-employment as an opportunity to regain financial autonomy while balancing family responsibilities. This desire for independence is common among many women in Jakarta, who see business ownership not just as a source of income but as a way to shape their own futures.

Economic necessity plays a critical role in Ayu's story as well. Her husband's irregular construction work left the family with unpredictable cash flows, motivating Ayu to expand her shop into a more dependable income source. The flexibility of running a home-based business allows her to manage household duties while ensuring that her family's financial needs are met — a common theme for many women entrepreneurs in Jakarta.

Ayu's passion for her work has also been a key factor in her success. She takes pride in curating unique, high-quality goods that set her shop apart from competitors. This enthusiasm has helped her build a loyal customer base and navigate challenges like shifting market trends and rising costs. Women like Ayu, who operate in sectors such as retail, catering, and custom furnishings, often leverage their personal interests and expertise to carve out niches in competitive markets.

Finally, Ayu's entrepreneurial journey reflects her adaptability to market opportunities. When demand for educational supplies surged during the COVID-19 pandemic, Ayu quickly pivoted to stock school supplies for children attending classes from home. This ability to identify and respond to emerging needs made her business more resilient, underscoring the entrepreneurial ingenuity seen among women in Jakarta.

Ayu's story is just one among many, but it illustrates the broader dynamics of women's entrepreneurship in Jakarta. Women entrepreneurs here often embody a mix of necessity and ambition, balancing family responsibilities with the desire to create something of their own. Their businesses are not only sources of income but also reflections of their resilience, adaptability, and drive to shape better futures for themselves and their communities.

Gender differences in entrepreneurial mindset highlight variations in risk tolerance and growth orientation across markets, reflecting diverse sociocultural and structural factors.

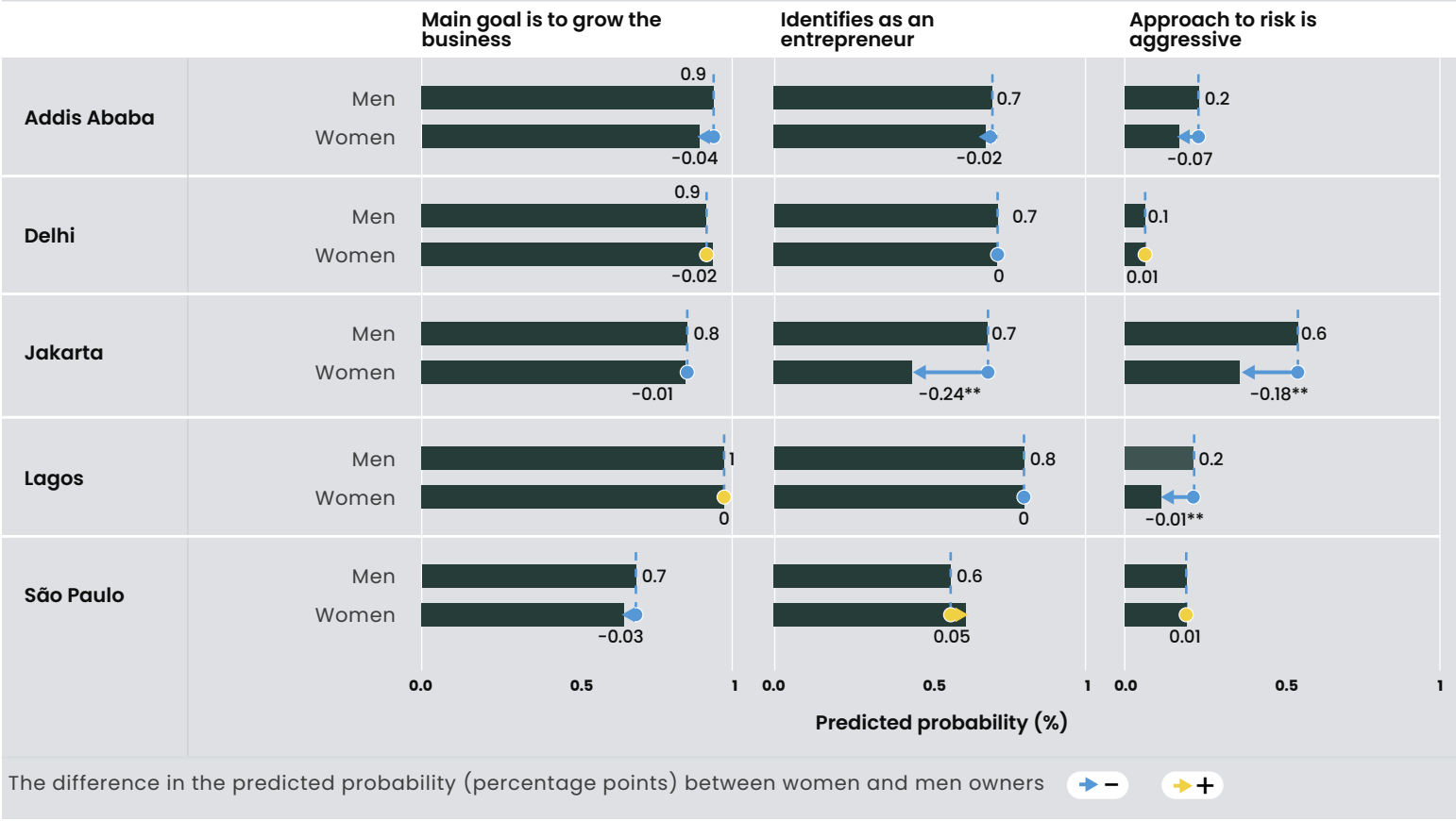
In Addis Ababa and Jakarta, women entrepreneurs report lower levels of risk tolerance and growth orientation compared to men, even when accounting for education and

experience. In Addis Ababa, this is linked to a more cautious approach to risk, while in Jakarta, women are less likely to identify as entrepreneurs, pointing to systemic and societal influences that shape self-perception and business aspirations.

More broadly, across Addis Ababa, Lagos, and Jakarta, women consistently exhibit more conservative business strategies and are less likely to embrace growth and risk-taking behaviors compared to men. This pattern suggests that women entrepreneurs in these regions may face additional barriers to scaling their businesses. São Paulo presents a different picture, where gender differences are less pronounced, and women are slightly more likely than men to have a growth-oriented mindset, indicating more balanced entrepreneurial behaviors between genders in that market.

FIGURE 13

Observational estimates of the relationship between gender and growth orientation and risk-taking



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

Box 4: Understanding Barriers and Pathways to Women's Entrepreneurship in India

This research did not specifically focus on gender-specific drivers, pathways, and obstacles to entrepreneurship. However, recent research by Chiplunkar and Goldberg[12] sheds light on critical dynamics affecting women entrepreneurs in India, offering valuable context to interpret the findings of this study. Their analysis highlights three key insights:

1. Challenges in scaling rather than starting businesses: While women in India face substantial barriers to workforce entry, their costs for starting businesses are not significantly higher than those for men. However, women entrepreneurs encounter major constraints in scaling and formalizing their businesses, limiting their ability to grow and thrive. Addressing these scaling challenges could unlock significant growth potential for women-led enterprises.
2. Women-owned businesses boost women's employment: The research underscores a robust link between women's entrepreneurship and women's labor force participation. Women entrepreneurs are more likely to hire other women, creating an employment multiplier effect. This relationship emphasizes how policies promoting women-led businesses could significantly enhance women's workforce participation, addressing broader gender disparities in employment.
3. Economic benefits of removing barriers: High barriers to women's entrepreneurship result in talent misallocation, allowing less productive men-owned firms to dominate. Lowering these barriers could enable high-productivity women entrepreneurs to enter the market, leading to a more efficient allocation of resources. This positive selection mechanism has the potential to generate substantial gains in aggregate productivity and welfare.

12 Chiplunkar, G., & Goldberg, P. K. (2024). Aggregate Implications of Barriers to Female Entrepreneurship. Econometrica, 92(6), 1801–1835. https://www.econometricsociety.org/publications/econometrica/2024/11/01/Aggregate-Implications-of-Barriers-to-Female-Entrepreneurship

04 Digital Technologies

This chapter examines the adoption and utilization of digital technologies among micro and small enterprises. There is extensive and growing literature on the drivers of digital tool adoption, focusing on factors like cost, access to infrastructure, and supportive policies.[13] Studies also investigate the impact of these tools on growth, operational efficiency,[14] and enhancing resilience during economic shocks and crises. Studies of digital adoption often face challenges in addressing the fast-evolving nature of digital technologies, making it difficult to generalize findings, assess the depth of adoption, or predict their long-term implications for business performance and resilience.

To address these challenges, this chapter analyzes the use of 10 distinct digital technologies grouped into five categories: connectivity and devices, communicating with customers, accessing markets, business operations, and financial services. It explores whether MSEs have access to the basic infrastructure needed to leverage these digital solutions and investigates patterns of use. The analysis also identifies enablers and barriers to adoption, such as cost, skills, and awareness, alongside the role of gender dynamics

13 Omrani, N., Rejeb, N., Maalaoui, A., Dabić, M., & Kraus, S. (2022). Drivers of Digital Transformation in SMEs. IEEE Transactions on Engineering Management, 71. https://ieeexplore.ieee.org/abstract/document/9954626; Disse, S., & Sommer, C. (2020). Digitalisation and Its Impact on SME Finance in Sub-Saharan Africa: Reviewing the Hype and Actual Developments. IDOS Discussion Paper No. 4/2020. https://www.econstor.eu/handle/10419/215546; Sukoco, I., & Siringoringo, H. (2022). Adoption of Digital Technologies for Micro and Small Business in Indonesia. Technological Forecasting and Social Change, 179. https://www.sciencedirect.com/science/article/abs/pii/S0040162522001809.

14 Jadhav, G.G., Gaikwad, S.V., & Bapat, D. (2023). A Systematic Literature Review: Digital Marketing and Its Impact on SMEs. Journal of Indian Business Research, 15(1), 76–91. https://www.emerald.com/insight/content/doi/10.1108/jibr-05-2022-0129/full/html.

and owner mindsets. By linking digital adoption to business performance, including productivity and resilience, this chapter provides insights into how digital tools enhance operational efficiency and strategic capabilities for MSEs.

4.1 THE DIGITAL DIVIDE

Large differences in digital technology adoption across cities reveal how infrastructure and the broader ecosystem significantly shape the potential for digital transformation: MSEs in São Paulo are far ahead, using a wide range of digital technologies, while those in Addis Ababa are limited by poor internet access and mobile 4G network coverage, and in Delhi, where national policy and regulation set the groundwork for digital identity and a common national API for payments, use by MSEs of digital payments is universal.

This study tracked the use of 10 distinct non-financial and financial digital technologies among small businesses, pointing to stark differences in adoption across the five markets. In Addis Ababa, MSEs use an average of only 1.6 digital technologies, largely due to poor internet connectivity. This lack of access limits entrepreneurs from utilizing tools like ecommerce platforms, operational software, and digital loans that can help them modernize business practices, reach a larger customer base, manage transactions with greater security, and save resources. This finding is corroborated by GSMA's research, which notes that a substantial usage gap persists in Ethiopia, with 76 percent of the population not using mobile internet despite living within network coverage.[15]

15 Harrison-Harvey, M. et al. (2024). Driving Digital Transformation of the Economy in Ethiopia: Opportunities, policy reforms, and the role of mobile. GSMA. https://www.gsma.com/about-us/regions/sub-saharan-africa/wp-content/uploads/2024/10/GSMA_Ethiopia-Report_Oct-2024_v2-1.pdf

Box 5: Tracking Digitization: The 10 Technologies in This Study

Measuring the digitization of MSEs is challenging, as the technologies they use and the functions these tools serve in business operations are constantly evolving. This study tracks 10 distinct digital technologies across five functional categories — connectivity, communicating with customers, accessing markets, business operations, and financial services — to provide a structured view of how MSEs engage with digital tools.

CATEGORY		TECHNOLOGIES
Connectivity and Devices	1.	Internet: Basic connectivity enabling access to digital platforms and tools
	2.	Computer device (including mobile phones/tablets): Hardware that serves as a gateway to digital applications and services
Communicating with Customers	3.	Messaging apps: Platforms like WhatsApp or Telegram for customer engagement, inquiries, and order management
	4.	Social media: Tools such as Facebook, Instagram, and TikTok for marketing, promotions, and customer interaction
Accessing Markets	5.	E-commerce Platforms: Online marketplaces like Amazon or Shopee that allow businesses to sell products directly to customers
	6.	Business website: Custom websites for showcasing products, taking orders, and providing business information
Business Operations	7.	Software for operations: Tools for inventory management, customer relationship management (CRM), and general workflow automation
	8.	Artificial intelligence: Emerging technologies such as chatbots or data analytics tools used to improve efficiency and decision making
Financial Services	9.	Digital payments acceptance: Cashless payment systems like mobile money, Quick Repayment (QR) codes, and Point of Sale (POS) devices
	10.	Digital loans: Online or app-based credit platforms providing quick access to funds

In contrast, Delhi, Jakarta, and Lagos exhibit wider adoption of digital tools, particularly in communication, where messaging apps and social media are widely used to engage customers. In Jakarta, focus group discussions found that MSEs often rely on a mix of digital and non-digital marketing strategies to communicate with customers

and promote their products. A common approach is utilizing social media platforms like Instagram, Facebook, and TikTok. Businesses use these platforms for both paid and organic promotion. Paid advertisements on Facebook and Instagram allow them to reach a wider audience, while tools like Instagram Stories and TikTok trends help them connect with followers in a more engaging manner. Some businesses also leverage Shopee Videos, which link videos directly to product pages, driving purchases through this platform.

In Lagos, some MSEs rely on social media platforms for marketing and business promotion. Entrepreneurs utilize Facebook, Instagram, TikTok, and even messaging apps such as WhatsApp to maintain consistent communication with customers through daily posts and status updates. These platforms enable businesses to implement referral programs and collaborate with influencers through sponsored advertisements, effectively expanding their reach and visibility. Content creation plays a vital role in digital marketing efforts. Businesses regularly produce videos and images showcasing their products, manufacturing processes, and behind-the-scenes content.

Despite the increased connectivity, however, ecommerce platforms remain underutilized across all cities, highlighting an area where further growth is possible if barriers like digital literacy and technology access are improved. Use of ecommerce platforms is relatively higher in Jakarta and São Paulo, estimated at 7 percent and 12 percent, respectively. There are considerable differences in use of ecommerce linked to the level of education; entrepreneurs with higher levels of education were more than twice as likely to be using ecommerce to reach customers.

São Paulo stands out with MSEs adopting an average of five digital tools, far exceeding other cities in the study. Entrepreneurs in São Paulo not only use basic communication tools but have also integrated more advanced technologies like operational software and, to some extent, AI chatbots. Additionally, the widespread use of digital payments reflects a more formalized business environment, positioning São Paulo's MSEs to benefit more from digital tools in enhancing operational efficiency and growth.

FIGURE 14

Total number of digital technologies used by category

Mean number of technologies (Minimum = 0, Maximum = 10)

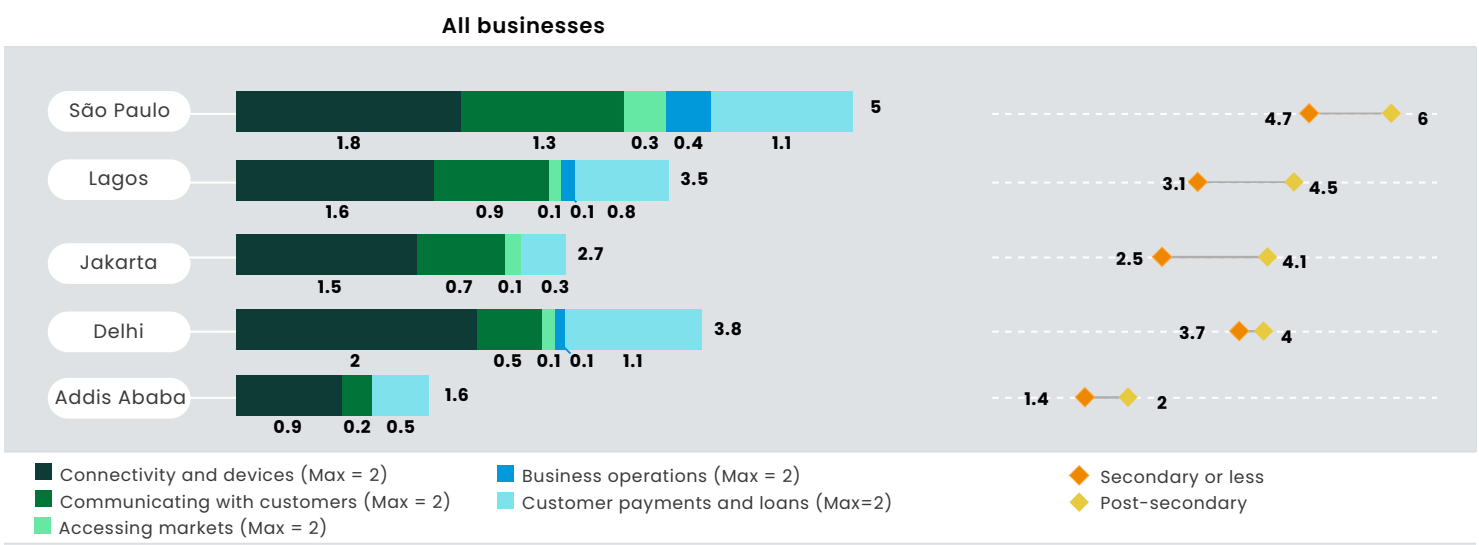


FIGURE 15

Entrepreneurial mindset and pyschology
MSE owners or managers (%)

		Addis Ababa		Delhi		Jakarta		Lagos		São Paulo	
		Secondary or less	Post-secondary	Secondary or less	Post-secondary	Secondary or less	Post-secondary	Secondary or less	Post-secondary	Secondary or less	Post-secondary
Mobile phone/computer/tablet	Uses	75%	70%	98%	99%	76%	98%	100%	100%	94%	100%
Internet connectivity	Has	10%	25%	97%	98%	68%	79%	52%	81%	85%	95%
Website	Has	0%	5%	6%	9%	3%	8%	3%	12%	16%	28%
Messaging apps	30-day active	6%	19%	36%	56%	53%	86%	49%	79%	82%	93%
Social media	30-day active	3%	12%	12%	15%	9%	22%	24%	53%	38%	57%
Ecommerce platforms	30-day active	0%	1%	3%	2%	6%	13%	3%	2%	9%	29%
Software for operations	30-day active	0%	6%	5%	12%	1%	14%	2%	21%	22%	55%
Artificial intelligence	Ever used	1%	1%	2%	4%	0%	2%	3%	10%	5%	20%
Digital payments acceptance	Used in past 12 mos	38%	65%	100%	100%	28%	70%	66%	80%	98%	99%
Digital loans	Used in past 12 mos	2%	3%	12%	10%	2%	3%	5%	10%	16%	15%
Digital technology adoption score	Mean [0 min -10 max]	1.4	2	3.7	4.1	2.5	4.1	3.1	4.5	4.7	6

MSEs across different cities demonstrate varying levels of engagement with digital tools, with significant gaps between those using multiple technologies and those using none at all.

In Addis Ababa, more than half of MSEs report using no digital technology applications, a reflection of the limited connectivity and access to digital infrastructure. Only a small fraction, just around 1 to 2 percent, engage with more than two digital tools, indicating that businesses in Addis Ababa lag behind in adopting digital solutions.

By contrast, the majority of MSEs in Jakarta and Lagos have used at least one digital tool. In Jakarta, there seems to be duality in the adoption of digital tools among MSEs. While the city has the second highest percentage of entrepreneurs not using any digital technology (after Addis Ababa), it also boasts one of the highest shares of businesses using two or more digital applications, especially among men and entrepreneurs with post-graduate education, indicating a divide in digital engagement. Notably, this divide is gendered, with a larger proportion of women entrepreneurs adopting one digital tool compared to men, while men entrepreneurs in Jakarta are more likely to adopt three or

more digital tools. Lagos shows gender differences in digital adoption as well, with an estimated 10 percent of men-owned and 18 percent of women-owned MSEs not using any digital tools and 40 percent of women to 45 percent of men entrepreneurs actively using at least one tool. Nearly half of the businesses are utilizing at least one digital use case, and more than 10 percent use two or more, underscoring more exposure to tech-enabled business practices.

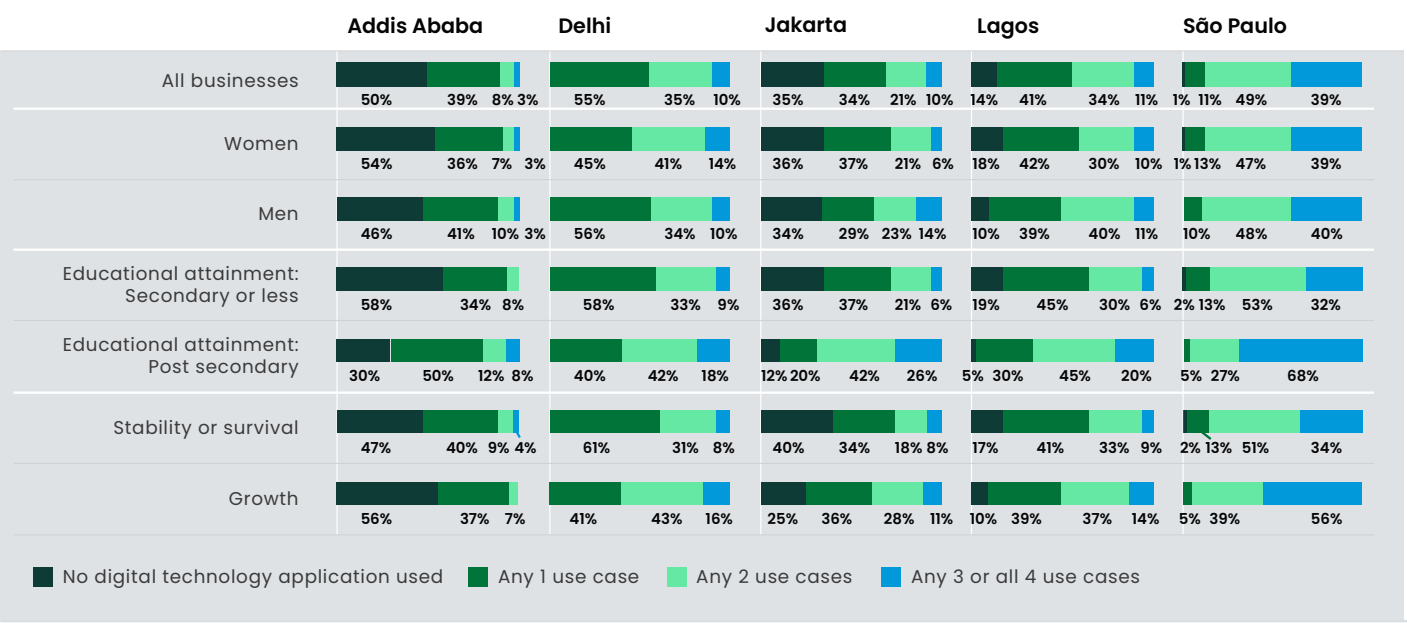
In São Paulo and Delhi, digital adoption is the most advanced. Virtually all entrepreneurs report using at least one digital tool — especially digital payments — and a substantial number engage in two or more use cases, reflecting the higher digital maturity of small businesses in these cities. The depth of digital adoption is particularly high in São Paulo, where almost 40 percent of entrepreneurs use three or four digital tools. Businesses here are clearly leveraging a broader range of digital tools, positioning themselves for greater operational efficiency.

Focus groups with MSE owners in São Paulo have shown that having a digital account is seen as a sign of being modern and belonging to a certain social group. Access to digital banking has become more inclusive, with lower barriers to opening and maintaining accounts, regardless of income or account balance. As a result, MSEs that could not previously open an account can now easily open digital bank accounts, as the cost to the bank is minimal. While a few MSE owners do not want to handle cash at all, most are gradually increasing their use of digital financial services. In addition to digital accounts, MSEs in Brazil are using digital payments,

savings, investments, and insurance and applying for loans online. Among non-financial digital tools, MSE owners use digital invoicing and billing as well as digital business management tools such as online sales, inventory, and client communications.

FIGURE 16

Breadth of digital applications used by MSEs
MSE owners or managers (%)



Gender, age, and level of education play a crucial role in shaping digital adoption among small business owners, with significant disparities emerging across the different markets.

In Addis Ababa and Lagos, women are statistically less likely to utilize digital tools compared to their male counterparts, reflecting broader challenges related to digital access and gender inequality. Qualitative findings from focus group discussions with women entrepreneurs in Addis Ababa reinforce this trend: while most participants expressed strong interest in digital tools, they cited limited digital skills, lack of confidence, and concerns over managing client demands as key barriers to consistent digital use — highlighting how gendered constraints intersect with capacity and resource gaps. Across all markets studied, educational attainment is a strong predictor of digital tool usage, underscoring that digital literacy remains a critical determinant of technology adoption, particularly for women and less educated groups.

The age of the entrepreneur also correlates with digital adoption, with a negative relationship evident in Jakarta, Lagos and São Paulo. In the markets studied, younger entrepreneurs are more likely to adopt digital tools, suggesting a generational shift in openness to integrating technology into business operations. This pattern was echoed in focus group discussions with male microentrepreneurs in Jakarta, where those more comfortable with digital credit products and e-commerce platforms tended to be younger or more digitally savvy, while older participants preferred cash transactions and voiced skepticism about online loans and insurance.

TABLE 1: PREDICTORS OF TECHNOLOGY ADOPTION: SUMMARY OF FINDINGS*

PREDICTORS OF TECHNOLOGY ADOPTION	KEY INSIGHTS
Education	Strongest and most consistent predictor of technology adoption across all cities. MSE owners with a higher education level use significantly more digital technologies.
Gender	Women MSE owners consistently adopt fewer digital tools than men in Addis Ababa and Lagos.
Years of experience	Business experience has a limited or mixed influence on technology adoption.
Entrepreneurial mindset: Risk-taking	A growth-oriented or risk-tolerant mindset is associated with slightly higher digital adoption, particularly in Lagos and São Paulo.
Sector of operation	Manufacturing businesses in Lagos, and services businesses in Delhi, Jakarta and Lagos are more likely to adopt digital tools than those in retail trade.
Age	Older entrepreneurs tend to adopt fewer digital tools in several cities, including Lagos, São Paulo and Jakarta.

* For more details on the quantitative survey and regression results, see Figure 41 in Annex 1 "Predictors of overall technology adoption"

4.2 ENABLERS, BARRIERS, AND BENEFITS OF DIGITAL ADOPTION

Market-specific barriers shape how MSEs navigate digital technology adoption, with cost, infrastructure, and trust emerging as key factors.

In most markets, the adoption of digital technologies is primarily driven by demand from customers and suppliers, alongside the potential risk of losing a competitive edge without the use of these tools. These factors are consistently cited across all five cities with relatively similar findings between men and women. In São Paulo, several entrepreneurs emphasized how customer expectations shape their digital behavior. One self-employed technician noted, "*Consumers appreciate us having a Pix code*

rather than sending them all those banking data. No one likes those anymore."[16] Others echoed the sentiment that having digital channels — especially for payments — is now considered standard business hygiene. Respondents also described supplier interactions increasingly shifting to WhatsApp and digital payments, with one contractor recalling how he purchased materials and received delivery within minutes via digital channels. For these entrepreneurs, going digital was not about embracing risk or experimentation — it was about keeping up. As one participant put it, "*You just send a reminder through WhatsApp, and boom, I get paid. Two minutes.*"

FIGURE 17

Digital technology adoption factors
MSEs using digital solutions (%)

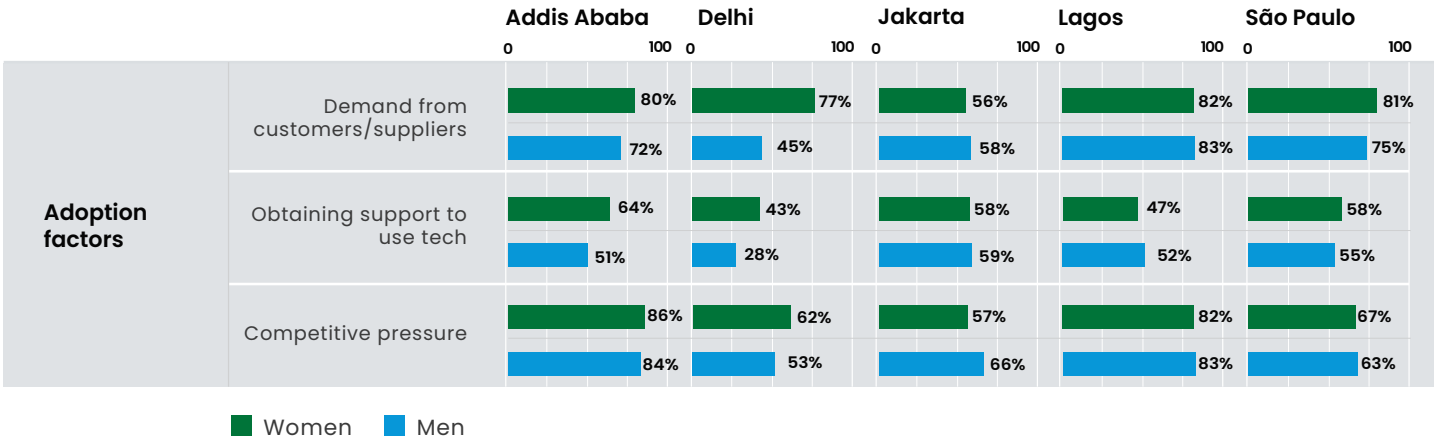


TABLE 1: PREDICTORS OF TECHNOLOGY ADOPTION: SUMMARY OF FINDINGS*

In Addis Ababa, the major barrier to digital adoption is the lack of basic infrastructure, which prevents many businesses from integrating digital tools into their operations. In Lagos, the challenge shifts to the cost of technology; businesses may have access to digital solutions, but the financial burden of adoption remains a significant obstacle. Meanwhile, in São Paulo, concerns around trust and data privacy are more prevalent, suggesting that businesses are more hesitant to adopt digital tools due to fears about the safety of their information.

"*People will only really use these tools if they are sure that they are in a safe environment. Because if you take the convenience away, if you take the speed away, the services that you have in an app are the same as the ones you have in the bank branch. So, if you're not safe using the app, you will definitely go to a branch. Improve the security of the app, and people will stop using the branch". – Entrepreneur in São Paulo, Brazil*

Gendered differences in the perceived benefits of digital tools offer subtle but

16 Pix codes are used to send and receive digital payments via the Pix instant payment platform.

meaningful insights. In Delhi, women business owners consistently report greater perceived gains across most benefit categories — suggesting a strong awareness of the value digital technologies can bring to their operations. In Addis Ababa, women emphasize the role of digital tools in expanding access to financial services, underscoring how technology can serve as a bridge to inclusion in more constrained environments.

FIGURE 18

Digital technology adoption: Challenges
MSEs using digital solutions (%)

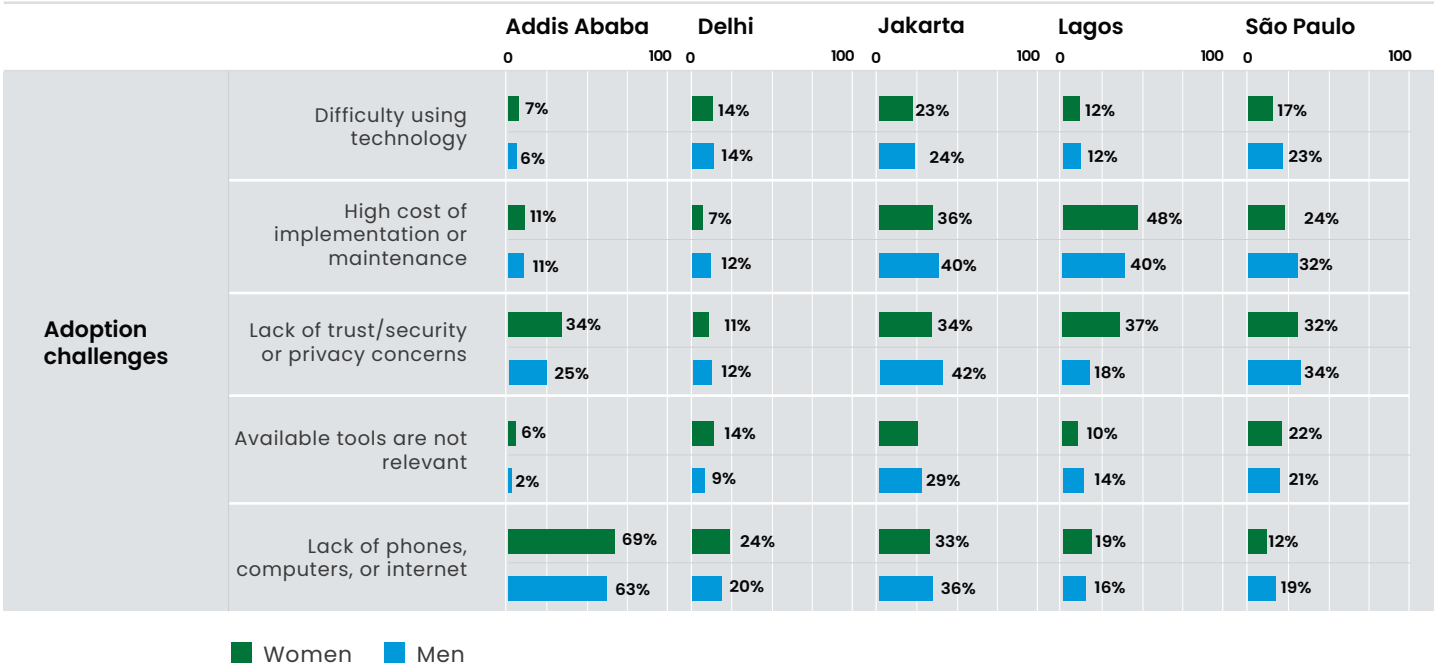


TABLE 2: TOP PERCEIVED BENEFITS OF DIGITIZATION*

BENEFIT OF DIGITIZATION	CITY-LEVEL SUMMARY (TOP 2–3 BENEFITS & GENDER NOTES)
Access to more customers/ providers	A top benefit in several cities, particularly Lagos and São Paulo In Lagos over 90% of both men and women MSE owners noted this outcome. In Addis Ababa, it's also strong, especially among men (86%).
Faster sales cycles / Time-savings	A leading benefit across all cities. Addis Ababa women (93%) and Jakarta women (81%) rank it highest. Gender gaps vary but are generally small.
Increased revenue	Most widely reported in Jakarta (82% men, 83% women) and Lagos (82% men, 79% women). In Addis Ababa, women (72%) reported this benefit far more than men (55%).
Improved access to financial services	Especially relevant in Addis Ababa, where 80% of women versus 58% of men cite it. It is also high in Lagos (78% men, 60% women), and one of the top benefits in Delhi
Reduced costs	A moderate but notable benefit. Reported by 63% of Lagos women, 59% of Jakarta women, and 47% of Addis Ababa women, showing some gender skew in perception.

* For more details on the survey results, see Figure 44 "Digital Technology Adoption: Perceived Benefits" in Annex 1

Box 6: What Drives Digital Financial Services Adoption in Lagos?

In Lagos, MSE owners across diverse sectors — ranging from retail and food delivery to beauty services and health products — shared their perspectives on why they adopt digital financial services. Their stories reveal a mix of practical benefits, cost advantages, and expanded financial access, underscoring why digital platforms are gaining traction in this bustling metropolis.

Seamless onboarding and accessibility: For many entrepreneurs, the simplified registration processes offered by digital platforms stand out as a game-changer. Unlike traditional banks, which often require extensive paperwork, these platforms make it easy to open accounts with minimal requirements, such as basic business registration documents. This convenience extends further by allowing business names to be displayed on accounts, lending a professional touch that appeals to clients.

User-friendly and inclusive design: Entrepreneurs praised the intuitive design of digital financial apps, which have become increasingly user-friendly. Enhanced interfaces and support in multiple languages make navigation straightforward, enabling users from different backgrounds to access services effortlessly.

Reliability and transaction traceability: Reliability is a key factor driving adoption. MSE owners emphasized the rarity of failed transactions and highlighted how responsive platforms are when issues arise. Refunds or reversals are often resolved promptly, fostering trust in the system. Moreover, the traceability of digital transactions — offering instant confirmation or clear "pending" statuses — reduces the anxiety of delayed payments, a crucial benefit in Lagos's fast-paced business environment.

Cost savings and incentives: Digital platforms are lauded for their cost efficiency. Free or low-fee transaction options, including daily free transfers, make these services more affordable than traditional banks. Additionally, many platforms avoid imposing maintenance fees, a stark contrast to conventional banking practices. Entrepreneurs also benefit from cashback offers, discounts on airtime, and other incentives that provide financial relief and encourage continued use.

Access to credit and growth: Access to credit remains a critical need for Lagos's MSEs, and digital platforms have stepped in to fill the gap. These services offer microloans and overdraft facilities with fewer prerequisites, enabling entrepreneurs to manage cash flow challenges quickly and efficiently. For many, the ability to secure funds without lengthy delays or stringent requirements is transformative.

Passive income opportunities: Unlike traditional banks, digital platforms often allow users to earn daily interest on their balances without imposing deductions. This feature not only preserves the original deposit, but also provides an additional income stream, encouraging entrepreneurs to prioritize digital platforms over traditional banking options.

A gateway to growth: Digital financial platforms in Lagos are more than just tools for transactions — they represent a pathway to greater financial inclusion, operational efficiency, and business growth. By addressing longstanding pain points such as accessibility, cost, and credit availability, these platforms are empowering entrepreneurs to navigate the challenges of a competitive and evolving marketplace.

4.3 DIGITIZATION AND FINANCIAL HEALTH OF MSES

4.3.1 Digitization and MSE Growth

The adoption of digital technologies has a varied but generally positive association with labor productivity, with digital payment systems standing out as a key driver in several markets, while other tools like social media and market access show potential but require deeper integration.

Digital payment acceptance is associated with notably higher levels of labor productivity in cities like Delhi, Jakarta, and Lagos. In Delhi, for instance, the predicted sales per employee for businesses using digital payments are substantially higher than for those not using any digital tools, even when accounting for differences in education and experience. Similar associations are seen in Jakarta and Lagos, though baseline productivity levels vary. These results suggest that firms adopting digital payments may differ systematically from those that do not — potentially in terms of capabilities, connectivity, or customer reach. In contrast, businesses in Addis Ababa show more limited productivity gains linked to digital payment use, reflecting broader infrastructure challenges and a less developed digital payments ecosystem.

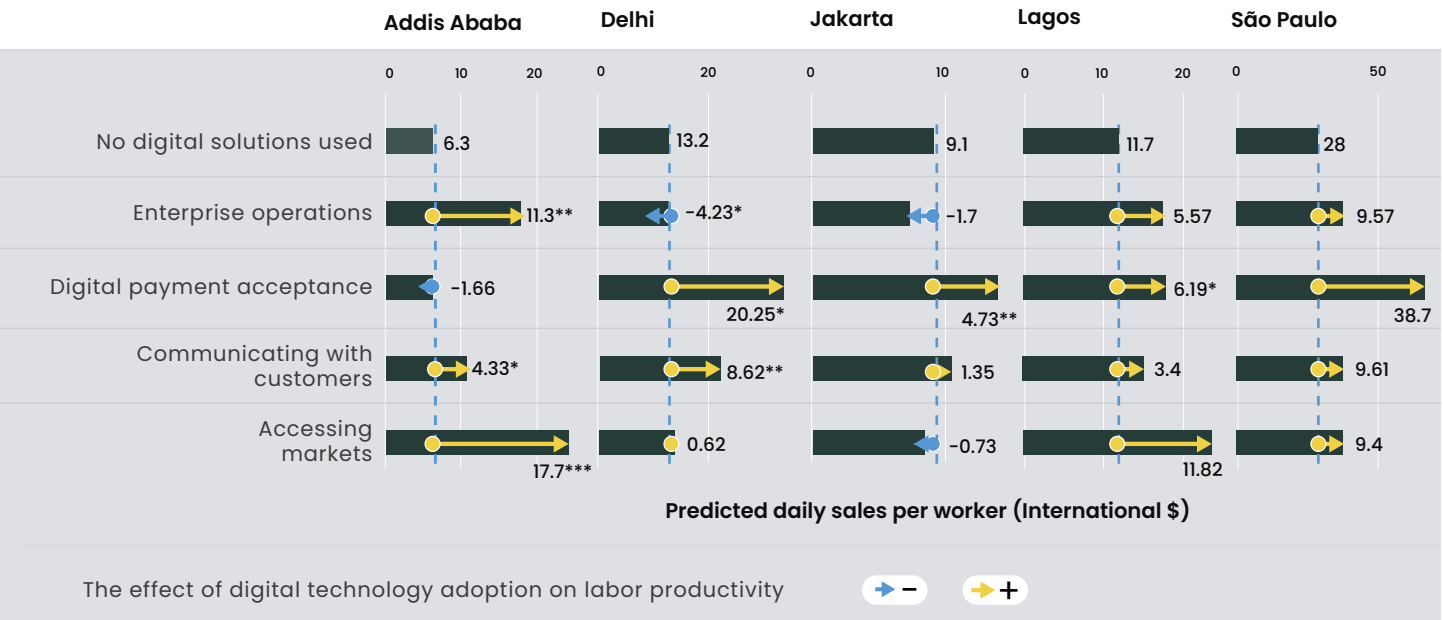
Social media and communication tools show a positive effect on productivity, particularly in Addis Ababa and Delhi, where engaging with customers digitally is associated to increased sales and business efficiency. In Addis Ababa, women entrepreneurs reported using Telegram, Facebook, and platforms like Hello Market to showcase their products, receive orders, and communicate with customers. One entrepreneur explained how she receives advance orders and negotiates prices via Telegram, helping streamline operations and reduce customer waiting time. Others described posting products online and using screenshots of mobile payments as informal receipts, though

this practice is perceived as risky. The impact in other cities like Jakarta and Lagos is less pronounced, suggesting uneven usage or less strategic application of these tools. In Addis Ababa digital engagement remains limited by low trust and confidence in using these tools — several entrepreneurs interviewed noted abandoning platforms like Instagram and Facebook due to low follower counts or a lack of digital marketing know-how. One entrepreneur remarked, "*I know I don't have the knowhow on how to effectively use social media. I need to hire someone with better skills*," pointing to a gap between interest and capability that affects how digital tools are leveraged.

Enterprise operations show the most mixed results, with positive impacts in Addis Ababa, São Paulo and Lagos, but minimal or even negative effects in Delhi and Jakarta. Although more research is needed on this, it suggests that, while some businesses are successfully using digital tools to streamline operations, others may struggle with implementation or optimization. Digital tools such as e-commerce platforms, which help businesses access new markets, also show mixed outcomes — yet the most positive associations with firm productivity appear in Addis Ababa. Although use of these platforms in Addis Ababa remains limited, they are linked to considerably higher productivity among the small group of adopters.

FIGURE 19

Observational estimates of the effect of digital technology adoption on labor productivity



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

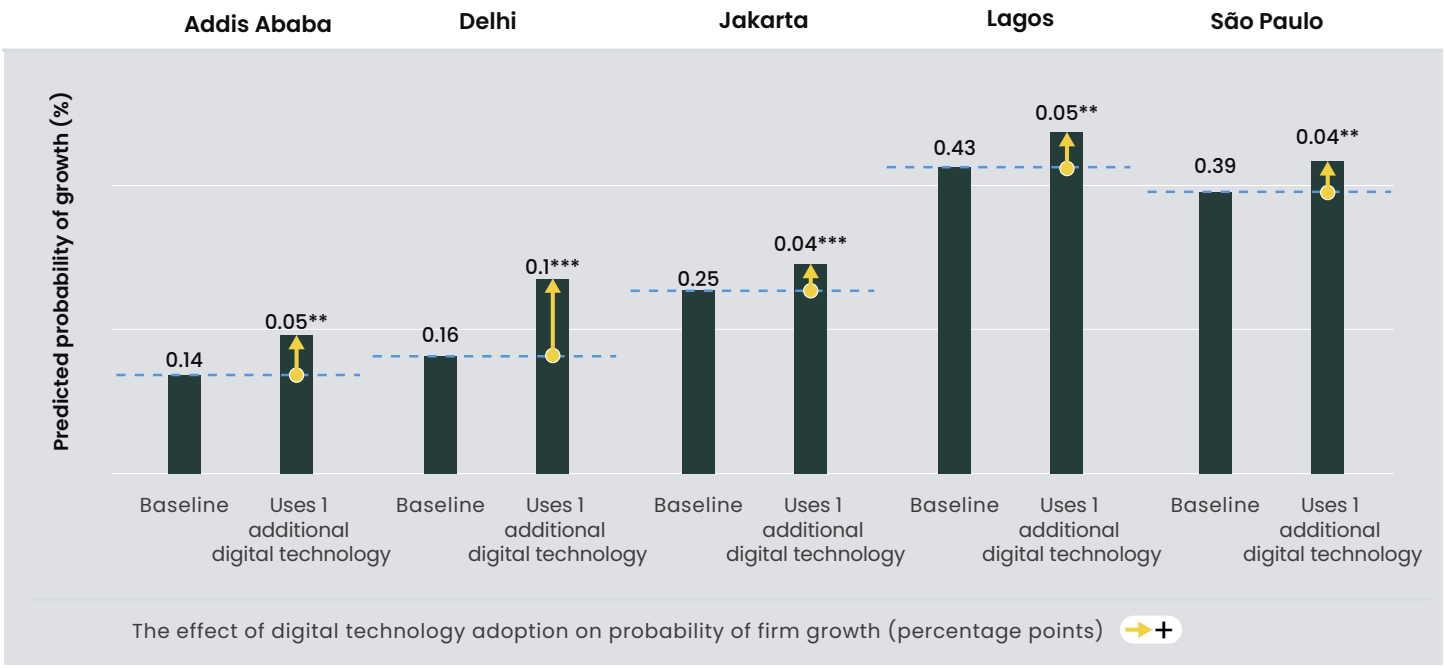
The adoption of digital technologies is positively linked to business growth across multiple cities, indicating a promising relationship between technology integration and self-reported firm expansion.

The positive and statistically significant relationship is evident in all markets, with the highest magnitude of association observed in Delhi, where even the use of one additional digital technology significantly increases the probability of business growth, highlighting the importance of tech integration in fostering expansion.

In Lagos and São Paulo, adopting new technologies also shows a robust association with firm growth, suggesting that more digitally engaged markets stand to gain more from such tools. Meanwhile, in Addis Ababa and Jakarta, although the magnitude of the effect is smaller, the consistent positive trend underscores the broader role digital technologies play in enabling businesses to scale. This overall trend emphasizes that even in less tech-advanced markets, digital adoption can serve as a critical driver for growth.

FIGURE 20

Observational estimates of the effect of general technology adoption on subjective evaluations of firm growth



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

4.3.2 Digitization and Resilience

The use of digital technology shows a positive association with financial resilience across different markets, with significant effects observed in some countries, indicating its role in enhancing businesses' ability to access emergency funds.

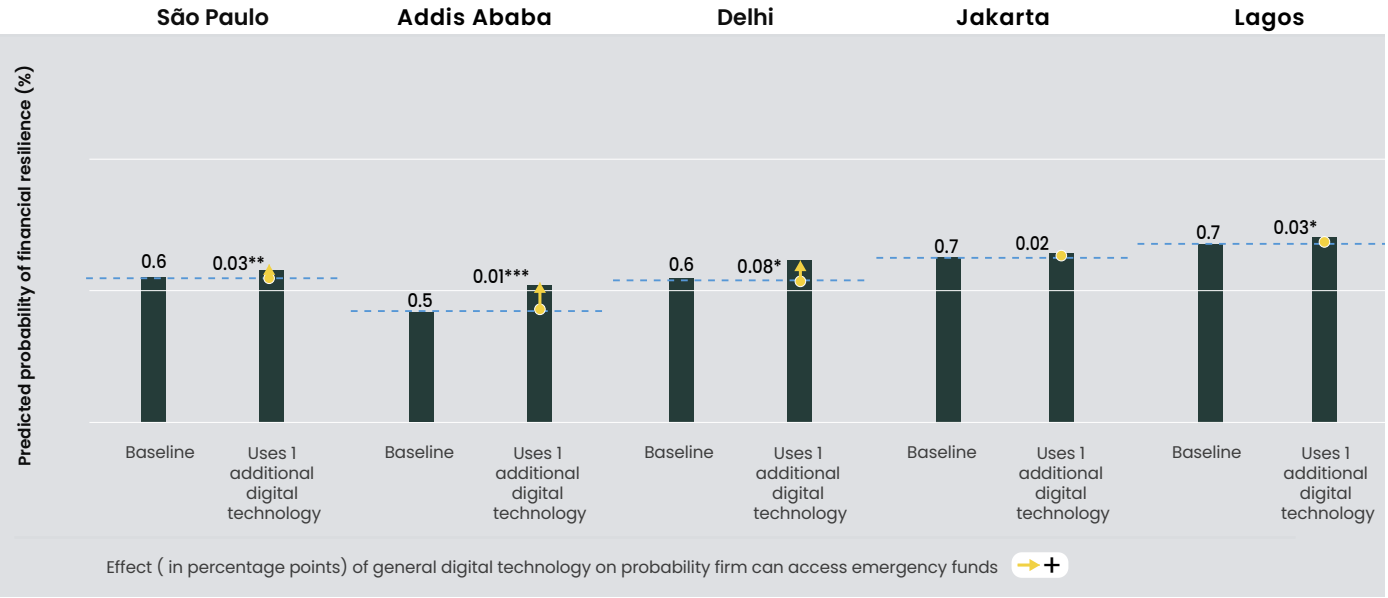
In Addis Ababa and Delhi, adopting additional digital technologies is associated with a statistically significant increase in the likelihood of being able to access emergency funds, suggesting that the integration of digital tools may help businesses in these regions better navigate financial emergencies. In Addis Ababa, the effect is particularly pronounced, highlighting the importance of digital adoption in regions where traditional financial infrastructure may be less developed.

While the effect is positive in São Paulo and Lagos, the magnitude is smaller, showing a more limited impact of digital technology on financial resilience. This could indicate that other factors, such as established financial systems or access to credit, might play a more dominant role in these markets. In Lagos, for instance, qualitative findings suggest that while digital tools are increasingly used for day-to-day business transactions, many microentrepreneurs remain cautious about relying on them for larger savings or emergency reserves. Several participants expressed appreciation for the speed and convenience of accessing small loans and overdrafts through fintech apps, which can provide immediate liquidity during financial stress. However, concerns about platform reliability, data security, and aggressive loan recovery practices also surfaced, leading some to continue storing significant reserves in traditional financial institutions for safety. While digital financial tools support short-term liquidity needs, they may not yet be fully trusted as mechanisms for building long-term resilience.

These findings suggest that the impact of digital adoption on financial resilience is highly context-dependent. While digital tools can improve access to emergency funds, their effectiveness and the trust placed in them varies significantly across markets. Further research is needed to unpack the institutional, behavioral, and regulatory factors that shape how digital finance contributes to resilience in different settings.

FIGURE 21

Observational estimates of the relationship between digital technology and financial resilience



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

05 Financial Services: Use, Drivers of Adoption, and Impact

The use and impact of financial services on MSEs have been the focus of extensive research, particularly in the context of microcredit programs.[17] A wealth of studies highlight that while access to credit often leads to increased borrowing, business creation, and investment, its transformative impact on profit, income, or consumption remains limited. For instance, randomized controlled trials indicate that the short-term benefits of microcredit are modest and do not significantly improve social indicators like education or health. However, these programs are found to influence occupational choices, enabling shifts toward self-employment, and in some contexts, improve risk management strategies through investments in durable assets such as livestock or substitutes for formal insurance.[18]

Despite modest average impacts, several studies highlight what seems to work in maximizing the benefits of financial inclusion. For instance, Banerjee et al.[19] show that microcredit has significant long-term benefits for "gung-ho entrepreneurs," or those who already own businesses. Over six years, these entrepreneurs procured 35 percent more assets and doubled revenue compared to their counterparts without access to credit. Similarly, tailored interventions that

17 For a comprehensive literature review, see: Kai J., Meki, M., & Quinn. S. (2023). Microfinance: Issue 2. VoxDev Lit Review. https://voxdev.org/voxdevlit/microfinance

18 Meager, R. (2019). Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments. American Economic Journal: Applied Economics, 11(1), 57–91. https://www.aeaweb.org/articles?id=10.1257/app.20170299

19 Banerjee, A, Breza, E., Duflo, E., & Kinnan, C. (2019). Can Microfinance Unlock a Poverty Trap for Some Entrepreneurs? National Bureau of Economic Research Working Paper No. 26346. https://www.nber.org/papers/w26346

combine credit with business training have shown promise. In Uganda, Fiala[20] found that credit paired with training significantly boosted profits and sales for men entrepreneurs, indicating that addressing skill gaps alongside financial access can enhance outcomes. These findings suggest that financial inclusion programs can be most effective when targeted toward individuals with prior entrepreneurial experience or when complemented by capacity-building initiatives that enhance the productive use of financial services.

While credit remains a central focus of financial inclusion efforts, it is equally critical to consider the broader spectrum of financial services available to MSEs, including savings, insurance, merchant payments, and business-specific savings devices. These services can play vital roles in supporting financial stability, risk management, and operational efficiency of enterprises. Equally noteworthy is the evolving landscape of financial service delivery, with a growing emphasis on digital solutions offered by non-bank financial institutions. Mobile money providers, telecommunications companies, digital platforms, and ecommerce networks are increasingly bridging gaps in financial access, offering innovative products tailored to the needs of small businesses.

The following sections examine the adoption of these diverse portfolios of financial services, exploring the factors that drive their uptake and the channels through which they are delivered. The analysis also delves into the estimated relationships between financial service usage and key outcomes, including business growth and resilience, providing a comprehensive view of how these tools contribute to the broader ecosystem of MSEs.

5.1 OVERVIEW OF FINANCIAL SERVICES USE IN THE FIVE TARGET MARKETS

Entrepreneurs use an average of 1.8 to five formal financial services, with notable variations by market and education level.

Entrepreneurs across the five cities use an average of 1.8 to five formal financial services, reflecting diverse levels of adoption and engagement with financial tools. In São Paulo, MSEs use an average of five formal financial services, indicating a more diverse financial portfolio, while in Jakarta, entrepreneurs use an average of 1.8 services, highlighting reliance on fewer financial tools. These variations reflect differences in local financial ecosystems and business needs across markets.

A consistent finding across all countries is the centrality of payment solutions in the financial portfolios of MSEs. Payment tools such as mobile money, digital platforms, or POS systems are a priority for entrepreneurs. These tools are vital for facilitating transactions, improving cash flows, and building financial resilience, underscoring their role as a cornerstone of MSE operations.

Educational attainment emerges as a key factor shaping the breadth of financial

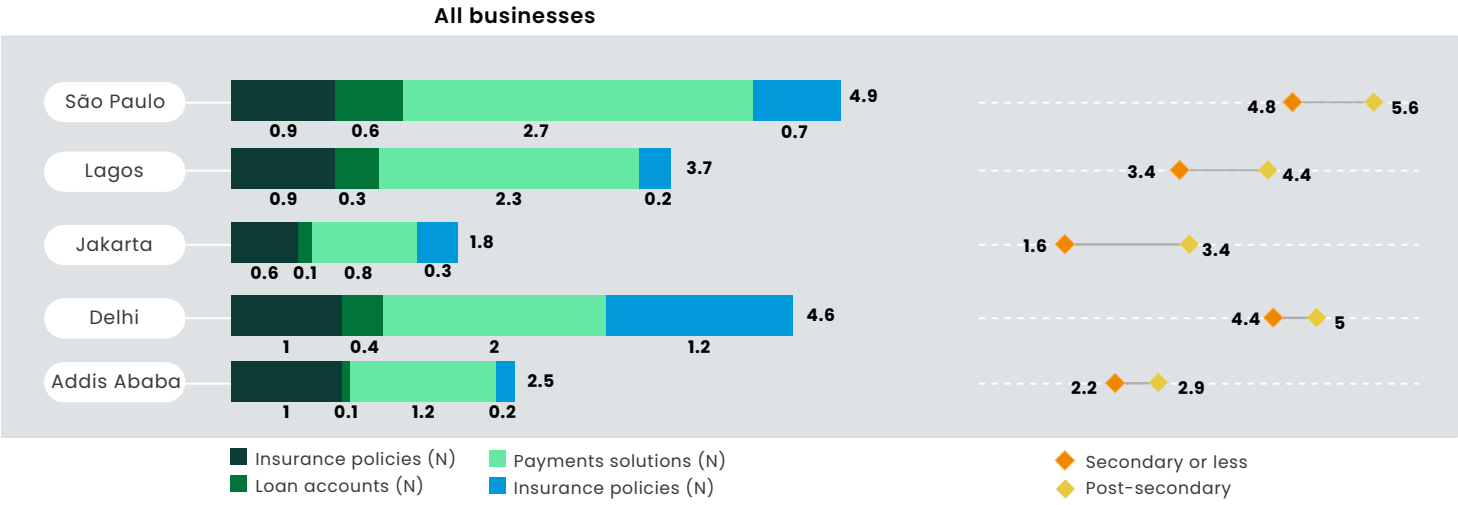
20 Fiala, N. (2018). Returns to microcredit, cash grants and training for male and female microentrepreneurs in Uganda. World Development 105, 189–200. https://www.sciencedirect.com/science/article/abs/pii/S0305750X17304205

service use. In Jakarta, entrepreneurs with post-secondary education use twice as many formal financial services as those with secondary education or less (3.4 compared to 1.6). A similar trend is observed in other markets, where higher education correlates with greater adoption of savings accounts, loan products, payment solutions, and insurance policies.

FIGURE 22

Total number of formal financial services used by category
Mean number of services (Minimum = 0, Maximum = 23)

By educational attainment



5.2 ACCOUNT USE

The adoption of financial services for business purposes is widespread, with over half of MSEs in most cities using them, and the way these services are accessed offers crucial insights into local financial ecosystems.

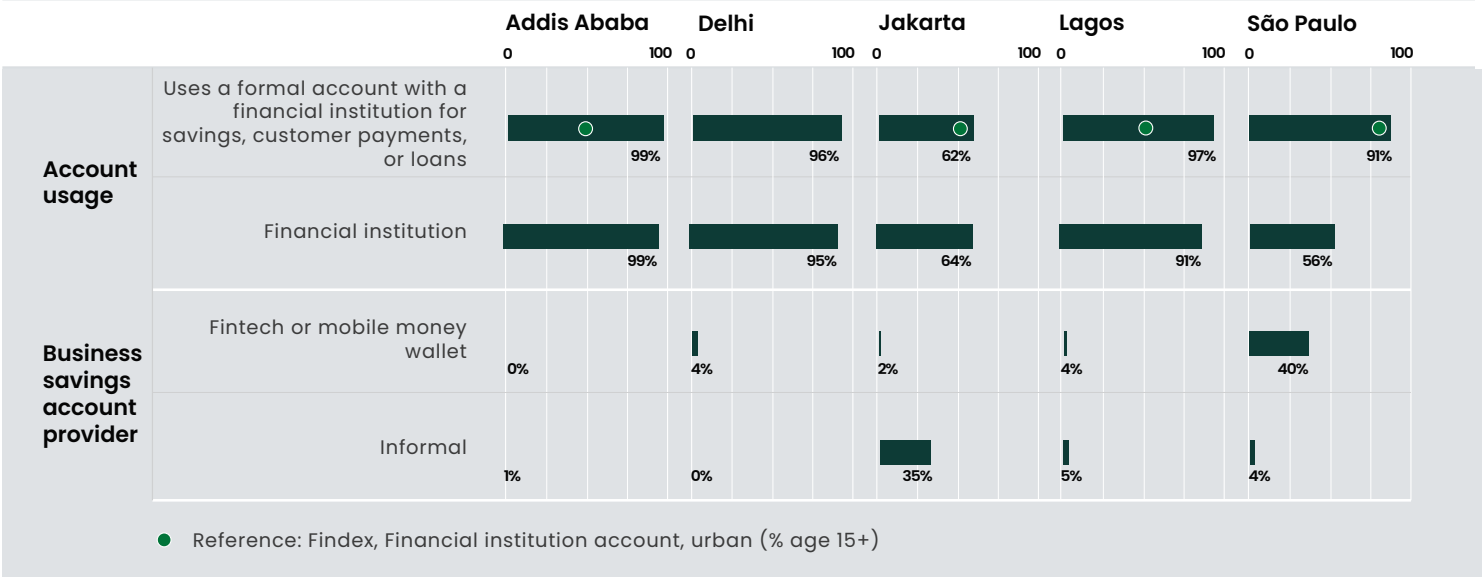
Across different markets, more than 50 percent of entrepreneurs utilize financial services for business payments, savings, or loans, reflecting the foundational role of formal financial systems in small business operations. However, how entrepreneurs access these services varies considerably. Survey data in Jakarta, for example, indicates that most transactions are conducted through over-the-counter (OTC) methods, which suggests either a lower penetration of digital channels or infrastructural barriers.

In contrast, entrepreneurs in São Paulo primarily rely on digital channels, indicating a more digitally advanced financial ecosystem. This heavy use of digital platforms highlights how accessible and integrated digital financial services have become in Brazil, contrasting with the more traditional methods seen in other markets like Jakarta.

These differences emphasize not just variations in financial service adoption, but also deeper factors such as infrastructure readiness, user trust, and the level of digital literacy in each market, all of which shape the local financial landscape.

FIGURE 23

Account ownership and business savings
MSES (%)



Box 7: Pix: A Game-Changer for MSE Payments in Brazil

For many MSEs in Brazil, Pix has revolutionized how they manage transactions, offering a fast, reliable, and widely accessible instant payment system. Yet as businesses integrate Pix into their operations, their experiences reveal both the transformative potential and practical challenges of this digital tool.

MSE owners across sectors report diverse levels of adoption. Some have fully transitioned to using Pix for all business payments, citing its speed and simplicity

as significant advantages. Others combine Pix with more traditional methods, such as cash, credit, and debit cards, to accommodate customer preferences. While this hybrid approach adds flexibility, it also creates complexities in managing cash flow and transaction records.

This diversity reflects the practical realities faced by small businesses. For example, a construction materials retailer described how Pix enabled faster transactions with suppliers, which in turn allowed him to deliver materials to clients within hours:

"It is quick. Sometimes I need some material from a construction company. The other day I needed luminaires, some electrical components for the same day. I called the store; he sent me the budget via WhatsApp; I made the Pix, and he called an Uber to send me the material. It took me no more than five minutes. It is quick and convenient."

Building Trust and Efficiency

Pix offers more than just speed; it enhances trust and security for both businesses and customers. By eliminating the need to share sensitive banking details, Pix provides customers with confidence in their transactions. Additionally, the instant confirmation of payments has become a valuable tool for tracking and accountability, allowing business owners to verify receipts in real time.

This reliability has strengthened relationships between businesses and their stakeholders. As one entrepreneur explained:

"You just send your Pix key to the client and he pays you right away, sends you the proof of payment via WhatsApp, or you can check your balance really quick. It brings safety to the business".

Pix's documentation capabilities are particularly appreciated by MSEs, as digital receipts provide clear proof of payment. This feature is critical not only for resolving disputes but also for maintaining accurate financial records, which are often challenging for small enterprises.

Despite its benefits, Pix adoption is not without hurdles. Businesses that rely on a mix of payment methods often face difficulties in managing cash flow and reconciling transactions. For some, the shift to digital payments requires a period of adjustment as they navigate the new system alongside traditional methods.

Transforming Small Business Operations

For Brazilian MSEs, Pix has become more than a payment system; it is a tool that reshapes how they operate. Whether enabling faster inventory turnover, fostering

trust with customers, or offering a competitive edge in a fast-paced market, Pix demonstrates the power of digital tools in driving efficiency and reliability.

As MSEs continue to adapt and innovate, Pix stands out as a catalyst for progress, bridging the gap between traditional business practices and the digital economy. Its adoption highlights the potential for digital financial services to transform the operational landscape of small businesses in Brazil, making them more agile, resilient, and connected.

5.3 MERCHANT PAYMENTS

Digital payment adoption varies widely across cities, with Delhi and São Paulo achieving near-universal digital use, while Jakarta remains cash dominant but shows growing QR payment adoption. Lagos relies increasingly on third-party POS agents, and Addis Ababa highlights mobile money's role.

In Delhi and São Paulo, digital payment adoption is nearly universal, driven by the widespread use of UPI in India and Pix in Brazil, with most businesses using direct bank transfers, QR payments, and online payment systems. These cities demonstrate a mature and deeply integrated digital payment infrastructure, with QR payments being a particularly dominant mode, reflecting the seamless convenience these systems offer both businesses and consumers.

In Jakarta, cash remains the most commonly used method of payment among MSEs, reflecting a more traditional approach to transactions. However, Jakarta also has notable adoption of QR payments, ranking third after São Paulo and Delhi. This adoption is largely driven by the Quick Response Code Indonesian Standard (QRIS), an initiative introduced by Bank Indonesia to unify QR payment systems and simplify digital transactions.[21] QRIS has gained traction among MSEs, offering an accessible and efficient payment option that complements existing cash-based practices. As one entrepreneur explained, "*For me, the impact is that people will buy from us because we have QRIS payment options. Usually, if we don't have QRIS, people might not buy,*" highlighting how digital payments have started to reshape day-to-day operations. Despite this shift, most participants still deposit earnings manually via cash machines, reflecting a hybrid approach to financial management that blends digital tools with familiar routines.

In Lagos, MSEs exhibit high levels of reliance on POS devices and bank transfers.

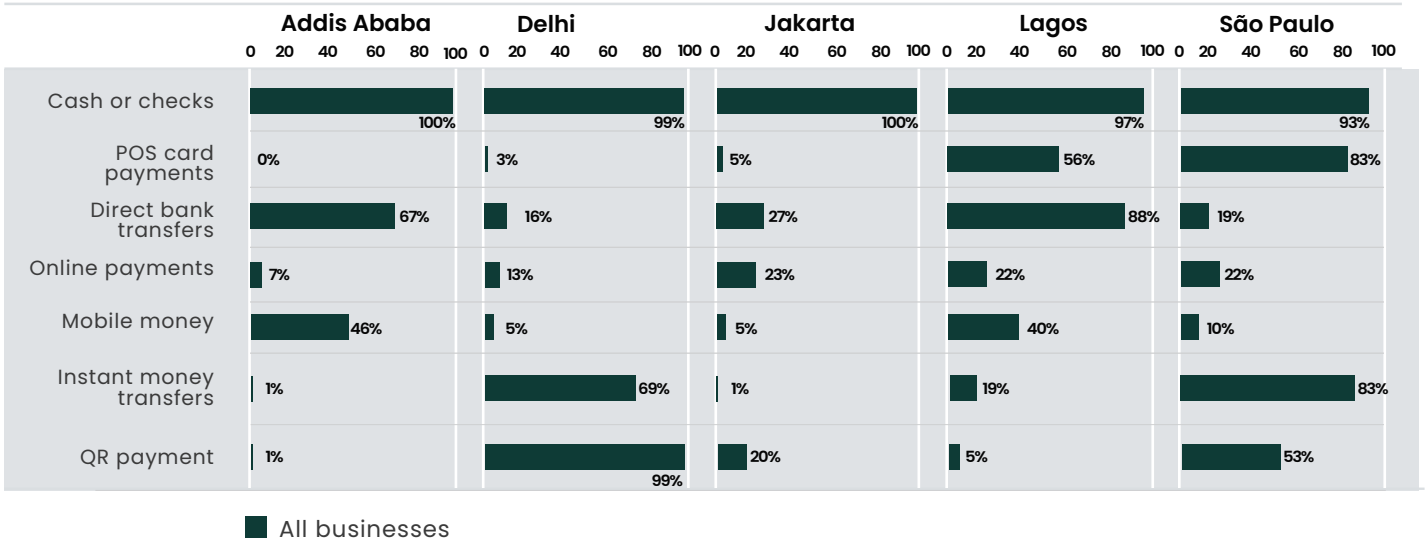
21 Bank Indonesia. (n.d.). QR Code Indonesian Standard (QRIS). https://www.bi.go.id/en/fungsi-utama/sistem-pembayaran/ritel/kanal-layanan/default.aspx

However, many businesses do not own POS devices themselves but instead depend on a rapidly growing network of third-party POS agents. This ecosystem, which has expanded significantly since demonetization efforts and cash withdrawal limits,[22] plays a critical role in enabling businesses to engage with digital financial services in a practical and accessible manner.[23] As a male entrepreneur in his 30s running a phone and accessories business noted, "*I got used to it when I started seeing POS around in my neighborhood. So I patronized them first*," highlighting how local agent networks often serve as an entry point into digital finance, especially for day-to-day operations.

Addis Ababa demonstrates a payment landscape where bank transfers and mobile money services, particularly Telebirr, are gaining importance. These methods are increasingly used by businesses alongside cash, reflecting an early but significant shift toward integrating formal financial systems into daily operations. Mobile money, although less prevalent compared to other cities, is becoming an important tool for some entrepreneurs in navigating financial transactions.

FIGURE 24

Merchant payments:Methods used by business to accept customer payments
MSE (%)



22 Monye E. (2024). Why Nigeria's Controversial Naira Redesign Policy Hasn't Met Its Objectives. Carnegie Endowment for International Peace. https://carnegieendowment.org/research/2024/01/why-nigerias-controversial-naira-redesign-policy-hasnt-met-its-objectives?lang=en

23 Survey results for Nigeria show higher digital payment usage due to reliance on POS agents rather than device ownership. Our questions focus on usage, not ownership, and do not distinguish between direct use and agent-facilitated transactions.

Box 8: Turning Cash Into Opportunity – How POS Systems Are Shaping MSEs in Nigeria

In Nigeria, the adoption of POS systems among MSEs has become a hallmark of resilience and adaptation in response to government policies. The Central Bank's "Cash-less Policy," which restricts monthly withdrawals to $300 for individuals and $1,800 for businesses, coupled with hefty 2 to 5 percent fees for exceeding these limits, has significantly reshaped payment dynamics for small business owners.

MSEs have found innovative ways to navigate these restrictions. POS systems are not just tools for processing payments but have evolved into lifelines for cash flow management. Entrepreneurs leverage these systems for cash-in, cash-out transactions, turning cash received from sales into an additional revenue stream. Many businesses now provide cash withdrawal services to customers for a small fee, creating a dual-use model that enhances cash flows while generating profit.

One entrepreneur illustrated this adaptation: "*The beauty of having cash is turning it into a business. With POS systems, when someone pays me in cash, I can later offer small withdrawals to others in need, collecting a fee for each transaction. It's a win-win.*" This model has also allowed businesses to act as informal intermediaries, facilitating local payments for customers who want to avoid bank fees or face cash limitations.

POS systems have become indispensable for MSEs, offering speed, convenience, and accountability. As one shop owner noted, "*With POS payments, I get funds instantly — no delays, no back-and-forth with the bank. It's efficient, and I can monitor every transaction in real time.*" These systems are especially critical in underserved areas where access to banking infrastructure is limited, providing an essential bridge between cash and digital financial services.

Beyond facilitating payments, POS systems also support better recordkeeping and financial management. By generating clear digital transaction records, they help entrepreneurs separate business and personal finances, comply with audits, and enhance their overall accountability. This transition to more structured financial practices represents a significant step forward for many small businesses in Nigeria.

5.4 ACCESS TO AND USE OF CREDIT

Significant variation is noted in the demand for credit across the five markets. MSEs utilize a range of credit sources, with informal loans playing a dominant role in some markets, while formal bank credit, especially credit cards, is more prevalent in others.

In São Paulo, the use of bank credit, particularly credit cards, is widespread, reflecting the city's more established formal financial ecosystem. On the other hand, informal lending is significantly more common in markets like Delhi and Addis Ababa, where many entrepreneurs, especially women, rely on friends, family, or community savings groups for loans. This heavy dependence on informal loans underscores the limitations of formal financial institutions in effectively serving small businesses, particularly women entrepreneurs.

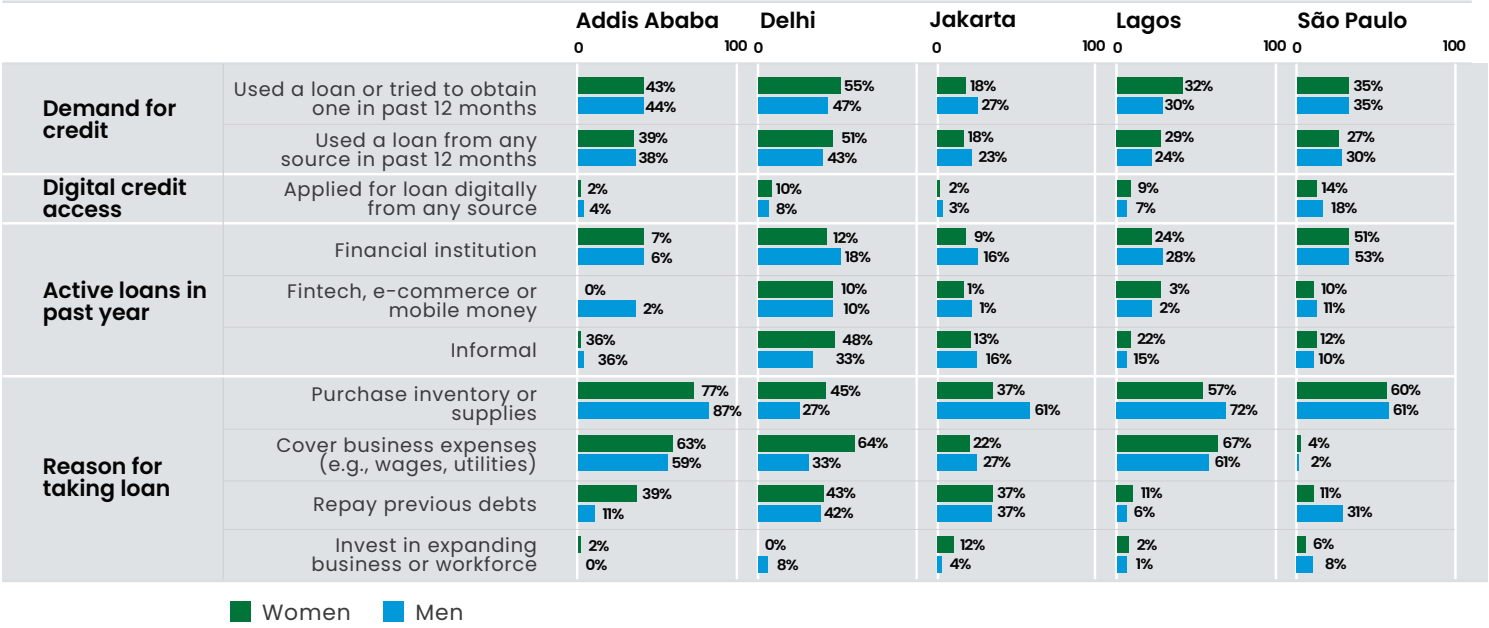
Fintech or mobile money loans remain less prominent across all markets, although comparatively higher usage is observed in São Paulo and Delhi. Despite high overall credit demand, digital credit platforms have yet to see widespread adoption, with businesses still favoring traditional loan channels. This indicates that while digital financial services are advancing, they have yet to fully replace traditional or specialized credit sources for MSEs. This gap presents a promising opportunity for further exploration by emerging institutional credit providers.

Loans are primarily used for purchasing inventory and covering operating expenses, with women in Delhi often borrowing to cover wages and utility payments. In several markets, including Delhi and Jakarta, a significant portion of loans are also directed toward repaying previous debts, suggesting that that credit is more commonly used to manage financial obligations than to fund growth or expansion. Across all markets, borrowing for business investment remains relatively uncommon.

The reliance on informal lending is especially pronounced among women in Addis Ababa and Delhi, where formal financial institutions have struggled to reach women entrepreneurs effectively. This trend reflects a significant gap in formal credit access, pointing to the need for more inclusive financial systems that can cater to the unique needs of MSEs, particularly women-owned businesses.

FIGURE 25

Demand for credit and usage of loans (past 12 months)
MSEs (%)



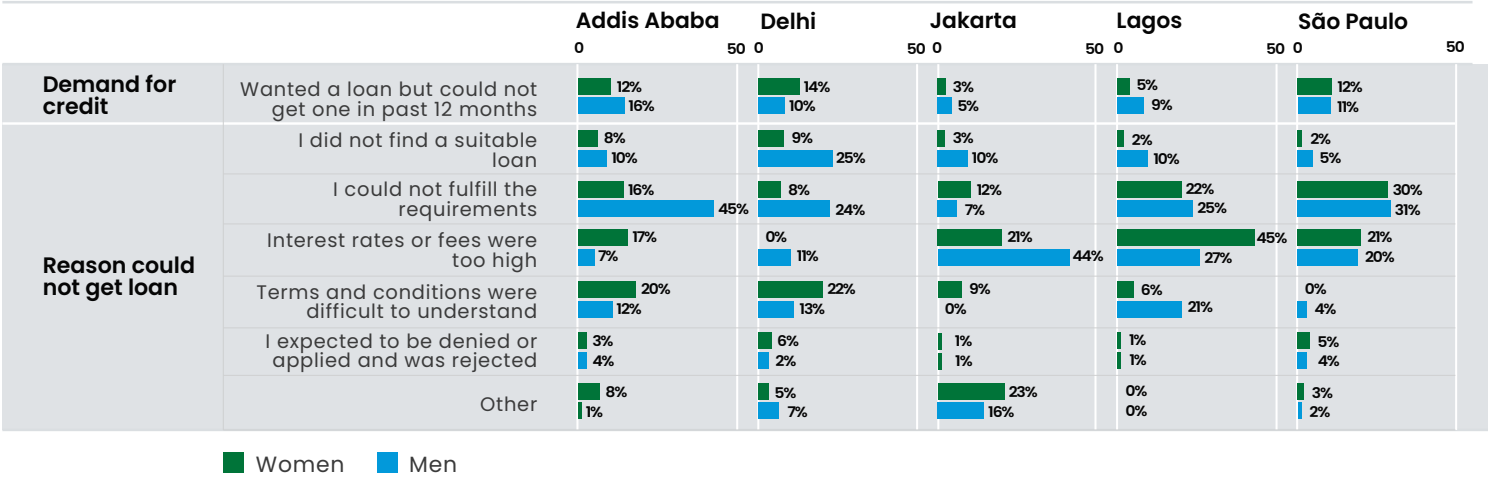
Barriers to accessing credit vary across cities, with cost and unmet requirements being the most common obstacles for entrepreneurs seeking loans.

In Addis Ababa, Delhi, and São Paulo, around 10-12 percent of entrepreneurs reported that they wanted but could not access a loan, a figure that remains in the single digits in other markets. The most frequently cited reasons for this gap were either an inability to meet loan requirements or prohibitively high interest rates. Challenges around understanding the loan terms and conditions were a significant obstacle in Delhi and Addis Ababa.

These findings suggest that while demand for credit is consistent across most markets, entrepreneurs face systemic barriers in accessing it, and these barriers are often gendered, underscoring the need for targeted financial solutions that address both the cost and eligibility criteria to better serve MSEs.

FIGURE 26

Barriers to credit
MSEs (%)



5.5 ACCESS TO INSURANCE

Delhi and São Paulo lead in insurance adoption among MSEs, particularly for health and auto insurance, while MSEs in Jakarta and Addis Ababa show low engagement with insurance products.

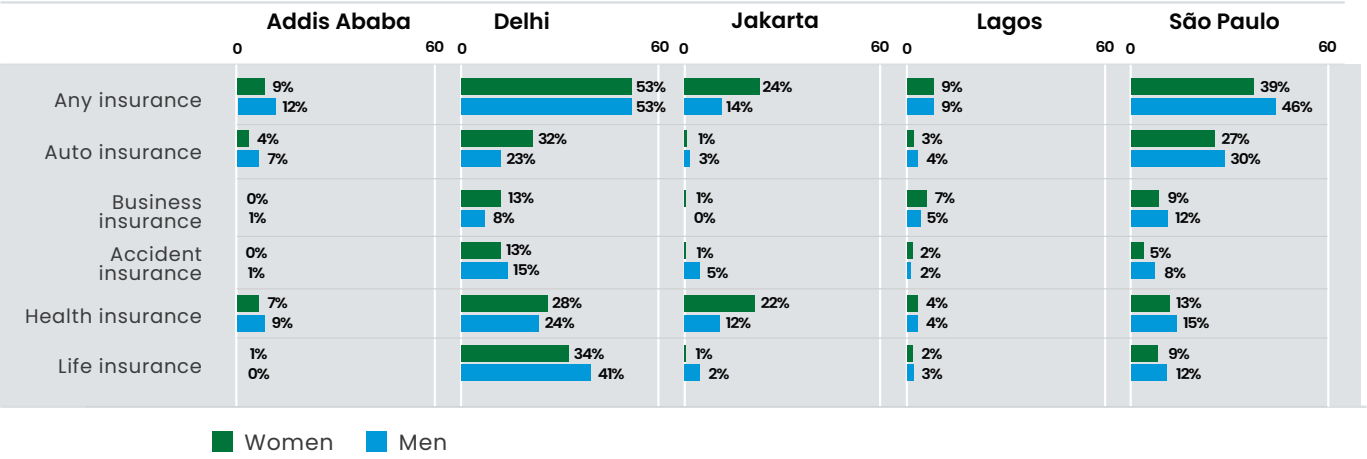
Insurance adoption across several product categories is notably higher among MSEs in Delhi and São Paulo, reflecting broader understanding, access, and utilization of insurance products. Health insurance is relatively common in Delhi, where both men and women exhibit similar rates of adoption. In contrast, São Paulo shows a gender disparity, with men more likely to hold health insurance than women. Health insurance adoption is relatively high also in Jakarta, particularly among women entrepreneurs.

Auto insurance adoption is prominent in both São Paulo and Delhi, suggesting higher vehicle ownership and a stronger reliance on formal insurance mechanisms in these cities compared to others. However, business insurance is underutilized across all markets, with especially low adoption rates in Jakarta and Addis Ababa, indicating that risk management remains a challenge for MSEs in these regions. This lack of business-specific coverage highlights a vulnerability in how small businesses manage operational risks.

Life insurance, while more prevalent in São Paulo and Delhi, remains less common than health or auto insurance, indicating potential growth opportunities for insurance providers targeting MSEs.

FIGURE 27

Adoption of insurance
MSE owners or managers (%)



5.6 HOW DOES FINANCE ASSOCIATE WITH FINANCIAL HEALTH OF MSES?

5.6.1 Financial Services and MSE Growth and Financial Sustainability

The use of formal financial services, including payments, loans, and insurance, is associated with higher labor productivity, pointing to diverse and context-specific findings that require further research.

Across the five cities, the use of digital merchant payments is associated with higher labor productivity, though the strength of this relationship varies. The most pronounced difference appears in Delhi, where firms using merchant payments have productivity levels more than twice as high as those not using them, even after accounting for education and experience. Jakarta and Lagos also show notable positive associations, suggesting potential operational or customer-facing advantages in those markets. While the findings are compelling, they should be interpreted with caution, particularly in Delhi, where digital payments are nearly universal and the small number of non-users limits the strength of comparisons. The results may reflect broader characteristics of adopting firms rather than the impact of payment use alone.

The use of active loans from traditional financial institutions has a statistically significant positive association with productivity in Addis Ababa, indicating that access to formal credit may be tied to better business performance. However, this relationship is less pronounced or not statistically significant in other markets, highlighting the need for deeper investigation. Having an active savings account from either financial institutions or fintechs is positively associated with productivity in Delhi.

The impact of fintech and mobile money loans has more varied effects. In Jakarta, digital loans are associated with a modest positive impact on productivity, while trends

in other regions remain inconclusive, suggesting that fintech's role in driving small business productivity is still evolving.

Insurance adoption is positively associated with productivity in Addis Ababa and Lagos, indicating that insurance may help businesses manage risks more effectively, thereby supporting higher productivity. In São Paulo, the association is also positive and statistically significant, while no clear pattern emerges in Jakarta or Delhi, highlighting the need for further exploration of how insurance affects business outcomes across different market contexts.

TABLE 3: ASSOCIATIONS BETWEEN FINANCIAL SERVICES AND LABOR PRODUCTIVITY*

FINANCIAL SERVICE	KEY OBSERVATIONS
Merchant Digital Payments	In Delhi, Jakarta, and Lagos, businesses using digital merchant payments show notably higher labor productivity compared to those not using them, highlighting a strong association between digital transactions and operational performance.
Savings	In Delhi, firms with savings accounts, especially those held with financial institutions, show better productivity outcomes. This may reflect a stronger financial foundation and better financial planning.
Credit	In Addis Ababa, businesses accessing loans from financial institutions report higher productivity, suggesting that access to formal credit may support investment in operations.
Insurance	In Addis Ababa, Lagos, and São Paulo, the use of any form of insurance is associated with significantly higher productivity levels, underscoring the potential value of risk management tools for business stability and performance.

* For more details on regression results, see Figure 42 in Annex 1 "Observational estimates of the effect of financial services on firm productivity"

Box 9: Maria's Journey to Digitization: A Beauty Salon in Paraiso

Maria,[24] a beauty salon owner in Paraiso, Brazil, has seen her business evolve significantly since adopting digital financial services. Previously reliant on traditional banking methods, Maria often found the process cumbersome and time-consuming.

For Maria, the shift to digital was motivated by the promise of efficiency and convenience. "*It saves time,*" she explains. "*I can do in 30 seconds what used to take me 30 minutes. That extra time means I can book another client or focus on improving my services.*"

Using mobile banking apps, Maria now manages her finances, makes payments, and tracks expenses seamlessly. The accessibility of real-time information has been transformative. "*I can instantly see my balance. Before, I had to visit the bank or wait for a faxed statement. Now, in seconds, I have all the i*nformation I need — whether I'm at a traffic light or in the middle of my workday."

The benefits extend beyond efficiency. Digital payments, particularly Pix, have enhanced her relationships with customers, suppliers, and employees. "*Pix lets you complete transactions instantly and securely. If someone needs cash urgently, you don't have to wait for the bank to open the next day. It builds trust — people see you're reliable, whether they're a customer or a supplier.*"

Adopting digital financial services has also reduced the logistical challenges Maria once faced. "*The freedom to handle payments and bills from anywhere — it's a game-changer. No more driving to the bank, dealing with traffic, or losing precious hours.*"

In Maria's view, using digital financial tools has not only streamlined business operations but also strengthened her financial management abilities and professional relationships. As she shared, "*Digital is practical, fast, and frees me to focus on what truly matters — running and growing my business.*"

5.6.2 Financial Services and MSE Resilience

The link between financial services and resilience shows mixed and sometimes inconclusive results, with insurance emerging as a key factor in certain markets, while loans and account usage offer varied impacts.

24 Maria is a fictional character, a "persona" crafted to represent the common themes and stories shared by many women entrepreneurs during our focus group discussions in Paraiso, Brazil. While Maria's story is not tied to a specific individual, the quotes are from real people who were interviewed for this study, reflecting the lived experiences, challenges, and motivations described by MSEs in Paraiso.

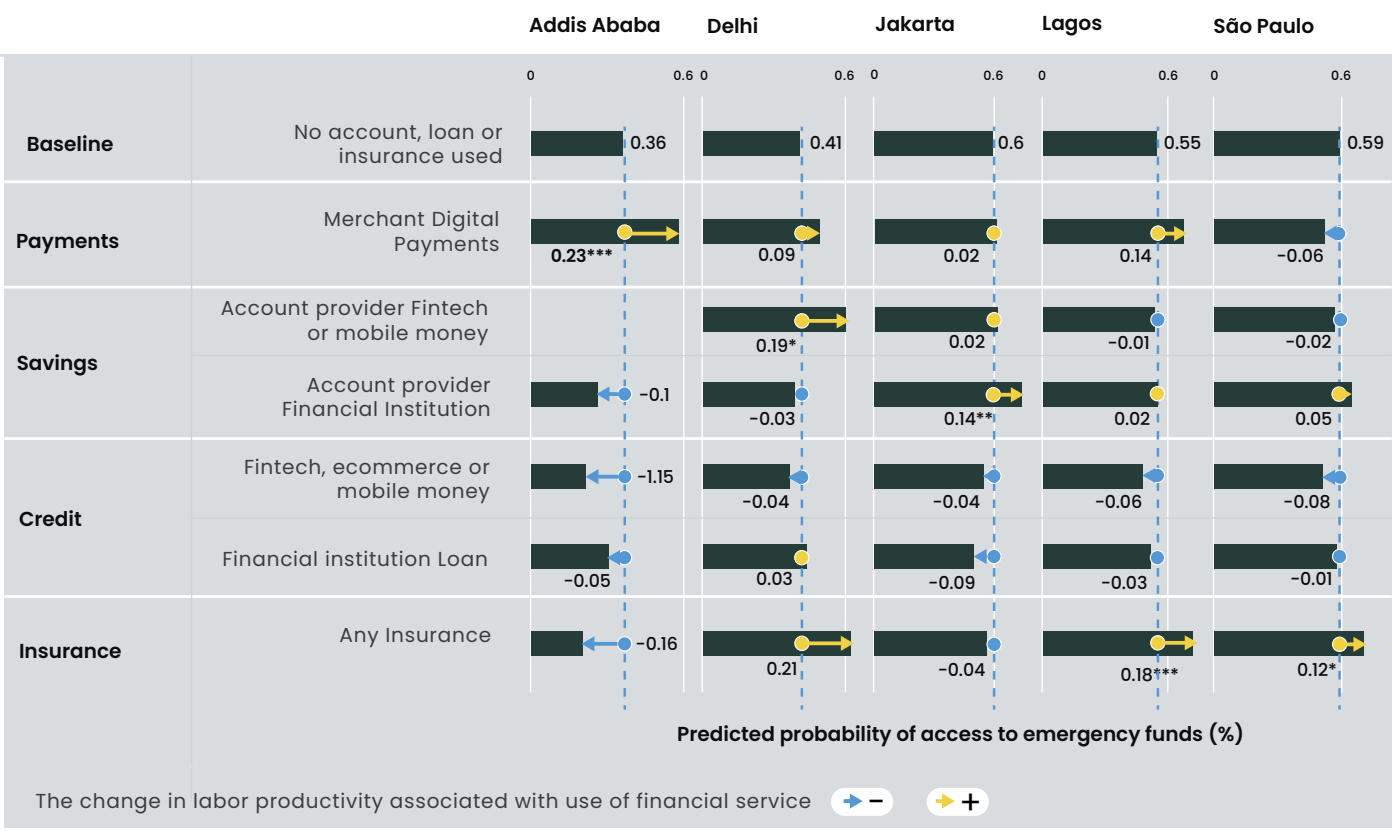
While the previous section examined the association between the use of digital payments and labor productivity — revealing strong positive links across multiple cities — this section explores whether digital payment adoption is also linked to greater financial resilience, specifically the ability to access emergency funds during a crisis. The results are more nuanced. In Addis Ababa and Lagos, firms that use merchant digital payments are more likely to report that they can raise emergency funds without major difficulty, suggesting that digital transactions may help build cash flow predictability or strengthen ties with financial providers. In other cities, including Delhi, Jakarta, and São Paulo, the associations are weaker or not statistically significant, highlighting the need for deeper analysis on how and when digital payments support business resilience.

Loans from financial institutions or fintech platforms do not show any significant effect on financial resilience across the markets, implying that accessing credit does not directly translate into an improved capacity to raise emergency funds or withstand financial shocks for small businesses.

Insurance, on the other hand, is associated with higher resilience in Lagos and Delhi, and to some extent in São Paulo, highlighting its role in providing a financial safety net. Businesses with insurance in these markets are better able to manage crises. However, the effect of insurance is negligible or non-significant in other markets, suggesting that its impact on resilience may be more context dependent and tied to local market conditions and perceptions of risk.

FIGURE 28

Observational estimates of the effect of financial services on financial resilience



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

06 Risk Exposure

Risk encompasses multiple dimensions that affect the operations and sustainability of MSEs. These risks can be categorized into several categories such as shocks, which are short-term and unpredictable events such as theft, natural disasters, or fraud; stresses, which are long-term and continuous challenges like economic instability and rising temperatures or sea levels; and life cycle risks, which for businesses include challenges tied to their stages of development, such as securing start-up capital, managing growth, or weathering market downturns. Each of these types of risks can be interconnected, compounding their effects on business performance.[25]

This chapter focuses specifically on two critical categories of risk. First, endogenous risks, which arise from within the business environment, such as consumer protection challenges, data breaches, and vulnerabilities associated with digitization in the digital economy. Second, it covers exogenous risks, particularly those driven by climate change, such as extreme weather events and their cascading effects on supply chains and business operations. While these do not encompass the full range of risks entrepreneurs face, these risks are particularly salient and often intersect with broader business vulnerabilities. These themes are explored through the lens of MSE characteristics, their financial practices, and exposure to external shocks, providing a detailed understanding of how businesses navigate an increasingly uncertain landscape.

25 For a review of exogenous risks in the context of SMEs, see: Miklian, J., & Hoelscher, K. (2022). SMEs and exogenous shocks: A conceptual literature review and forward research agenda. International Small Business Journal, 40(2), 178-204. https://doi.org/10.1177/02662426211050796

6.1 ENDOGENOUS: CONSUMER PROTECTION AND DIGITIZATION RISKS

Digitization has transformed access to financial services, but the unique consumer protection challenges faced by small entrepreneurs remain largely unexplored.

Digitization has expanded opportunities for consumers and businesses alike, offering improved access to financial services, enhanced convenience, and new tools for managing finances. However, it has also introduced a range of risks, particularly for users who may lack adequate digital literacy or financial awareness. A study by CGAP[26] highlights that 27 percent of surveyed digital financial service users reported experiencing at least one issue, such as fraud, poor customer service, or hidden fees. Additionally, low-income users often bear a disproportionate burden of these risks, with 60 percent of complaints relating to unauthorized transactions and 30 percent involving unexpected charges. These challenges underscore the critical importance of addressing consumer protection in the digital age.

While existing research has shed light on digital financial services risks for individual consumers, their impact on micro and small enterprises remains underexplored. These businesses often operate under significant financial pressure due to their reliance on working capital and unpredictable cash flows. Unlike individual consumers, MSEs must navigate these risks while managing broader financial and operational constraints, making their exposure to consumer protection challenges distinct. This knowledge gap is significant, given the central role MSEs play in emerging markets. This chapter seeks to fill this void by providing demand-side insights into the consumer protection risks faced by MSEs and exploring their implications for financial inclusion and business resilience.

Across five cities, a significant proportion of MSE owners reported negative experiences with financial services, with rates varying by location and gender.

Negative experiences are most frequently reported in São Paulo, with 39 percent of men and 28 percent of women encountering issues over the past 12 months. These figures may be due to a high level of engagement with financial services, which may increase exposure to challenges such as fraud or mistreatment from financial institutions. Similarly, Delhi shows relatively high rates, with 21 percent of men and 18 percent of women reporting issues, indicating that challenges persist in its financial ecosystem despite widespread service availability.

Jakarta shows a notable gender gap in reported negative experiences with financial services, with 20 percent of men and only 12 percent of women indicating issues. Meanwhile, in Lagos, 17 percent of men and 14 percent of women reported issues, and in Addis

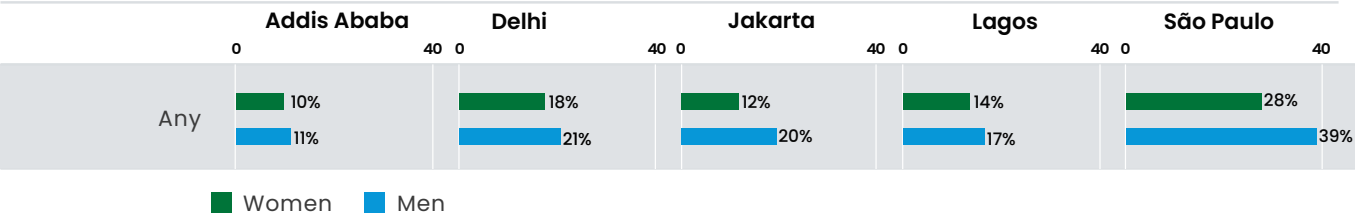
26 Chalwe-Mulenga, M., Duflos, E., & Coetzee, G. (2022). The Evolution of the Nature and Scale of DFS Consumer Risks: A Review of Evidence [Slide deck]. Consultative Group to Assist the Poor (CGAP). https://www.cgap.org/sites/default/files/publications/slidedeck/2022_02_Slide_Deck_DFS_Consumer_Risks.pdf.

Ababa, the figures were 11 percent and 10 percent, respectively. These lower rates may reflect differences in financial service penetration, with fewer MSEs actively engaging with the formal financial system.

Yet beyond direct experience, the fear of falling victim to fraud, scams, or mistreatment also weighs heavily on small business owners. During focus group discussions across all five cities, entrepreneurs consistently described knowing peers who had lost money through mobile payments, loan apps, or digital wallets. This sense of risk, often amplified by word-of-mouth stories, creates a climate of caution that deters many from adopting digital tools or formal financial services. Even those who have never experienced a problem firsthand often hesitate to fully engage, fearing irreversible losses or inadequate recourse. In São Paulo, a participant noted, *"We all should fear fraud, if we already don't. To me, this is the most critical issue."* A tailor added, *"I see the benefits and I like the idea [of digital financial services], it is just that I fear it, I am not trained to use these apps."*

FIGURE 29

Consumer protection: Negative experiences with financial services
MSEs (%)



6.1.1 Overindebtedness

This study finds that loan repayment is a challenge across all markets, with a significant proportion of MSEs struggling to make timely payments, reflecting broader financial pressures.

Between 20 and 25 percent of MSEs who took out loans in the past year reported facing challenges in making full, on-time payments, highlighting the strain many businesses face in managing debt obligations. This suggests that cash flow issues and broader financial pressures are prevalent among small businesses, making it difficult for them to keep up with repayment schedules.

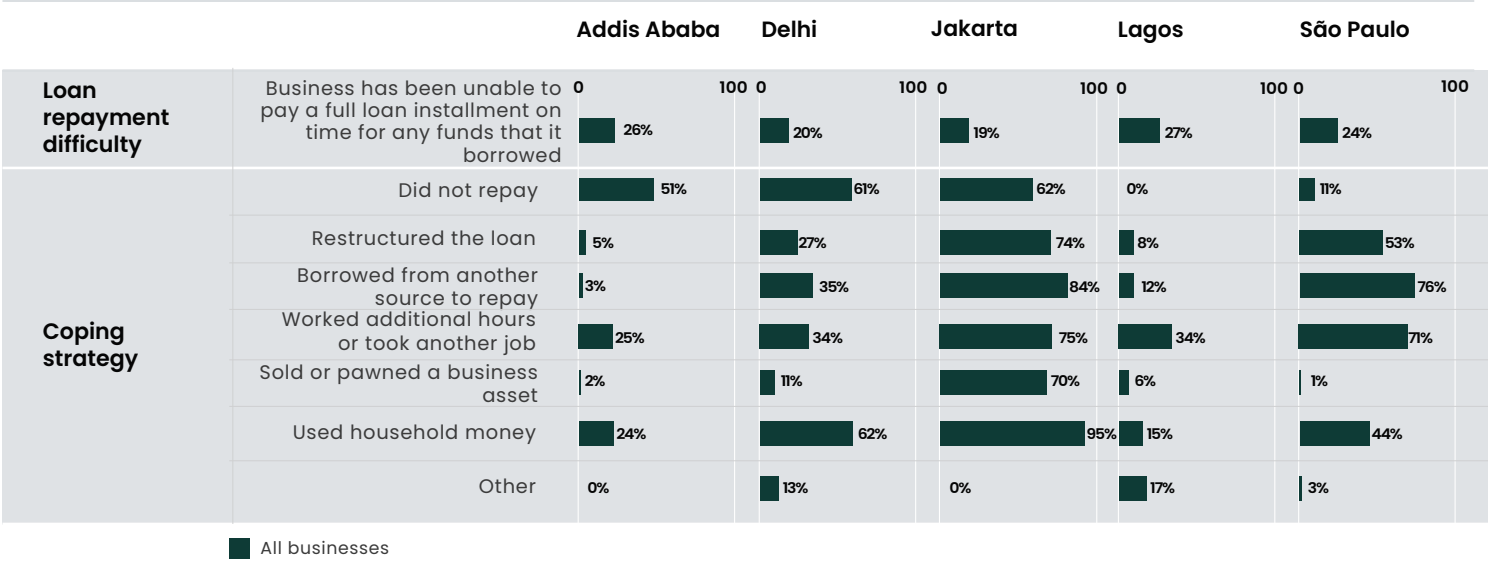
Coping strategies for managing repayment difficulties vary widely across countries. In Delhi, Addis Ababa, and Jakarta, entrepreneurs were most likely to either skip repayments or rely on household finances to meet loan obligations, illustrating the limited separation between personal and business finances. In Jakarta and São Paulo, borrowing from other sources is a commonly cited strategy, raising concerns about the risk of further overindebtedness as businesses take on new debt to cover old liabilities.

"I have a loan — I logged into the app one day and there was an ad offering a loan, that I had an amount available to me, pre-approved and all. I just had to click to have access to it. The banks make it very easy, two clicks and you are already owing the bank a large sum of money. I don't know where I had my head when I took that loan, now I have to pay for it." –Respondent in Brazil

Though less common, selling or pawning business assets appears as a strategy in Jakarta, where some MSEs are liquidating assets to stay on top of loan repayments. This shows that, in certain cases, businesses are forced to sacrifice their capital assets, which could have long-term consequences for their growth and sustainability.

FIGURE 30

Challenges with loan repayment
MSEs (%)



6.1.2 Fraud, Unexpected Fees, and Poor Treatment

Negative experiences with financial services, such as fraud, unexpected fees, and poor treatment, are reported across markets, with São Paulo facing the most pronounced issues.

Fraud or scams, along with unexpected fees or penalties, are the most common issues faced by MSEs in all markets. Additionally, poor treatment by providers and high sales pressure were particularly noted in São Paulo and Delhi, where businesses reported significant dissatisfaction with how financial services are presented and managed. These problems highlight trust issues and potential gaps in transparency from financial providers. In Delhi, entrepreneurs expressed frustration with the lack of support and

responsiveness from service providers; as one participant put it, "*Nobody picks up the customer care number, even if they pick up, they will keep you waiting. We lose hope and never try to follow up.*"

São Paulo stands out for having higher reports of fraud, scams, and poor treatment by providers, indicating a deeper level of distrust or dissatisfaction with the financial services sector. One entrepreneur recalled struggling with facial recognition during onboarding, attempting it *"like 20 times, with light, without light, from close, from far,"* before the app finally accepted his image — a seemingly small barrier that eroded trust from the start. Concerns about fraud were widespread, with participants wary of phishing links, impersonation scams, and fraudulent messages requesting Pix payments. As noted by a computer technician, "*Are there frauds? Yes. Are there scams? Yes. But one must pay attention, read about the scams, don't click on links, be careful when someone calls you asking for money, saying they are calling from the bank.*" Others emphasized that such risks do not stem from digital tools themselves, but from a lack of digital literacy and vigilance.

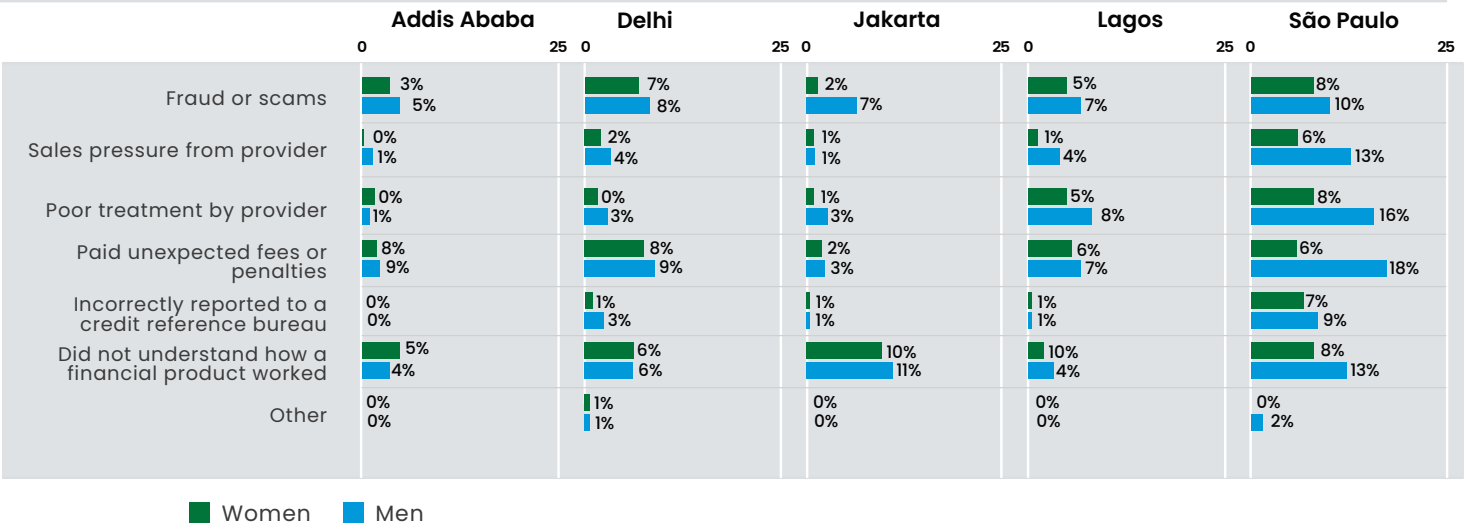
In India, the rapid uptake of UPI has similarly increased exposure to fraud and scams, particularly among small business owners who recently adopted these platforms. In Delhi, one entrepreneur described how a scammer impersonating customer support convinced him to install a remote access app, resulting in the theft of ₹12,000 from his bank account: *"I shared the number and later found that the service provider had withdrawn INR 12,000 from my bank account. Later on, he did not receive my phone calls."* Another participant shared that he mistakenly sent money to the wrong number and, despite contacting the unintended recipient, was unable to recover the funds. *"The money went to another account and when I called that person, he did not return it. I lost the entire amount,"* he recounted. These incidents underscore the risks of digital payments in low-trust environments and the limited avenues for redress when something goes wrong. For many entrepreneurs, the absence of responsive customer service or effective grievance mechanisms leaves them feeling vulnerable and unsupported.

Meanwhile, MSEs in Jakarta experience a higher lack of understanding of financial products, suggesting that some businesses may get into financial agreements they do not fully comprehend. While many entrepreneurs are confident in using digital tools, concerns persist around data misuse, lack of transparency, and limited customer support. One participant reflected, *"If we have a transfer issue, who am I going to report to? There is no information about that."* Another described her frustration with automated support systems: "*When we ask A, they answer B. It's not clear.*" Even among those who had not experienced direct losses, anxiety was present — one woman entrepreneur recounted nearly falling for a scam after a fraudster contacted her via chat and pressured her to make a transfer: *"I felt like I was being hypnotized."* Aggressive sales tactics also raised concerns, with another woman entrepreneur noting, *"They offer*

it very aggressively. I'm afraid because they tend to use my name for that kind of thing." These experiences suggest that while digital financial services are widely adopted, gaps in digital literacy, customer protection, and recourse mechanisms continue to erode trust, particularly among women microentrepreneurs.

FIGURE 31

Consumer protection: Negative experiences with financial services
MSE owners or managers (%)



A substantial number of businesses, particularly in Jakarta, avoid filing complaints because they either do not believe the issue will be resolved or there is no clear complaint channel available. This points to significant gaps in consumer protection and redress mechanisms, making it harder for MSEs to address grievances and trust the system.

6.1.3 Recourse

Consumer recourse remains a challenge across all markets, with relatively low rates of formal complaints and limited resolution for those who take action.

Over 60 percent MSEs in Lagos and 40 percent in São Paulo raised complaints when they encountered issues with financial services, yet the resolution rates remain relatively low, reflecting challenges in effective complaint handling. In both cities,

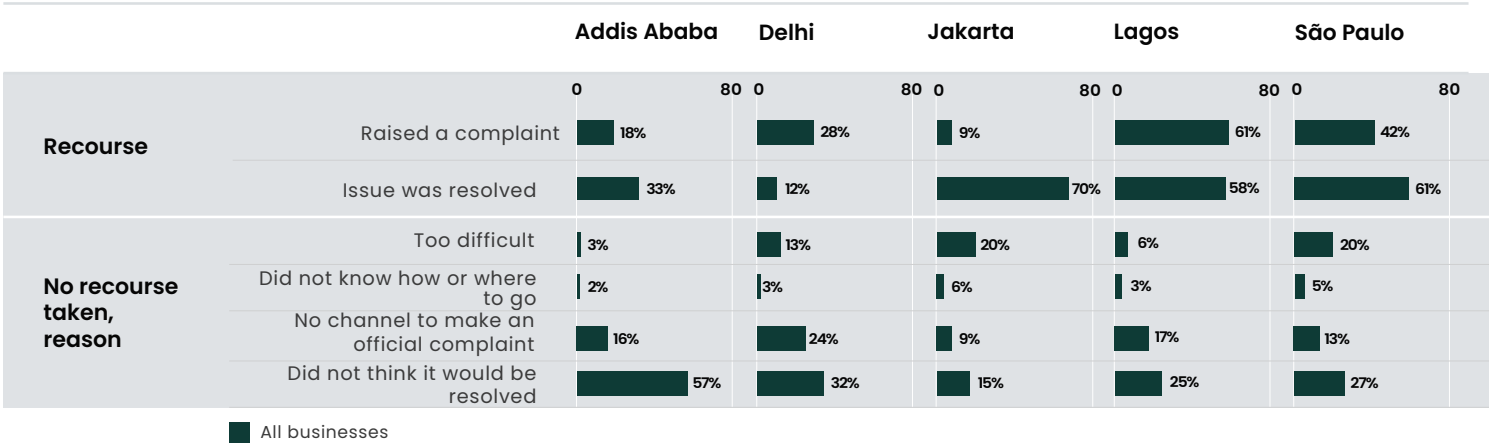
many complaints were raised, but only half led to satisfactory outcomes, which signals a critical gap in the effectiveness of resolution mechanisms.

In Delhi, MSEs face particularly low-resolution rates for consumer protection issues, with the lowest percentage of issues resolved among all the markets studied. Despite a relatively lower incidence of formal complaints compared to other cities, businesses in Delhi that raise complaints often find them unresolved. A key factor contributing to this is the lack of trust that the issue would be resolved, which is cited as the main reason entrepreneurs do not raise complaints, underscoring a significant lack of confidence in the redress system.

The reasons for not taking action are consistent across markets: MSEs frequently cited that the process was too difficult or they did not think complaints would be resolved. In Jakarta, difficult processes are the most cited reason, while lack of trust that issues would be resolved is the highest in all other markets.

FIGURE 32

Consumer protection issues
MSEs (%)



6.1.4 Assessing What Drives Exposure to Consumer Protection Risks

As digital technology adoption increases, so does exposure to consumer protection risks across all markets, indicating a clear trade-off between digitization and vulnerability.

While the relationship between consumer protection risks and business or socio-economic characteristics differs by context, a clear pattern emerges across all markets: businesses that adopt a wider range of digital technologies are more likely to encounter consumer protection issues.

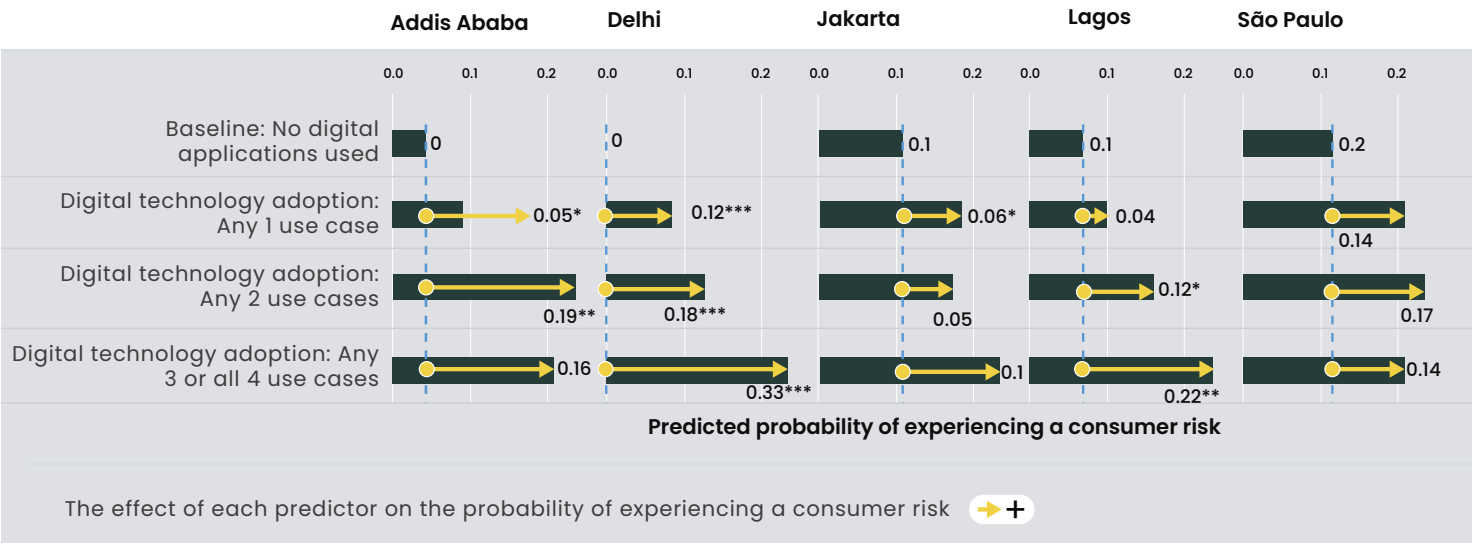
In cities like Addis Ababa, Delhi, and Lagos, the use of multiple digital applications

corresponds with higher consumer protection risk scores. For instance, in Lagos, businesses that utilize three or more digital use cases show significantly higher exposure to consumer protection risks compared to firms that use no digital solutions. This trend is echoed in Delhi and Addis Ababa, where firms adopting more than one digital tool also face higher risk exposure.

This association between digital adoption and consumer protection risks is observable across all markets. While digital technologies drive productivity gains, they also introduce new vulnerabilities, highlighting the need for stronger consumer protection mechanisms as businesses increasingly digitize their operations.

FIGURE 33

Observational estimates of the relationship between digital technology and exposure to consumer risks



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

The use of financial services, particularly loans, is consistently associated with higher exposure to consumer protection risks, underscoring the importance of robust safeguards as financial service usage increases among MSEs.

Across all markets, loans from financial institutions are significantly linked to higher consumer protection risks. This relationship is especially notable given the rising access to formal credit. Similarly, fintech loans are associated with greater exposure to these risks in Delhi and São Paulo, pointing to the potential challenges that come with the growing use of digital credit platforms.

In São Paulo, the use of digital payments is strongly associated with increased exposure

to consumer protection risks, suggesting that as businesses adopt these tools, they may also face new vulnerabilities. In Delhi, near-universal usage of digital payments — driven largely by the UPI system — makes it harder to isolate risk patterns tied to this channel. These findings highlight that while financial services can support business operations, inadequate safeguards or poor delivery can expose MSEs to consumer protection issues, underscoring the need for stronger protections as adoption continues to grow.

TABLE 4: FINANCIAL SERVICES AND CONSUMER RISKS: SUMMARY OF FINDINGS

FINANCIAL SERVICE	KEY OBSERVATIONS
Merchant Payments	In São Paulo and Lagos, the use of merchant digital payments is associated with a higher probability of reporting consumer protection risks, suggesting potential issues with dispute resolution or transaction errors.
Savings	In Delhi, saving through banks, fintechs, or mobile wallets are associated with increased exposure to consumer protection risks.
Credit	Access to credit increases exposure to consumer protection risks in all markets. In Delhi, Addis Ababa, Jakarta, Lagos, and São Paulo, MSEs with formal loans from financial institutions are more likely to report consumer protection issues, pointing to potential challenges around transparency, loan terms, or collections practices.
Insurance	In Lagos, insured businesses report a higher likelihood of experiencing consumer risks, suggesting possible dissatisfaction with claims processes and coverage clarity.

* For more details on the regression and survey results, see Figure 43 in Annex 1 "Observational Estimates of the Relationship Between Financial Services and Exposure to Consumer Protection Risks"

6.2 EXOGENOUS: CLIMATE CHANGE RISKS

Climate change is intensifying risks for MSEs, disrupting operations and straining already limited resources. While much attention has focused on households, little is known about how entrepreneurs navigate these challenges.

Climate change is increasingly recognized as a significant driver of risk for MSEs in emerging markets, amplifying the vulnerabilities they already face in volatile economic environments. Rising temperatures, erratic rainfall patterns, and the increasing frequency and intensity of extreme weather events directly affect businesses through disrupted supply chains, damaged infrastructure, and reduced productivity. For MSEs, many of which operate informally or on tight margins, these disruptions can lead to significant financial losses, reduced resilience, and even business closures.

The Green Inclusive Finance Framework developed by CFI[27] underscores the critical role that financial services can play in helping low-income and vulnerable people respond to climate change. From offering tailored savings or insurance products that protect assets against climate shocks to providing credit for resilience-enhancing investments, financial inclusion is an important enabler for building adaptive capacity. However, there is a significant knowledge gap regarding the challenges consumers face in climate-vulnerable settings and the mechanisms they adopt to cope.[28] While much attention has been given to the intersection of climate shocks and financial inclusion for households, the unique pressures on small entrepreneurs — who must balance business risks with household vulnerabilities — remain underexplored.

6.2.1 Exposure to Climate Shocks

The study finds that high exposure to climate shocks and stressors is emerging as a critical challenge for micro and small enterprises, threatening their operations and long-term resilience.

The data highlights significant variation in the exposure of MSEs to climate-related shocks across the five cities. In Delhi, the highest proportion of MSEs reported experiencing a climate-related shock, with 69% of men and 64% of women indicating exposure to a climate shock. Entrepreneurs described a range of climate-related disruptions, including declining sales during extreme heat, reduced customer traffic, and difficulties working long hours under harsh conditions. For informal vendors operating on the streets, these shocks often meant the loss of income without the option to pause or relocate easily. As one juice vendor in Delhi put it, "Everyone feels the heat, but we must keep working; otherwise, how will we afford our meals at night?" Like many others, he adapted by moving his cart under a tree, a small but telling example of how informal entrepreneurs are forced to rely on ad-hoc, low-cost strategies to cope with intensifying climate risks.

Jakarta follows, where 36 percent of men and 26 percent of women reported experiencing climate shocks, indicating significant exposure to weather-related events. In South Jakarta, flooding and heavy rains emerged as the most disruptive events for microentrepreneurs interviewed in a focus group discussion. Entrepreneurs spoke of water seeping into their shops, damaging goods, and driving away customers. One bakery owner explained how floodwaters had once submerged two of his ovens, forcing him to invest in brick platforms to elevate equipment. A bicycle repairman recalled how *"my compressors and keys were underwater, the tools I need to work just stop functioning."* These disruptions not only halted operations temporarily but also triggered coping responses such

27 Miller, H., Krishnan, L., & Alvarez, L.R. (2022). Green Inclusive Finance: A Framework for Understanding How Financial Services Can Help Low-Income and Vulnerable People Respond to Climate Change. Center for Financial Inclusion. https://www.centerforfinancialinclusion.org/green-inclusive-finance-a-framework-for-understanding-how-financial-services-can-help-low-income-and-vulnerable-people-respond-to-climate-change/

28 Totolo, E., and Alvarez, L.R. (2022). Exploring the Intersection of Climate Shocks and Financial Inclusion. Center for Financial Inclusion. https://www.centerforfinancialinclusion.org/exploring-the-intersection-of-climate-shocks-and-financial-inclusion/

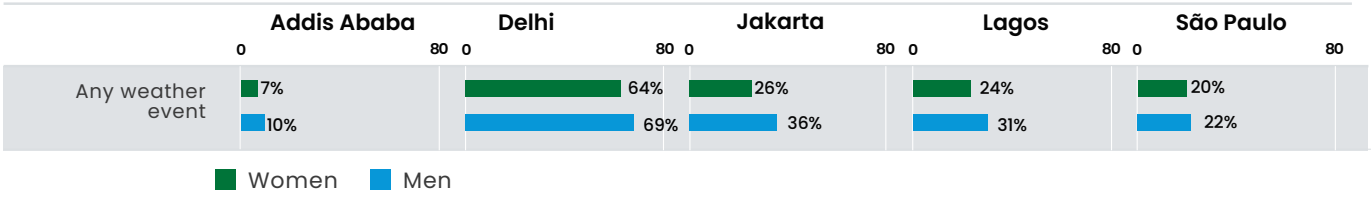
as raising shelves, moving inventory upstairs, or taking out emergency loans. *"Floods are the worst,"* said a shopkeeper. *"Heavy rain comes and goes, but floods force us to shut down completely."*

Addis Ababa exhibits relatively low levels of reported exposure, with only 10 percent of men and 7 percent of women experiencing a climate-related shock. This is the lowest among the five cities surveyed. Similarly, São Paulo shows lower levels of reported climate shock exposure, with 22 percent of men and 20 percent of women affected.

FIGURE 34

Overall Exposure to climate shocks

Percentage of MSEs who experienced a climate-related shock



Climate shocks, such as extreme heat, heavy rains, and flooding, pose significant risks for MSEs, with notable regional differences in the specific types of shocks experienced

The most frequently reported climate-related shocks vary by region, reflecting the diverse risks faced by MSEs. Extreme heat is the most common weather-related challenge, particularly in Delhi and Jakarta, where over half of the businesses report being affected by high temperatures. In Delhi, droughts and extreme rain also feature prominently, emphasizing the city's exposure to both temperature extremes and variable rainfall patterns. The World Bank highlights that rising temperatures in India could risk up to 4.5 percent of GDP by 2030 due to reduced labor productivity, particularly among low-income workers in poor housing conditions.[29]

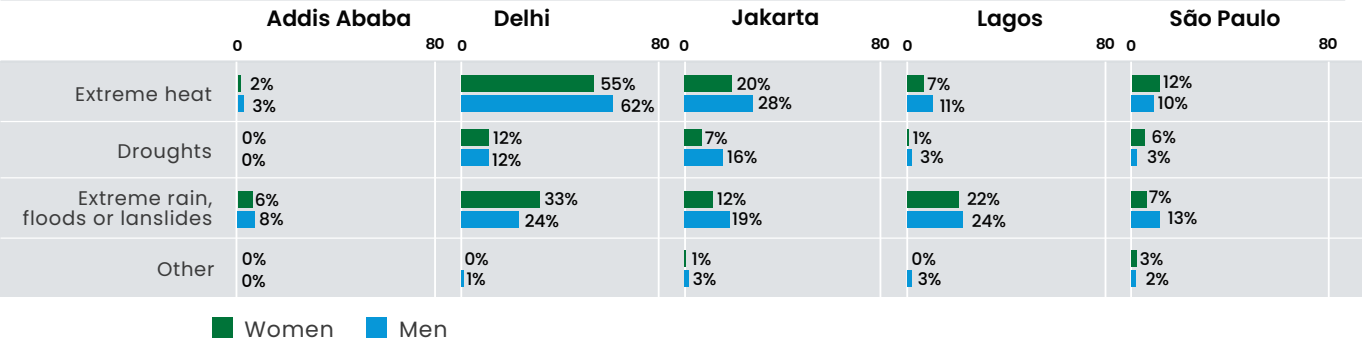
Jakarta and Lagos show a more balanced exposure to multiple climate shocks, including floods, landslides, and extreme rain, highlighting their broader vulnerabilities. Entrepreneurs in São Paulo, while reporting fewer extreme weather events overall, still face challenges from extreme rain and floods. Addis Ababa reports the lowest exposure to climate shocks among the five cities, though droughts and rain-related events remain concerns, demonstrating that even in less affected areas, climate risks persist.

29 Jha, A.K. (2023). Cooling the Heat: Can India Lead the World in Green Cooling Innovation? World Bank Blogs. https://www.worldbank.org/en/news/opinion/2023/07/11/cooling-the-heat-can-india-lead-the-world-in-green-cooling-innovation.WW

FIGURE 35

Type of climate shocks faced by MSEs

In the last 36 months (3 years), has your business or the supply chain of your business experienced any of the following weather-related



Source: 2024 CFI/MAP2 small firm survey. Notes: *For Indonesia and India, extreme rain, floods or landslides includes typhoons or cyclones

6.2.2 Impact and Coping Mechanisms

The impact of climate shocks on MSEs is pervasive, with sales losses, business disruptions, and asset damage being common across most cities. The recovery from these shocks varies significantly, with some businesses still struggling while others have emerged in stronger positions.

The financial strain caused by climate shocks is evident in Addis Ababa and Jakarta, where the majority of affected MSEs report decreased sales and profits. Over 70 percent of businesses in both cities experienced income loss, with similar levels of disrupted operations. In contrast, the effects in Lagos and São Paulo seem somewhat less severe, with around half of businesses reporting similar disruptions. Interestingly, Delhi appears to have more resilience in the face of climate-related risks, with only half of the businesses reporting income loss and fewer disruptions compared to other cities.

Cost increases following climate shocks are particularly high in Jakarta, where more than 60 percent of businesses report facing higher costs as a result of climate impacts. This contrasts with Lagos, where only 27 percent report cost increases, suggesting that while climate shocks are common, the financial burden they impose may be more manageable in certain markets.

In terms of coping strategies, MSEs across the five cities are heavily reliant on their own resources to weather the storm. Using business cash or savings is the most common response, particularly in Jakarta, Lagos, and Delhi, where about half of MSEs turned to their savings to cope. As one coffee distributor in Jakarta put it, "*For risk-related losses, I haven't needed to take a loan. My savings are enough.*" Others emphasized the habit of routinely setting aside a portion of earnings, with one participant explaining, "*I save 10%, but 10% that cannot be touched; it's for emergencies only.*" This underscores the

importance of liquidity for business resilience. A significant number of MSEs in Addis Ababa and Delhi received financial help from family or friends, indicating that personal networks are a critical support system in times of crisis.

Interestingly, insurance payouts are virtually absent as a coping strategy across all markets, highlighting a significant gap in formal risk management options for MSEs. Even in more digitally advanced markets like São Paulo, very few businesses reported accessing insurance payouts, suggesting low insurance penetration or inefficacy in covering climate-related losses.

Finally, when it comes to recovery status, Delhi stands out, with 50 percent of MSEs reporting that they have not only recovered but are now in a better position than before the climate shock. In contrast, Addis Ababa and Jakarta show lower recovery rates, with many businesses still struggling to regain their footing. The variation in recovery outcomes suggests that local factors, such as the availability of support systems, business networks, and government aid, play a critical role in determining how well MSEs bounce back from climate shocks.

FIGURE 36

Impacts and coping strategies of MSEs

MSEs exposed to climate shock in past 36 months (%)

		Addis Ababa	Delhi	Jakarta	Lagos	São Paulo
Impact of climate risk on business operations	Decreased sales income and/or profits	78%	50%	71%	51%	61%
	Increased costs	46%	35%	61%	27%	43%
	Disrupted business operations	47%	21%	66%	54%	50%
	Business assets damaged, lost, or worsened	21%	7%	34%	19%	26%
	Production or sales improved	15%	35%	20%	12%	13%
Actions to cope woth climate risk	Changed what the business sells or produces	5%	4%	15%	8%	11%
	Diversified suppliers or sought alternative supply chains	30%	3%	23%	6%	21%
	Relocated the business	14%	13%	8%	4%	4%
	Used business cash or savings	39%	46%	56%	45%	35%
	Borrowed money	16%	20%	15%	3%	16%
	Used insurance payouts	0%	2%	0%	0%	1%
	Received funds from the government	1%	2%	13%	0%	4%
	Drew on household cash, savings, or other assets	36%	24%	40%	26%	35%
	Received money from family or friends	60%	28%	13%	17%	10%
	Sold business assets	8%	2%	6%	2%	2%
	Did nothing	28%	36%	26%	35%	20%
	Other	1%	2%	1%	2%	1%
Recovery status from climate risk	Not fully recovered	28%	28%	41%	23%	18%
	Recovered	44%	22%	24%	44%	46%
	Recovered and in a better position	28%	50%	35%	33%	36%

Box 10: Fish Sellers Adapt to Heat Waves in Govindpuri, Delhi

In Govindpuri, Delhi, a group of seasoned fish sellers, many with over two decades of experience, exemplifies how small enterprises navigate seasonal weather risks. High summer temperatures present a persistent challenge, accelerating fish spoilage and destabilizing supply chains. This dual threat — direct product deterioration and erratic supply — forces them to adapt creatively to preserve both their stock and their livelihoods.

Battling the Heat with Collaborative and Individual Strategies

These entrepreneurs employ a range of self-financed and cost-sharing measures to mitigate the impact of extreme heat. Among their most effective strategies is renting cold storage units. Several sellers pool resources to afford the high costs of maintaining cold storage, ensuring that their fish stock remains fresh during the most heat-intensive months. This collective approach not only minimizes individual expenses but also fosters community resilience.

For daily operations, some sellers invest in insulated containers and large quantities of ice, preserving fish for short periods without incurring the overhead of permanent infrastructure. While this approach requires regular purchases, it offers flexibility, allowing them to adjust stock preservation to match day-to-day sales demands.

Adapting to market conditions, many sellers rely on inventory adjustments based on seasonal forecasts. By reducing the quantity of fish brought to market during peak summer heat, they minimize potential losses from unsold, spoiled products. This strategy enables them to align supply more closely with demand, enhancing profitability while reducing waste.

Funding Adaptation Through Savings and Community Support

Funding these adaptation strategies often requires careful financial planning. Sellers draw heavily on savings from peak business periods, setting aside earnings during more profitable months to cover the costs of cold storage, ice, and other cooling methods during the summer.

When savings fall short, retailers turn to informal borrowing networks, seeking loans from family, friends, or fellow business owners. These informal loans offer quick access to funds with minimal requirements and flexible repayment terms, making them a preferred option over formal financial institutions.

The Challenge of Long-Term Sustainability

Despite their ingenuity, the high costs of these adaptation measures strain the financial sustainability of fish retailers. Cold storage rental, ice purchases, and inventory adjustments require substantial investment, and not all retailers can consistently afford these strategies. Reliance on personal savings also leaves them vulnerable to economic shocks, as savings often deplete by the end of each summer.

For Govindpuri's fish sellers, resilience is a delicate balancing act — one that depends on their ability to adapt creatively while navigating financial constraints and the escalating risks posed by climate change. Their experiences underscore the critical need for tailored support systems that address the unique challenges faced by small enterprises in extreme weather conditions.

6.2.3 Exposure to Climate Shocks and Financing Behaviors

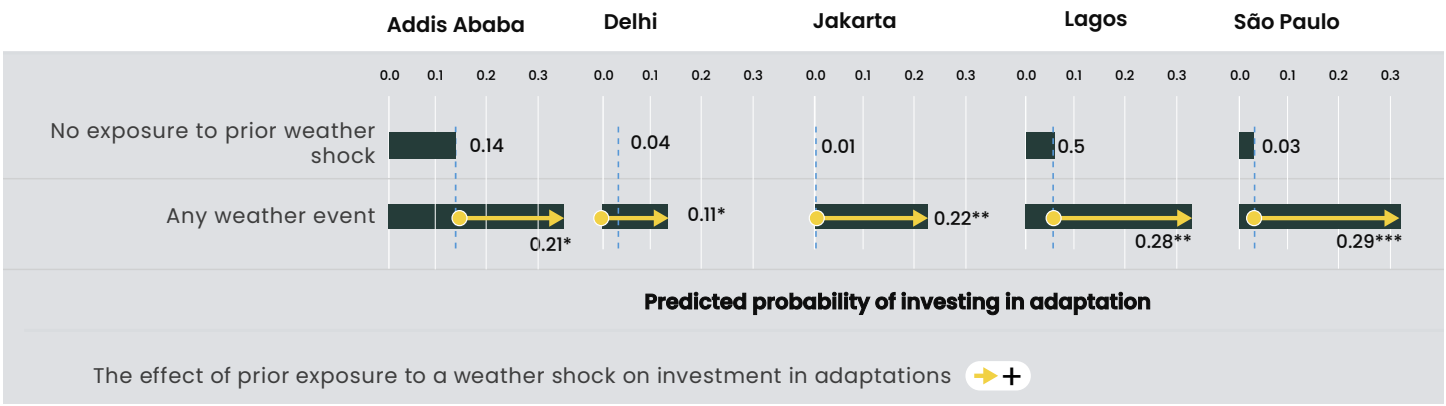
Exposure to prior weather shocks has a significant impact on MSEs' investment in climate adaptation across all markets, highlighting the critical role of past experiences in driving businesses to adopt protective measures.

In all markets analyzed, prior exposure to weather shocks is positively correlated with a higher probability of investing in adaptation. The strongest effects are seen in Lagos and São Paulo, where MSEs with prior weather shock experiences are considerably more likely to invest in climate adaptation measures, suggesting a heightened awareness of the risks posed by climate events in these cities. This pattern underscores the importance of direct experience with climate risks in prompting businesses to take action.

The results remain consistent even after accounting for factors such as years of experience and educational attainment, suggesting that the observed relationship between shock exposure and investment in adaptation is not solely driven by business characteristics, but may reflect a behavioral response to climate-related risks.

FIGURE 37

Observational estimates of the effect of exposure to weather shocks on investments in adaptation



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

Box 11: Alem's Fight Against Flooding: A Honey Retailer's Resilience in Kality, Addis Ababa

Alem is a determined honey retailer in Kality, Addis Ababa.[30] Since establishing her business in 2021, Alem has faced recurring flooding that threatens her operations, assets, and livelihood. Her small business, employing six paid workers, sources honey from local producers, packages it, and sells it to merchants and consumers. But each flood brings destruction: damaged honey stocks, ruined equipment, and mounting financial losses. In one incident, Alem lost 17 honey containers — equivalent to USD 4,000 — crippling her ability to keep the business afloat.

Building barriers

Proximity to a river has made Alem acutely aware of the need for preventive measures. Over the years, she has invested annually in gravel and stone barriers,

30 Alem is a fictional character, a "persona" crafted to represent the common themes and stories shared by many women entrepreneurs during our focus group discussions in Kality, Addis Ababa. While Alem's story is not tied to a specific individual, the quotes are from real people who were interviewed for this study, reflecting the lived experiences, challenges, and motivations described by MSEs in Addis Ababa.

raised the workshop's elevation, and constructed a concrete fence to protect her workspace from rising waters. These adaptations, costing around USD 900 per year, reduce the severity of flooding, though they cannot fully safeguard her business. *"I can't stop the river,"* Alem reflects, *"but I can protect what's mine."*

With limited resources, Alem prioritizes the most immediate and affordable measures, knowing that large-scale solutions like community-wide flood barriers are far beyond her financial reach. To fund these efforts, she draws on a mix of personal savings, loans from microfinance institutions, contributions from family and friends, and traditional community savings groups like eqib, a rotating system that provides funds to members facing urgent needs. While effective for short-term relief, these informal systems are stretched thin as flood costs escalate.

Innovating with digital tools

Recently, Alem transitioned her business from cash to digital payments. This shift has improved her ability to manage cash flow and set aside funds for adaptation measures. Despite occasional technical issues with digital systems, the transition has enhanced her savings capacity, providing some stability in times of crisis. *"Every birr counts when the floods come,"* Alem notes. *"With digital payments, I'm better prepared."*

The Cost of Resilience

Despite her resilience, Alem's financial struggles are mounting. After the last major flood, her recovery expenses exceeded her resources, leading to missed loan repayments — a first for her business. These setbacks limit Alem's ability to invest in growth areas like marketing and expansion, making it harder to generate future income. *"I want to grow, but survival comes first,"* she says.

Alem's story is one of ingenuity and perseverance, but it underscores the fragility of small businesses grappling with climate shocks. While her adaptive strategies have mitigated some risks, they remain insufficient for long-term resilience. Alem's journey highlights the urgent need for more robust support systems — financial and infrastructural — that can empower small entrepreneurs like her to thrive, even in the face of relentless environmental challenges.

07 Resilience

Resilience in small entrepreneurial activities requires a multifaceted approach, encompassing financial, social, and operational dimensions to navigate sudden shocks effectively.

Resilience in the context of small entrepreneurial activities demands a nuanced and broader conceptualization than in household environments. While financial resilience — specifically the ability to access emergency funds — plays a vital role, it is only one component of a more complex system of resilience for micro and small enterprises.

Other critical factors come into play, such as the resilience of the value chains these firms are embedded in. Many MSEs rely on a small pool of suppliers or customers, making them vulnerable to disruptions in their supply chains or market demand. Similarly, the strong interdependence between the household and the enterprise means that household-level emergencies, such as a family health crisis, can directly threaten the survival of the business.

Moreover, the entrepreneur's social and business network plays a key role in resilience. The ability to tap into these networks for support, resources, or opportunities during times of crisis significantly enhances a business's ability to weather sudden shocks. In this chapter, we explore these varied dimensions of what we term "resilience capital" — the overall capacity to respond to shocks, considering not just financial access, but also value chain stability, household interdependence, and network support.

7.1 FINANCIAL RESILIENCE OF MSES

Financial resilience, measured by the ability to raise emergency funds, reveals significant variations across cities, with Addis Ababa showing the most difficulty and São Paulo highlighting unexpected vulnerabilities.

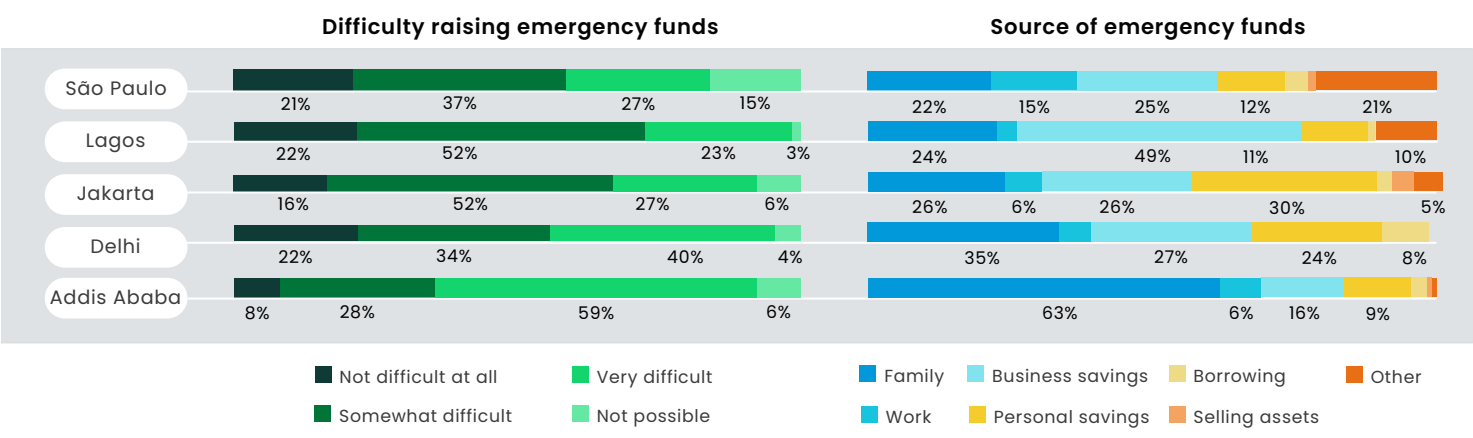
In Addis Ababa, nearly two-thirds of MSEs report finding it very difficult or impossible to raise emergency funds, with just about one in three able to do so without much difficulty. This emphasizes the severe challenges businesses face in responding to financial shocks in this market. Surprisingly, while São Paulo generally exhibits higher levels of digital and financial inclusion, it also records the highest percentage of entrepreneurs (15 percent) who find it impossible to raise emergency funds. This suggests that resilience depends on more than just access to technology or financial services; other factors such as market dynamics or personal financial safety nets also play a significant role.

The sources of emergency funding vary notably across cities, reflecting differing levels of financial resilience and access. In Lagos and São Paulo, firms most commonly rely on business savings, suggesting a stronger buffer within the enterprise itself. In Addis Ababa and Delhi, however, the majority of businesses depend heavily on family support, pointing to a greater reliance on informal networks rather than business reserves or formal financial channels. In Jakarta, personal savings are the most frequently cited source, though both business savings and family support also play important roles. These patterns reveal the diverse strategies businesses use to cope with financial shocks, underscoring that resilience is shaped not only by access to financial services, but also by the strength of household resources and social safety nets.

FIGURE 38

Financial resilience: Access to and source of emergency funds

MSEs (%)



7.2 OTHER DIMENSIONS OF BUSINESS RESILIENCE

Business resilience is shaped by various interconnected factors, including the ability to handle household emergencies, reliance on key customers or suppliers, and confidence in social network support, with wide disparities across cities.

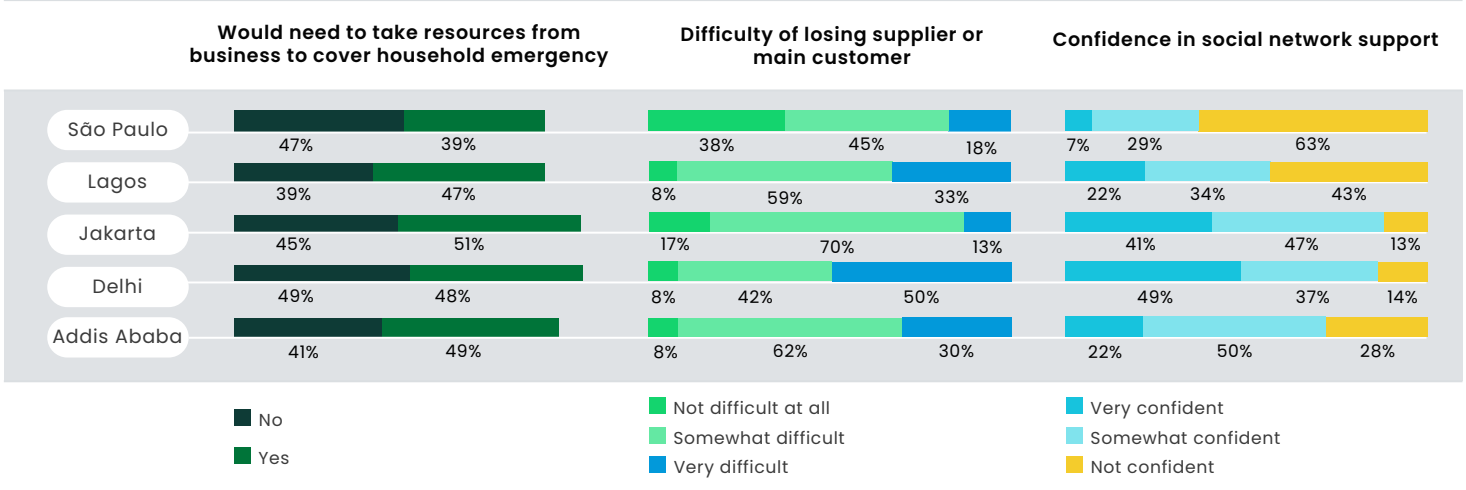
In all cities surveyed, but slightly lower in Lagos, about one in two business owners indicate that they would need to take funds or sell assets from their business to cover a household emergency. This finding underscores the interconnectedness of household and business finances, where personal crises directly threaten business operations.

The difficulty of losing a key supplier or customer also presents a significant risk to MSE operations, particularly in Delhi, where one in two respondents indicate this would be very difficult to manage. Conversely, businesses in São Paulo and Jakarta exhibit more resilience in this area, with less than twenty percent of MSEs expressing extreme difficulty in coping with such a scenario. This may reflect a more diversified customer and supplier base in São Paulo, reducing dependency on single points of failure.

Confidence in social network support varies greatly, with entrepreneurs in São Paulo and Lagos showing the least confidence in their networks' ability to support their business during challenging times. In São Paulo, more than 60 percent of respondents said they are not confident in their social network, contrasting sharply with Delhi and Jakarta, where businesses express higher confidence in their ability to rely on such support.

FIGURE 39

Other dimensions of business resilience
MSEs (%)



Resilience of MSEs can be seen as a "capital" shaped by a complex interplay of financial, structural, and social factors, highlighting varying vulnerabilities across different markets and genders. Understanding these vulnerabilities is crucial for designing effective interventions.

Financial resilience, or the ability to raise emergency funds, emerges as a critical area of concern in cities like Addis Ababa, where a significant share of MSEs, particularly women, report difficulties in accessing emergency funds. This financial vulnerability makes these businesses more susceptible to collapse during personal or business crises. By contrast, MSEs in Jakarta and Lagos exhibit stronger ability to raise emergency funds, although in Lagos, the business funds are least insulated from household shocks, making these entrepreneurs more vulnerable to risks outside the business environment.

Market resilience — defined as the ability to withstand the loss of a key customer or supplier — varies significantly across cities. While most MSEs report a degree of resilience, firms in Delhi appear more vulnerable to supply chain disruptions compared to their counterparts elsewhere. These findings point to important differences in the strength and flexibility of business networks across markets, which can shape how well firms absorb shocks and maintain continuity.

Social resilience — the ability to rely on support networks in times of crisis — presents a striking contrast between cities. In Jakarta and Delhi, almost nine in 10 MSEs demonstrate high confidence in their social networks, which may serve as a crucial buffer during shocks. However, in São Paulo, social resilience is notably weaker, with less than four in 10 entrepreneurs expressing high confidence in their networks. This underscores the need to strengthen social capital as a means of bolstering overall business resilience.

Taking all dimensions into account, we developed a composite resilience score — a tool designed not to rank markets, but to diagnose the key vulnerabilities that MSEs face. Interestingly, the overall scores show relatively limited variation across cities, suggesting that resilience challenges are widespread, though they may take different forms. By addressing the financial, market, and social factors that shape resilience, policymakers and stakeholders can more effectively support small businesses in preparing for and navigating crises, ultimately strengthening their long-term stability and success.

FIGURE 40

Resilience capital

		Addis Ababa		Delhi		Jakarta		Lagos		São Paulo	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Financial	Can raise emergency funds without major difficulty	38%	33%	55%	57%	67%	68%	75%	72%	57%	61%
	Business resources insulated from household shocks	43%	38%	48%	55%	46%	45%	35%	43%	41%	56%
Structural	Can overcome loss of main customer or supplier without major difficulty	71%	69%	50%	52%	85%	87%	71%	63%	82%	83%
Social	Confident that network can support business if needed	74%	68%	85%	90%	91%	86%	60%	54%	37%	37%
Overall	Resilience score	0.5	0.5	0.5	0.6	0.6	0.6	0.4	0.4	0.5	0.5

08 Conclusion: Lessons Learned and the Road Ahead

This study offers a comprehensive exploration of the interplay between digital adoption, financial services, and resilience among micro and small enterprises (MSEs) across five dynamic metropolitan areas: Delhi, Lagos, Addis Ababa, Jakarta, and São Paulo. By leveraging innovative methodologies and delving into nuanced analyses, the research not only enhances our understanding of MSE behaviors and challenges but also highlights key enablers of growth and resilience. Yet, it also uncovers critical gaps, emphasizing the need for continued inquiry to inform policies and practices that better serve these essential businesses.

8.1 KEY LESSONS LEARNED

This study sheds light on the nuanced realities of MSEs in diverse urban markets, challenging traditional assumptions and offering actionable insights. Several key lessons emerge:

The majority of entrepreneurs prioritize stability and resilience over growth at all costs, highlighting the need for digital tools and financial services that align with these preferences. While the dominant narrative on financial inclusion emphasizes entrepreneurial growth, this study underscores that most MSEs seek continuity and moderate risks. Products and services designed to support small businesses must prioritize building resilience and stability, avoiding one-size-fits-all solutions centered solely on expansion.

Entrepreneurship as a response to unemployment often leads to precarious businesses, underscoring the importance of financial services that support viable opportunities rather than default pathways. Necessity-driven entrepreneurship, while common in some markets, tends to result in unstable enterprises with limited prospects for resilience and growth. Financial systems should focus on enabling genuine opportunities rather than pushing individuals into business ownership due to a lack of alternatives.

The digital divide remains a critical barrier, with infrastructure, affordability, and digital literacy shaping the pace of adoption across markets. Cities like São Paulo and Delhi illustrate how large-scale government initiatives to develop shared digital infrastructure, such as Pix in Brazil and UPI in India, have driven rapid and broad-based adoption. These efforts have made it possible for even the smallest firms to integrate digital payments into their daily operations. In contrast, cities like Addis Ababa highlight the challenges that arise in the absence of such systems, where poor connectivity and limited affordability continue to constrain digital participation. This contrast reinforces the importance of foundational investments to enable equitable access to digital technologies and ensure that small businesses are not left behind.

Resilience is multidimensional, requiring financial, structural, and social support to effectively navigate shocks. Entrepreneurs depend on household stability, diverse supply chains, and social networks to weather crises. Comprehensive approaches to resilience must address these interconnected factors to enhance the capacity of MSEs to withstand challenges.

Women entrepreneurs face systemic barriers, requiring targeted strategies to unlock their potential and address persistent gender disparities. Women-owned businesses are often constrained by limited access to finance, digital tools, and supportive ecosystems. Tailored interventions that account for cultural and structural barriers can empower women entrepreneurs and maximize their contributions to local economies.

Access to finance is associated with higher productivity, but the relationship with resilience is more mixed and inconclusive across markets. This underscores that financial inclusion cannot stop at access alone. Products must be well-designed to meet business needs, offer appropriate safeguards, and avoid exposing entrepreneurs to new risks such as over-indebtedness, particularly in underserved or vulnerable segments. Quality, suitability, and trust are essential to ensure that financial tools truly support long-term business stability.

Climate risks are an escalating threat to MSEs, requiring innovative financial products and infrastructure investments to build resilience. Extreme weather events and environmental shocks significantly disrupt small businesses, yet formal risk management tools, like insurance, remain underutilized.

Tailored solutions are critical for enabling MSEs to adapt and thrive in climate-vulnerable settings.

Consumer protection is essential for equitable digital transformation, as greater digital adoption amplifies risks like fraud, hidden fees, and inadequate redress mechanisms. Policymakers and financial providers must strengthen frameworks to safeguard MSEs in an increasingly digital ecosystem, ensuring that technological advances translate into tangible benefits.

These lessons emphasize the importance of moving beyond traditional assumptions about MSEs, focusing on resilience, inclusion, and tailored support. By aligning interventions with the diverse realities of small businesses, stakeholders can create ecosystems that foster stability, mitigate risks, and unlock opportunities for sustainable growth.

8.2 THE NEED FOR FURTHER RESEARCH

This study provides significant insights into the dynamics, challenges, and opportunities faced by micro and small enterprises (MSEs) across five urban markets. However, several critical areas warrant further exploration to deepen our understanding and inform targeted interventions:

This study provides significant insights into the dynamics, challenges, and opportunities faced by MSEs across five urban markets. However, several critical areas warrant further exploration to deepen our understanding and inform targeted interventions:

1. Causal Dynamics of Digital Adoption and Financial Outcomes

While this study identifies correlations between digital technology adoption and outcomes such as productivity, growth, and resilience, the causal pathways remain unclear. Future research should employ experimental or longitudinal designs to uncover the mechanisms through which digital adoption drives business outcomes and explore the potential mediating factors like gender, education, and industry.

2. Gendered Dimensions of Entrepreneurship

The study highlights substantial variations in women's participation, risk tolerance, and growth aspirations across markets. More detailed research is needed to understand the systemic and cultural barriers women entrepreneurs face and to identify effective strategies for fostering gender-inclusive ecosystems. Additionally, exploring the interplay between household responsibilities and business resilience among women entrepreneurs would provide valuable insights.

3. Role of Informal Networks in Business Resilience

Social networks and informal financial services play a critical role in supporting MSEs, particularly in times of crisis. Further research could focus on the structure and functionality of these networks, identifying ways to strengthen them and integrate formal support systems without disrupting their existing benefits.

4. Consumer Protection in Digital Ecosystems

With increased digital adoption comes heightened exposure to risks like fraud, hidden fees, and poor customer service. While this study reveals these challenges, further research is needed to assess the effectiveness of existing consumer protection frameworks and design context-specific solutions that address the unique vulnerabilities of MSEs.

5. Climate Adaptation and Financing Strategies

Climate shocks significantly impact MSEs, yet formal risk management mechanisms like insurance remain underutilized. Future studies should explore innovative financial products and services that address climate risks, as well as the role of public and private sectors in enabling access to these solutions. The behavioral aspects of climate adaptation among MSEs, including the factors that drive or hinder investment in resilience, also require further investigation.

6. The Role of Financial Services in Building Resilience

While financial service use correlates with improved productivity and resilience in some contexts, the relationship is inconsistent across markets. Further research is needed to unpack the nuances of how different financial products — accounts, loans, savings, and insurance — contribute to both short-term stability and long-term growth, particularly in underserved or high-risk markets.

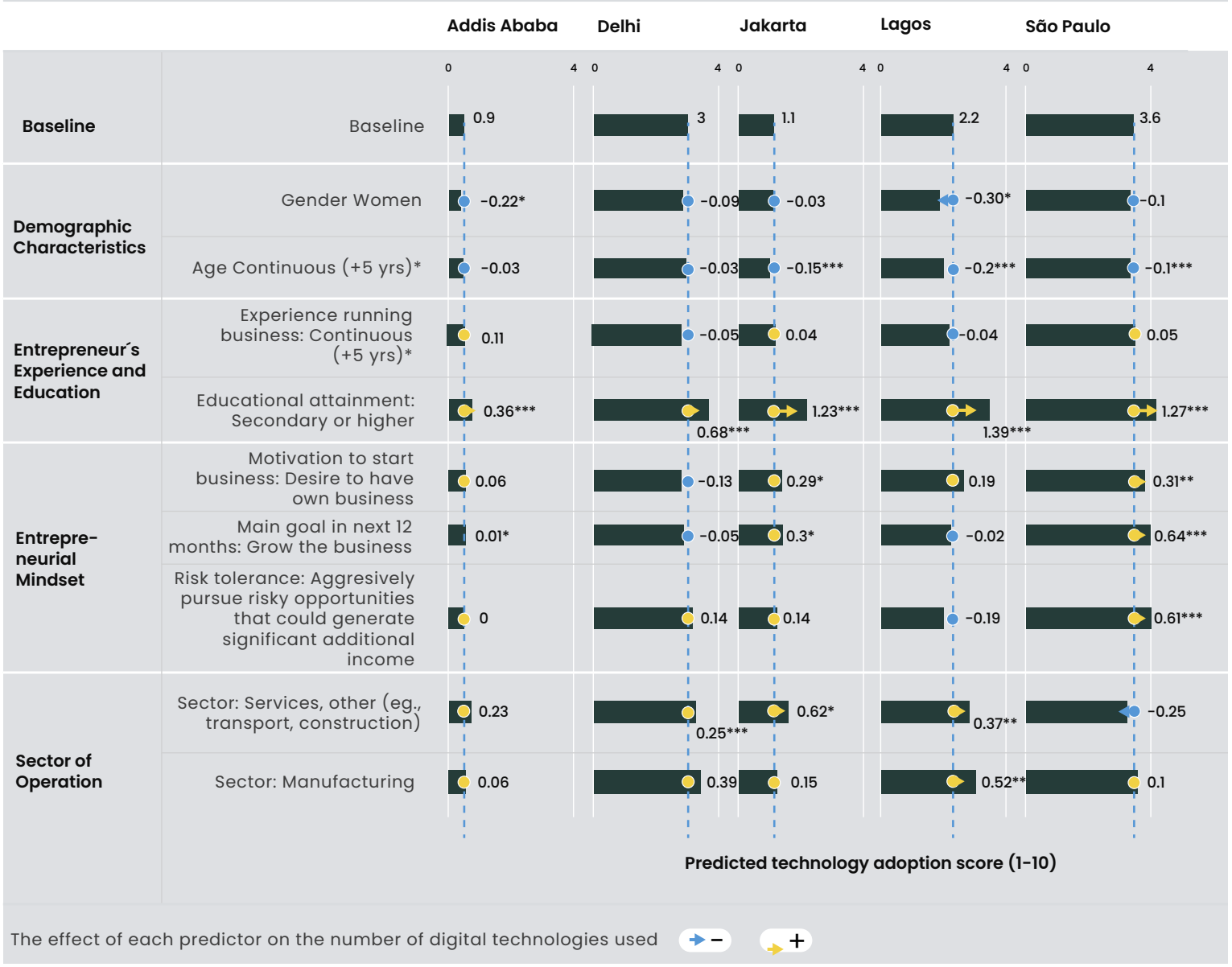
7. Innovations in Data Collection Methodologies

The study's use of Adaptive Cluster Sampling (ACS) demonstrates the value of innovative methodologies in capturing diverse and representative MSE data. Building on this, future research could refine these approaches or explore alternative geospatial and digital tools to better account for informal or hidden enterprises, particularly in complex urban landscapes.

ANNEX 1

FIGURE 41 : RESULTS DESCRIBED IN TABLE 1

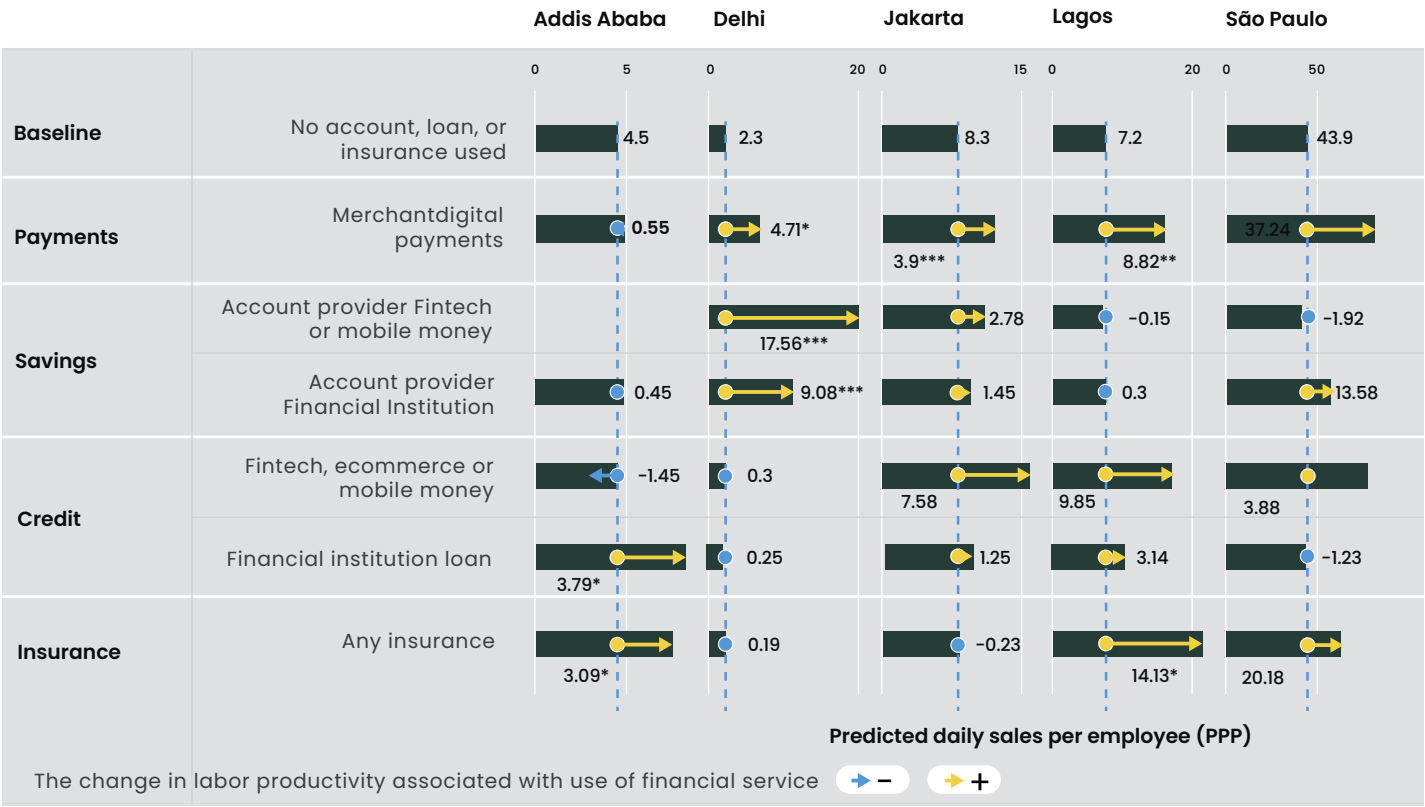
Predictors of overall technology adoption



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

FIGURE 42

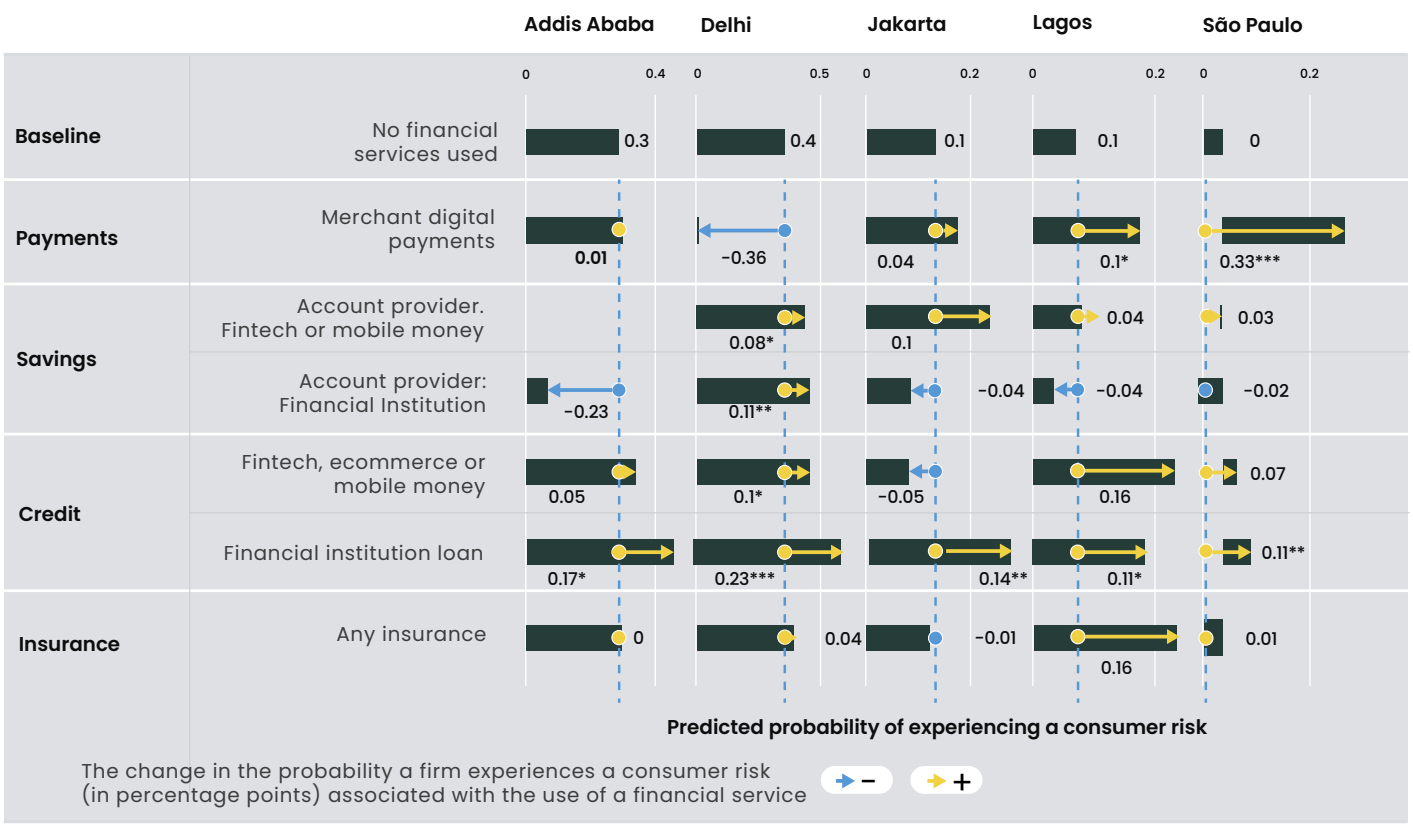
Observational estimates of the effect of financial services on firm productivity



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

FIGURE 43

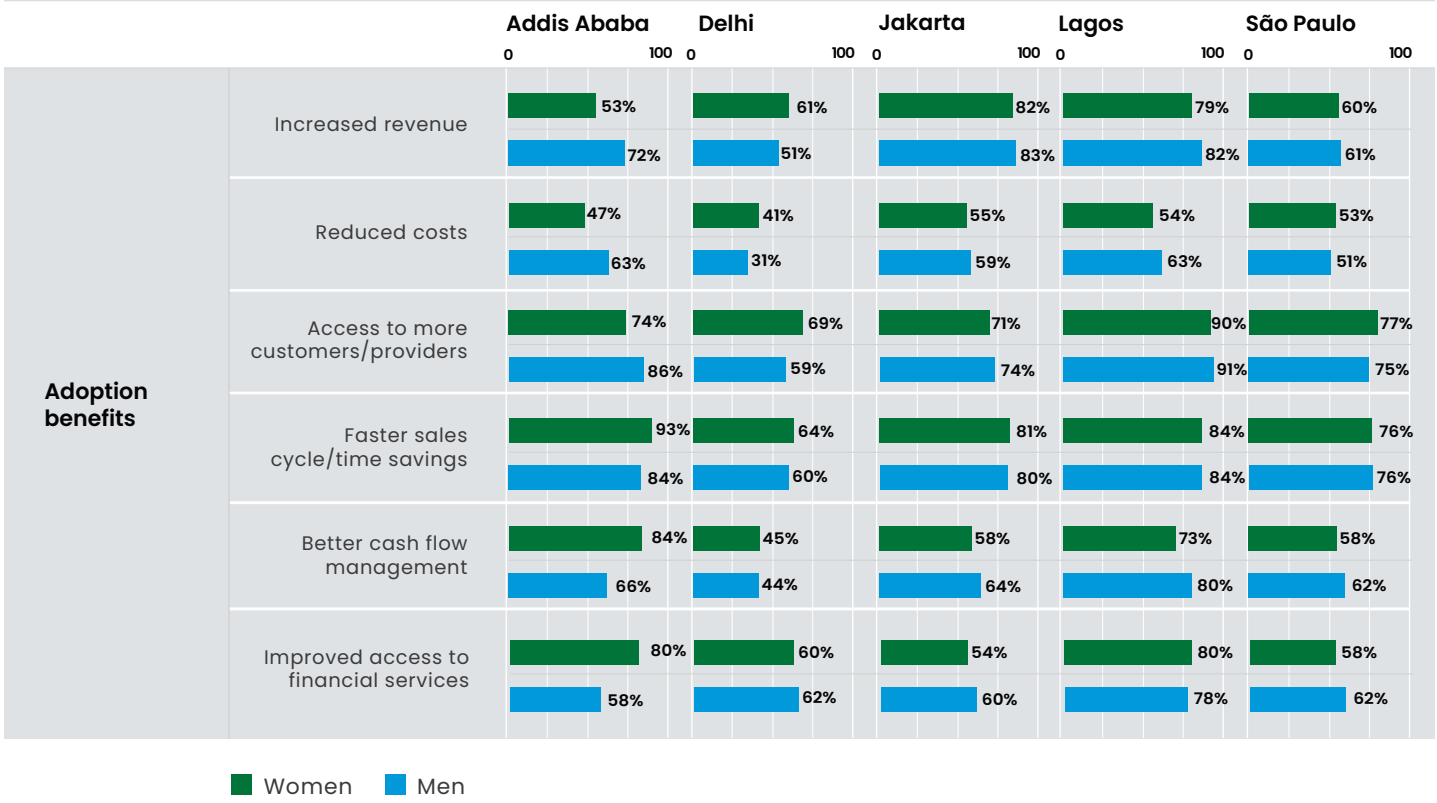
Observational estimates of the relationship between financial services and exposure to consumer risks



* The more stars, the stronger the evidence that the result is not due to chance (*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1.).

FIGURE 44

Digital technology adoption: Perceived benefits
MSEs using digital solutions (%)



CENTER *for* FINANCIAL INCLUSION | ACCION

The Center for Financial Inclusion (CFI) is an independent think tank housed at Accion. CFI works to advance inclusive financial services for the billions of people who currently lack the financial tools needed to improve their lives and prosper. We leverage partnerships to conduct rigorous research and test promising solutions, and then advocate for evidence-based change.

www.centerforfinancialinclusion.org

Center for Financial Inclusion (CFI)