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KENYA

small firm DIARIES

Financial Services

HOW SMALL FIRMS IN KENYA MANAGE THEIR FINANCES

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Introduction

The Small Firm Diaries is a global research initiative to understand the role of low-income small firms in poverty reduction, and the barriers to growth and productivity of those firms that limit their contribution to local economies. The study uses financial diaries, a high frequency quantitative and qualitative data collection process. In each country, a team of locally-hired field researchers visited a sample of small business owners weekly for a year, gathering data about financial flows and the decisions behind those flows. From 2021 to 2023, the project was active in 7 countries: Colombia, Ethiopia, Kenya, Nigeria, Indonesia, Fiji, and Uganda. For more details on the study methodology, see *Methodology and Process: An Introduction to the Small Firm Diaries*.

In Kenya, the project followed more than 155 small firms from November 2021 to November 2022. For the study, we defined small firms as having 1-20 non-family employees. The firms were spread roughly evenly between Nairobi, Kisumu, and Kwale. Firms were selected from three industries: light manufacturing (54% of the sample), services (20%) and agri-processing (26%). Just over 30% of firms were owned by women, with another 8% co-owned by a man and woman.

By tracking cash flows and listening to the words of the small firm owners themselves, the Small Firm Diaries study offers insight into a segment of this population that has, until now, been little studied and little understood. The Small Firm Diaries occupies the space in between the high-level data of large, nationally-representative surveys and the focused data of individual business case studies. Our goal in this study was to inform policy and practice by a wide variety of actors: financial services providers, business support organizations, government policy makers, funders and other researchers can all use the data and findings of the Small Firm Diaries project to deeply understand and address challenges of small businesses in low- and middle-income communities.

In this report on financial services, we review data from the Kenya Small Firm Diaries on the firms' use of financial tools, including bank accounts, mobile money, digital financial services, and credit. The financial diaries methodology allows us to explore crucial areas of research on firms and financial access with a new level of detail, for example using high frequency data to identify patterns of accounts usage.

Updates to this report and many additional reports and firm profiles using data from the Kenya sample will be published at smallfirmdiaries.org.

1. Financial Services Overview

SUMMARY

A major global policy focus for the last decade has been bringing more people into the financial sector, spurred on by findings that half the world was "unbanked."[1] Efforts to bring more people into the formal and regulated financial system, comprising both traditional banking and mobile money, have borne fruit in many parts of the world as shown in the 2021 Global Findex, which reports that the number of unbanked people has decreased by half in the last 10 years.

Most measures of "bankedness" focus on individuals or households, but these measures are generally perceived as a reasonable proxy for the kinds of (not fully formal) firms that operate in low-income neighborhoods. However, there is little actual data on the use of financial services by small firms.

In part this is because measuring the degree to which a person or firm is integrated into the banking and mobile money systems is difficult. Originally measurements of financial inclusion focused on owning an account at a regulated institution, or more recently with mobile money providers. Quickly, researchers realized that simply owning an account did not mean much. If the account is rarely or never used—as it turns out was true of a very large number of bank accounts that nominally were owned by poor households—that is not materially different from not having an account at all. More recently, measures of inclusion have attempted to incorporate measures of use, not just ownership.

A further complication in studying small firms' use of banking and mobile money is that many, if not most, of the small firms in low- and middle-income countries are informal and therefore may not have an account registered specifically to the firm. This does not necessarily mean that the firm is not a user of these financial services—it's possible that the firms use accounts registered to the owner as an individual rather than to the firm. That creates another measurement complication: a fundamental tenet of good business practice is separating business finances from household finances. If accounts are registered to an individual, it's impossible to use administrative data to determine how much of the usage is for a business (when it could plausibly range anywhere from 100% business to 0% business). Finally, a true measure of integration into the formal and regulated financial system is not meaningful without a view of how much of a firm's financial activity takes place outside these systems, using informal services, but especially how much the business relies on (physical) cash.

The financial diaries methodology provides solutions to many of these challenges in measuring the most basic questions about small firms' financial inclusion. The methodology attempts to record all of a participant's financial flows, regardless of what medium (e.g. bank transfer, a mobile money,or physical cash) or accounts (e.g. a bank account, mobile wallet, or cash box) are used. We're also able to separate the firm's use of financial services from personal or household uses, specifically by

[1] Chaia et al., 2013

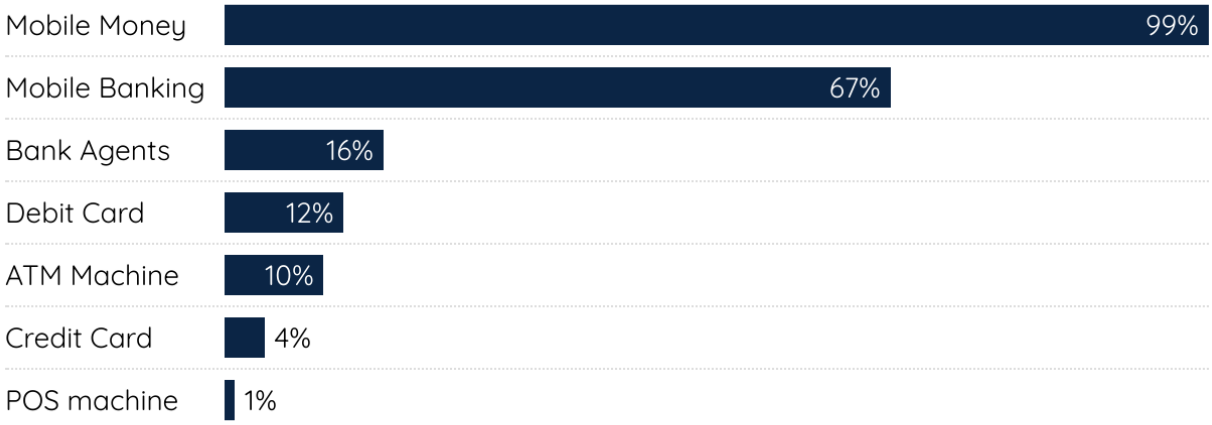
asking the owners to report only the transactions and financial services (formal or informal) for the firm. Our qualitative modules also inquire about the desire for and happiness with accounts. All of this data allows us to construct a novel measure not just of whether a firm is "banked" or "included" but the degree to which they are integrated into the formal and regulated financial system. Specifically, we use both account ownership and *percent of value of transactions through a bank account and mobile money wallet* to describe a firm's integration into the banking and mobile money systems respectively.

BUSINESS ACCOUNT OWNERSHIP

In Kenya, the most widespread type of formal account is a mobile money account. Mobile wallets have become a conduit for the delivery of a range of financial services (a number of which are aimed specifically at serving business owners), and are also a major channel for conducting banking services. Indeed, the majority of Kenyans with a bank account have a 'mobile bank account' and conduct their banking outside the confines of a traditional bank branch, either through phones or bank agents.

In this report, we focus on bank account and mobile money wallet ownership specifically for business purposes. When we asked the firms in the Small Firm Diaries study about general usage of digital financial services, not specifically for business, 99% reported experience with mobile money and 67% with mobile banking (Figure 1).

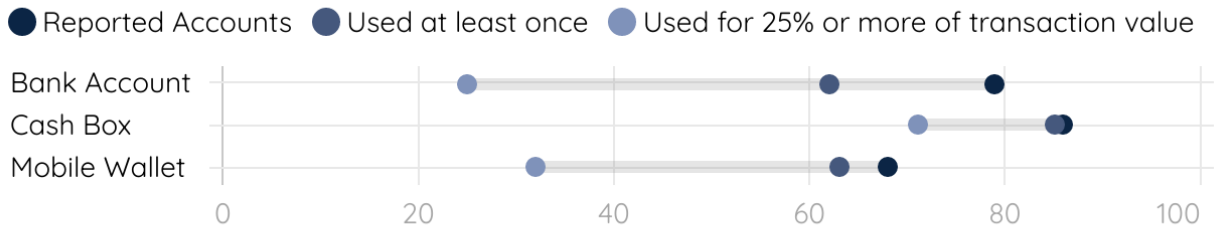
FIGURE 1: REPORTED DIGITAL FINANCIAL SERVICES



While our survey data of personal digital financial services usage aligned with previous reports from Kenya, we wanted to better understand the usage of financial services specifically by the business. To better understand the measures we use and how they compare to more traditional measures of financial inclusion, we'll begin with the most basic measure: account ownership. At the beginning of the diaries, we asked each firm owner to list the accounts they used for the firm. We asked specifically about any form of account—commercial bank, mobile wallet, microfinance bank, SACCO, as well as use of a "cash box" (defined as any specific place people store cash, such as a box, a drawer, or a till).

Almost 80% of our firms say that they own a bank account they use for the business, while close to 70% report having a mobile wallet for the business. In line with more sophisticated measures of financial inclusion we can also look at not only ownership of an account, but whether the account was used at least once during the study. As with many other measures of household bank account ownership and usage, we see a gap: just 62% of all firms—18% less than firms that report owning an account—use their bank accounts at least once. We see a smaller gap in the ownership and usage of mobile wallets, as well as a convergence of the usage rates of bank accounts and mobile money wallets—63% of firms used a mobile wallet for business purposes at least once during the study (Figure 1.1). Looking further at firms that used accounts for at least 25% of their total transaction value (inflows and outflows), cash boxes are the predominant tool (71% of firms used cash boxes for 25% or more of their transaction value), followed by mobile wallets (32%), and then bank accounts (25%). Overall, while a high percentage of our firms report owning a bank account used for the business, few—less than the same percent for mobile money wallets—used their bank account for a meaningful percent of their business.

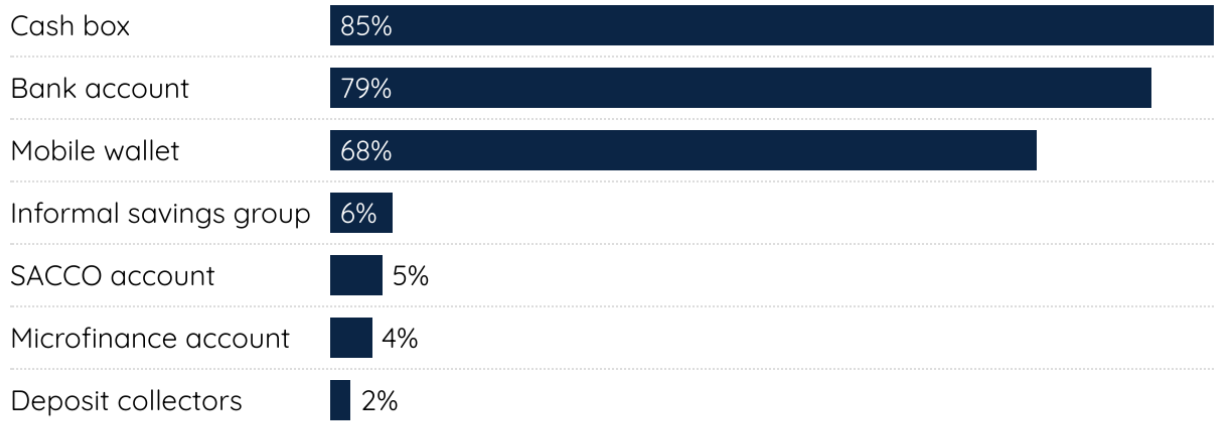
FIGURE 1.1: ACCOUNTS REPORTED AND USED



Outside of these three major account types, firms also reported accounts with microfinance groups, SACCOs, informal savings groups, and deposit collectors (Figure 1.2). All of these account types were reported by less than 10% of firms.

FIGURE 1.2: ALL ACCOUNT TYPES REPORTED FOR THE BUSINESS

Percent of firms reporting at least one account per account type



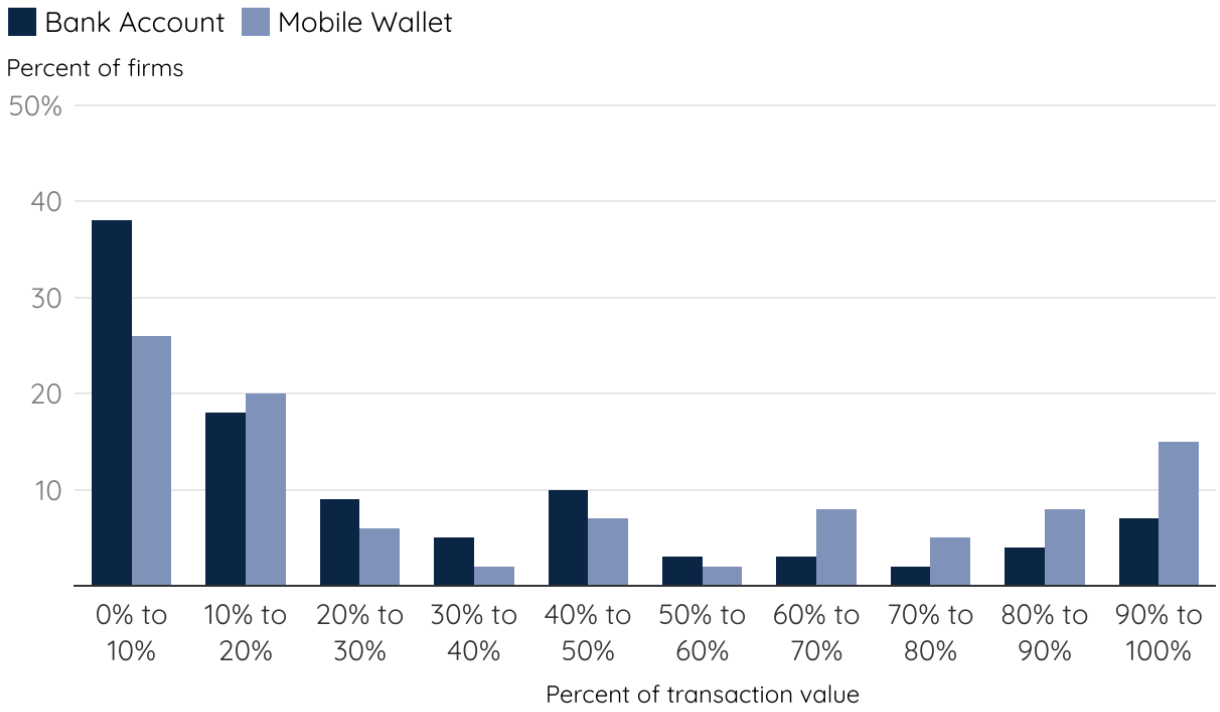
BUSINESS ACCOUNT USAGE

Of the firms that do use their accounts, we can use the high frequency data gathered to see how important a bank account (or multiple accounts—15% of the sample report using more than one bank account) or mobile money wallet is in each firm's financial management. As our methodology allows firms to bundle small transactions, and most small transactions happen in cash, we choose to focus on value of cash flows instead of a count of transactions to avoid underestimating the role of cash.

For each transaction recorded we ask the firm owner the value, the mechanism of the transfer (e.g. cash, bank transfer, mobile money), and the type of account used. When we ask what account was used, we record the firm owner's perception of where the transaction originated (for an expense) or terminated (for income). For this reason it's important to note that not all transactions reported as into or from a bank account are made by bank transfer or at a branch, but may have been cash transactions or mobile money payments (e.g. PayBill) deposited in a bank account. For example, when a firm owner receives income in cash, and then deposits that cash into a bank account, the firm owner may still report the "account used" for the transaction as the bank account— even if the cash is stored in a cash box or till for several days before the deposit is made. From the firm owner's perspective it is salient that the payment ends up in the bank account, which reflects the value that the firm places on the bank account as a useful tool for storing or saving money, but adds a layer of complexity in interpreting the data on transaction mechanisms or payments services into and out of accounts. The next sub-section discusses the difference between transfer mechanisms and account type used in more detail.

To better understand how firms use and value bank accounts and mobile money wallets, in this report we look deeper into the cash flow data to categorize, first a firm's level of banking activity based on the value of its total transactions from or into a bank account, followed by a firm's level of mobile money activity based on the value of its total transactions from or into a mobile wallet. This analysis reveals a quite different picture of integration than measures of either ownership, or ownership and transaction alone. We see a wide distribution of banking and mobile money activity across our sample (see Figure 1.3).

FIGURE 1.3: PERCENTAGE OF VALUE VIA ACCOUNT TYPE



Based on the recorded flows, there are two important dimensions for integrating small firms like those we studied more firmly into the formal system: 1) increasing the usage of formal financial services of the firms (about 80% of firms for banks and about 50% for mobile wallets) who are using formal finance but for less than half of their financial activity, and 2) reducing the portion of the firms (about 10%) that are still operating entirely outside formal financial systems. It will likely be much easier to increase usage for firms that are already partially integrated than it will be to bring unbanked firms into the system. The former can likely be addressed through marketing and product design tweaks (including lowering costs); the latter probably requires more significant interventions and potentially policy changes.

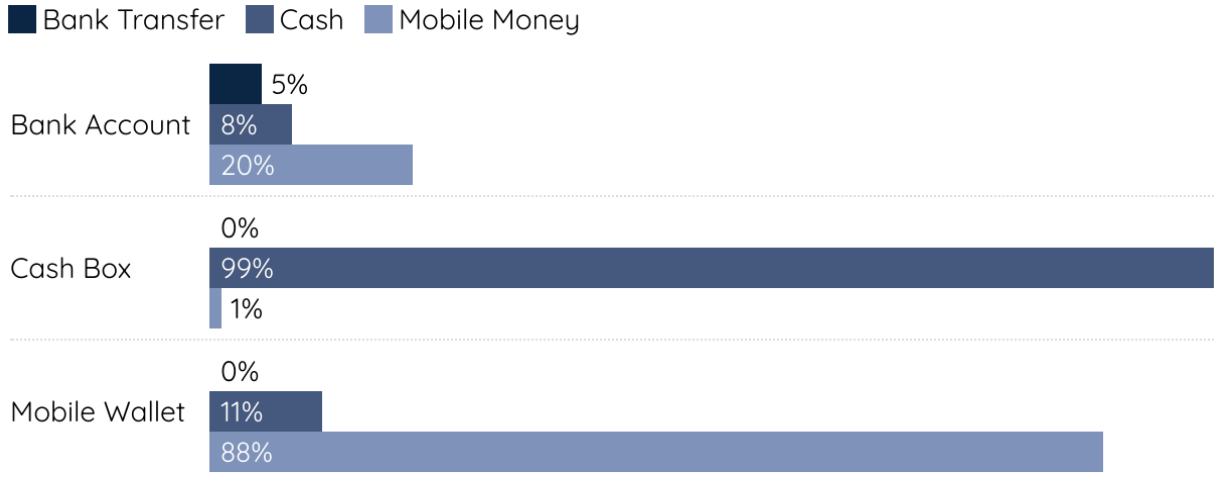
TRANSACTION MECHANISMS

In this report, we focus on banking and mobile money integration based on the account types that firms report using to originate or terminate a transaction. However, based on this measurement we cannot comment on the specific transaction mechanism used, for example whether a transaction from a bank account is a mobile banking transfer or cash. In the Small Firm Diaries, we did collect separate data on the "transaction mechanism" of each transaction reported. For example, a raw materials purchase can be reported as originating from a bank account ("account used") but transferred as a mobile money payment ("transaction mechanism").

Figure 1.4 outlines the relationship between 'account used' and 'transaction mechanism' and shows the distribution of transaction value against transaction mechanism for each respective account

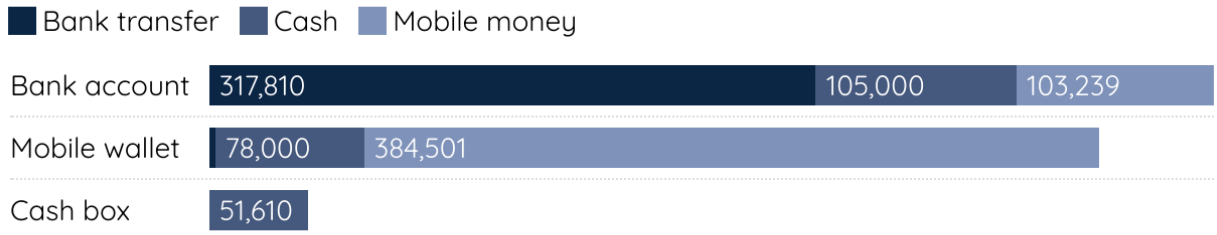
type. For bank accounts, the median firm only makes bank transfers when using her bank account for 5% of her total transaction value into or out of a bank account, compared to 20% of transactions from the bank account occurring as mobile money payments. Notably, the median firm also uses cash for 11% of transactions out of or into a mobile wallet. For this reason, the somewhat high percentage of transaction value we see reported as into or from a bank account should not be directly interpreted as a reliance on bank transfers or branches, but rather as bank accounts (or, similarly, mobile wallets which we discuss in Section 3) providing an important storage mechanism and interoperable tool that our firms use in combination with cash and mobile money. In particular, the discrepancies between account used and transaction type, particularly for bank accounts illustrate that firms are moving funds between account types (cash to mobile to bank, etc.) and interoperability between these modes is crucial.

FIGURE 1.4: MEDIAN PERCENT OF TRANSACTION VALUE VIA TRANSACTION MECHANISM



To further illustrate our data on this topic, we look at one sample firm. This Kisumu based firm uses his bank account for 48% of transaction value, his mobile wallet for 50%, and his cash box for just 2%. However, using the transaction mechanism, we see that just 31% of his value is reported as transacting via bank transfer, and 22% is via cash, with the remaining 47% via mobile money. The discrepancy between bank account and bank transfer percentages of transaction value comes from 20% (KES 105,000) of transactions from his bank account occurring via mobile money and another 20% via cash (KES 103,239).

FIGURE 1.5: SAMPLE FIRM TRANSACTION MECHANISMS



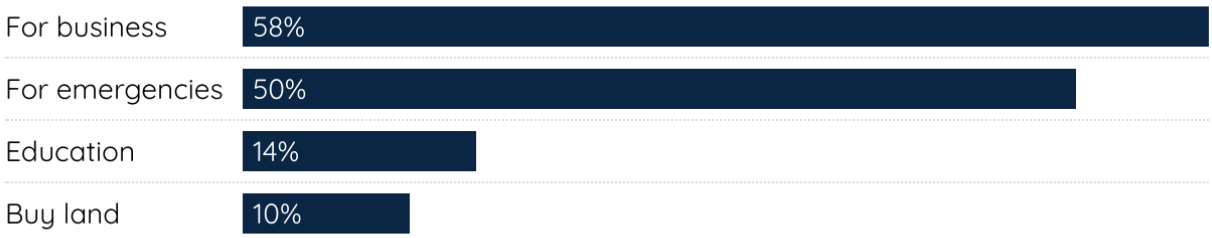
Our interpretation of the mixed transaction mechanisms occurring from or into mobile wallets and bank accounts is that firms need to constantly shift capital between different modes (mobile money, cash, banked), to manage unpredictable costs or that there is a mismatch between payment modes from customers and the payment modes for their expenses. While understanding the interaction between transfer and storage mechanisms is an important policy question, it is not one our global study set out to answer, particularly in a payments ecosystem as sophisticated as Kenya's. Given our limited insight into the specific details of transaction types (for example, are bank transfers via agents, in-person, or mobile banking apps?) and the importance of having appropriate storage mechanisms for business capital, our report will focus on the accounts used metric to analyze a firm's level of banking and mobile money integration.

SAVINGS

Aside from transacting, another important use of accounts of all types is as a savings mechanism. While our weekly data collection did not track the level or distribution of firm owner savings, we did ask firm owners to self-report whether they save for personal or business reasons, and if so where and for what. We found that 79% of owners save some of their proceeds; of these 40% save in a bank account, compared to 29% in informal savings groups, and 25% in mobile money accounts (6% did not disclose where they saved). Of those who saved, over half reported saving for their business, but a similar proportion reported saving for personal emergencies. Other personal reasons, such as education or household investments were less common (Figure 1.3).

It's important in interpreting these results to keep in mind that savings are completely fungible– just because savings are intended "for business" does not mean they won't be tapped "for emergency." It's also likely that firm owner households had other sources of income that they may be saving for these same purposes and would not have been reported here (e.g. the husband of a woman firm owner may be saving to buy land for the family). In our qualitative interviews, firm owners would also sometimes mention household investments in land or education that they may not have considered "saving" as much as current consumption.

FIGURE 1.6: SAVINGS GOALS



SEPARATION OF FINANCES

Separation of business and personal finances is a second key metric for understanding the financial lives of small firms. This fundamental business practice has been shown to be important to firm performance,[2] and is obviously important for understanding administrative data about small firms' accounts. Nearly 90% of our total sample (including firms that are unbanked) report keeping specific separate accounts for their business.[3] Surprisingly, firms that do not have a bank account report keeping their business finances separate at a higher rate than those that do have an account: 95% of unbanked firms say they keep business finances separate, while 85% of firms with bank accounts do. The unbanked firms do this via maintaining a separate business cash box (87%; 49 firms) and/or mobile wallets (42%; 23 firms) (the use of mobile money and digital financial services is discussed in detail in the later sections).

Nearly 15% of firms that meet the simple criteria for being banked commingle household and firm finances. Size of firms (by revenue) is not a better proxy for separation of finances: 86% of firms in our highest revenue segment separate finances, and similarly, 88% of those in the lower two tiers of revenue segmentation do so.[4] Interestingly, the combined group of women-owned and co-owned firms is more likely to separate their finances than men-only owned firms (85% compared to 76%, respectively). This may reflect household gender dynamics in which women risk losing control of commingled funds.

Whether a bank account legally belongs to a business or to the owner is a different but related question that can be more difficult to untangle. We did not ask owners to verify the legal status of the bank accounts they reported. However, we did ask about business registrations for the firm, and whether the firm owner considers the firm to be formal, semi-formal, or informal. While requirements to register a business bank account vary across banks, the most common requirement was a KRA Pin Certificate, an ID number issued by the Kenya Revenue Authority. Since only a

[2] McKenzie and Woodruff 2017

[3] Given that bank accounts used for business are likely not registered as official business accounts (see discussion of formalization in the Small Firm Diaries Kenya Data Overview), it may be harder to separate business and household finance without opening multiple accounts, which can then add to costs and fees. This suggests an opportunity for banks to make it easier for business customers to separate their finances and possibly lower barriers to opening business accounts.

[4] Firms are categorized based on median monthly revenue. The cutoffs are: Low: less than KES 100,000; medium: KES 100,000 to 300,000; and high: KES 300,000 to 700,000. Firms with revenue above KES 700,000are considered outliers.

quarter of the firms have a KRA registration, we surmise that the vast majority of the accounts are not legally registered to the business, but to the owner. Other data (FinAccess 2021) suggests that only 9% of small firms have accounts registered under the business name. There is an important interplay between separation of finances, integration into the banking system, and firms' self-perceptions of formality: Firms that are highly integrated are more likely to perceive themselves as formal, but are *not* more likely to separate their finances. For instance, three-fourths of the firms that have tax registrations/KRA pin certificates have a separate bank account for the business, and 90% of firms that perceive their firms as formal have a separate bank account for the business. Unfortunately, we cannot determine the direction of causality—that is, does separation of finance lead to more use of bank accounts, or does more use of bank accounts cause firms to perceive themselves as formal and therefore separate their finances?

2. A Deeper Look at Banking Integration

SUMMARY

In this section we examine how firms differ across levels of banking integration (use of mobile wallets will be discussed in the next section and is not included as part of this analysis.) We begin with a categorization of firms based on how much they use their bank accounts. We then ask whether owner gender, firm sector, level of formalization, and firm size measured by revenue predict different levels of banking integration. We also examine whether firms use bank accounts differently for income versus expenses.

Unsurprisingly, there is a relationship between size of firm and banking integration—firms with higher revenues are banked at higher rates than unbanked firms. However, the relationship between *levels* of banking integration and size is less clear cut, more integrated firms do not always earn more than less integrated firms. At the account level, most firms, regardless of size or integration, seem to pick one account type (which could be multiple bank accounts) to manage their finances. Unbanked firms rely on cash boxes, with some supplemental use of mobile wallets. The firms that are partially integrated are the exceptions, splitting their activity between cash boxes and bank accounts.

Banked firms at all levels of integration use bank accounts for expenses and income equally. However, nearly half of employee payments remain in cash, even among banked firms, due to employee preferences. The exception is the most highly banked firms that use bank transfers for essentially all employee payments. All banked firms separate their business and household finances. Women-owned firms have the lowest levels of banking integration and are the most likely to be unbanked. Across industries, agri-processing firms are similarly more likely to be unbanked or be marginally integrated. As noted above, tax registration does not appear to be a barrier to banking integration, though it may be a barrier to legally registering an account with the business; level of integration does correlate with perceived formality.

CATEGORIZING FIRMS' INTEGRATION

Our sample is not equally distributed and skews downward toward less integration. We use our categorization (highly integrated, partially integrated, marginally integrated and unbanked) to explore how levels of banking integration correlate with other measures, including key demographics, but also on formalization and credit access.

FIGURE 2.1: LEVEL OF FINANCIAL INTEGRATION

Level of Integration	Definition	Percent of Sample
High	More than 75% of activity conducted into or from a bank account	8
Partial	Between 25% and 74% of activity conducted into or from a bank account	17
Marginal	Less than 25% of activity conducted into or from a bank account	38
Unbanked	Do not report using a bank account	38

REVENUE AND GROWTH

In general, any usage of a bank account is correlated with higher revenues than unbanked firms. The relationship between *levels* of banking integration and revenues is not as clear cut—partially integrated firms have higher median monthly revenues than highly integrated firms and there is a large overlap in the distribution of median monthly revenues across all levels of banking integration. Clearly, then, there is opportunity to significantly increase the integration of firms at the lower end of the revenue distribution independent of their revenue growth.

FIGURE 2.2: REVENUE PARAMETERS BY LEVELS OF FINANCIAL INTEGRATION

Level of Integration	Minimum	Median	Maximum	Standard Deviation
High	25,705	250,325	4,407,850	1,404,045
Partial	26,790	361,000	4,734,735	1,205,657
Marginal	22,575	115,861	4,787,931	654,532
Unbanked	11,730	54,573	963,545	170,774

We also examined the relationship between banking integration and growth. Measuring growth (by revenue or operating margin) is a challenge in the Small Firm Diaries because, as described in the *Kenya Data Overview* in detail, we see a large amount of month-to-month volatility in revenues and margins for the firms. Comparing first month to last month revenues or margins is highly influenced by unusually high or low months, for instance. To best measure whether a firm is growing, we try to assess the overall direction of change, while accounting for month-to-month volatility. To do so we use the slope for the best linear fit for monthly operating margin. We create

this line by regressing monthly margins to find the best match, as if monthly margins were more consistent. We then classify any firm with a positive slope as a "grower" and those with negative slopes as "non-growers." To read more about our growth measurements refer to the aspirations and growth section (Section 9) of the *Kenya Data Overview*. Most firms were clustered around slightly negative or slightly positive slopes, so the difference between a growing and non-growing firm is often small in terms of monthly revenue.

We find no strong pattern between growth and banking integration. As shown in Figure 2.3, only 25% of our highly integrated firms are growers, compared to over a third of marginally integrated firms.

FIGURE 2.3: LEVEL OF FINANCIAL INTEGRATION OF "GROWER" VERSUS "NON-GROWER" FIRMS

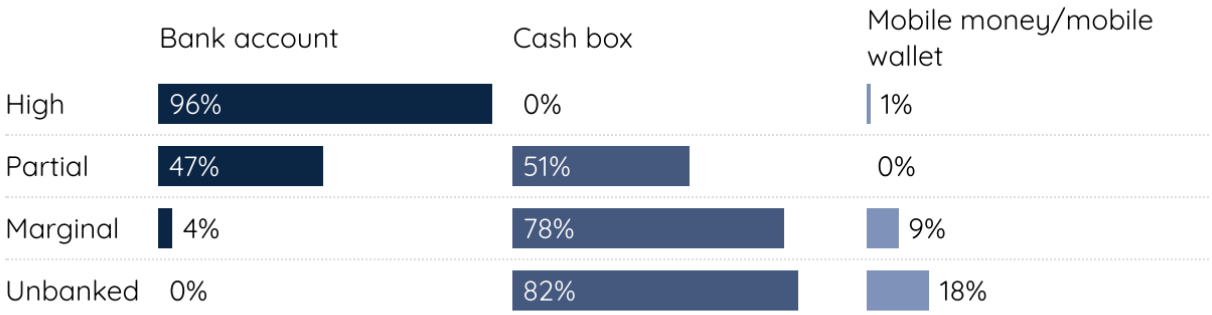
Level of Integration	Grower (%)	Non-Grower (%)
High	25	75
Partial	31	69
Marginal	40	60
Unbanked	43	57

ACCOUNT CHOICE

One notable part of the firms' use of accounts is consolidation around specific tools. Typically, one explanation for how households manage finances without heavy use of formal accounts is that they use a variety of different tools that are best suited to specific needs. We observe, however, the small firms tend to concentrate their use in just one type of account. Highly integrated firms channel most of their business through bank accounts, while unbanked and marginally integrated firms primarily use cash, with some supplemental use of mobile wallets.

The partially integrated firms are by definition somewhat of an exception to the consolidation trend, but even these firms still do not spread their usage across several different types of accounts. These firms typically use only bank accounts and cash boxes to hold and manage their funds, and do not diversify to use mobile wallets or other types of accounts for these purposes—the bank accounts are a pure substitute for these use cases (Figure 2.4).

FIGURE 2.4: MEDIAN PERCENT OF TRANSACTIONS MOVING THROUGH ACCOUNTS BY LEVEL OF BANKING INTEGRATION



BANK ACCOUNT USE PATTERNS

We also looked at what types of transactions the firms made to and from each account across levels of banking integration. Highly integrated firms used their bank accounts to receive the majority of the payments from customers and to make payments for expenses, as well as paying employees, however they were slightly more likely to use mobile wallets to pay employees than for revenue or expenses. Partially integrated firms typically used cash boxes to receive revenue but bank accounts to make payments for both expenses and employees. Marginally integrated firms used a cash box for the majority of their transactions across revenue, expenses, and employee payments, and used a mobile wallet for a fifth of their transaction value on median across the three categories. Unbanked firms, on the median, split their revenue between a cash box and mobile wallet and were more likely to use a mobile wallet to pay expenses but typically used a cash box to make payments to employees.

FIGURE 2.5: LEVEL OF BANKING INTEGRATION AND TYPE OF ACCOUNT USED

Median percentage of transactions by value

Revenue	**Bank account**	**Cash box**	**Mobile wallet**
High	97%	0%	3%
Partial	11%	84%	5%
Marginal	5%	73%	22%
Unbanked	0%	45%	55%
Expenses	**Bank account**	**Cash box**	**Mobile wallet**
High	99%	0%	1%
Partial	96%	2%	2%
Marginal	9%	69%	22%
Unbanked	0%	38%	62%
Employees	**Bank account**	**Cash box**	**Mobile wallet**
High	90%	1%	9%
Partial	70%	22%	8%
Marginal	12%	66%	23%
Unbanked	1%	64%	36%

Diving deeper on major expense categories, in Figure 2.6, we find that, on the median, firms are more likely to pay their utility costs using mobile wallets than other expense types, but the majority of expenses are still paid from cash boxes.

FIGURE 2.6: HOW SMALL FIRMS PAY FOR MAJOR EXPENSES

Account type used for expense payments, by median percentage of transaction value

	Bank account	Cash box	Mobile wallet
Revenue	29%	57%	14%
Employee payments	37%	44%	19%
Raw materials	0%	61%	4%
Rent	6%	50%	0%
Fuel	0%	56%	18%
Taxes and government fees	0%	100%	0%
Utility costs	0%	42%	33%

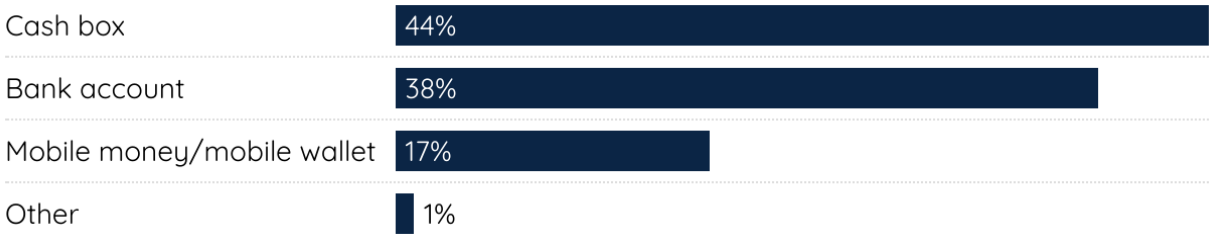
Table: Financial Access Initiative - NYU Wagner • Source: Small Firm Diaries

As there is a global effort to increase adoption of digital financial tools by encouraging employee payments via DFS, we looked specifically at the use of types of accounts for employee payments and how common cash is. By value, 44% of all payments to employees are made in cash, similar to the proportion from bank accounts (38%). Mobile wallets made up less than a fifth of payments (Figure 2.7). However, when we look at the use of cash for employee payments by the level of banking integration, we find that highly integrated firms (8% of firms) essentially never use cash to pay their employees, and a large proportion of partially integrated (17% of firms) firms use cash for less than half of their employee payments (see Figure 2.8). While there is use of mobile money for employee payments among marginal and unbanked firms (76%), this is driven by most of these firms using mobile wallets for a small portion of payments, rather than a few outlier firms using mobile wallets as their primary payment tool.

FIGURE 2.7: PERCENT OF TOTAL EMPLOYEE PAYMENTS THROUGH EACH ACCOUNT TYPE

Level of Integration	Bank Account	Cash Box	Mobile Wallet	Other
High	90%	1%	9%	0%
Partial	70%	22%	8%	0%
Marginal	12%	65%	22%	2%
Unbanked	1%	64%	36%	0%

FIGURE 2.8: PERCENT OF GROSS EMPLOYEE PAYMENTS BY ACCOUNT TYPE



When we asked firm owners about their payments to employees, we heard that this pattern of paying employees in cash is often linked to employee preference. Though we do not have complete data on employee preference, many firms shared that their form of payment was based on the needs or wants of the workers.

Interestingly, firms seem to have the power and willingness to dictate to customers how they pay, but not to push employees into their preferred forms of payment. For example, a female firm owner who runs a private school in Nairobi made 100% of her payments to employees in cash over the course of the study, despite her preference to not use cash (because she is concerned about the security of keeping cash). She shared with us that her workers prefer cash payments because most of them, "do not like to go to the bank." This concern about keeping cash has led her to require that her customers (parents paying school fees) pay via deposit into her bank account. The bank then gives them a receipt which they bring to the school as proof of payment.

We do see some firms that translate an aversion to cash into heavy use of mobile money. For example a male-owned metalworking firm located on a busy street strongly prefers not to have any cash on the premises (again for security reasons). As a result, he operates almost entirely in mobile money. He does not accept payments in cash, and only makes purchases in cash when there is no

other choice. In this case, the firm is providing a strong nudge to employees to have a formal account; he, unlike most owners, specifies that he will only pay employees via mobile money.

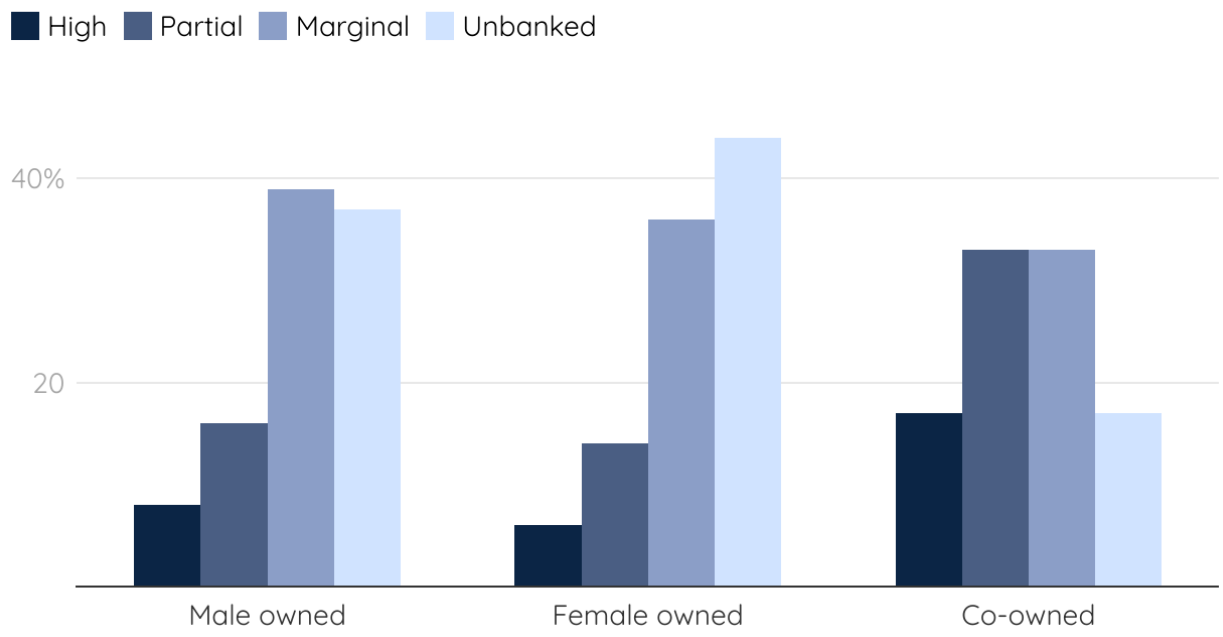
INTEGRATION AND FIRM/OWNER CHARACTERISTICS

Gender

Female firm owners have the higher rates of being unbanked, at 44%, while 36% of male firm owners are unbanked. Our results here align with global trends, as well as national data. FinAccess 2021 reported that 62% of women and 50% of men are unbanked.

Among the firms that do have accounts, women and men are similarly distributed across levels of financial integration (Figure 2.9). Among those who do have bank accounts, female firm owners use their bank accounts somewhat more intensively than their male counterparts—the median percentage of total transaction value into or from a bank account is 19% for banked women, compared to 12% for banked men.

FIGURE 2.9: BANKING ACTIVITY LEVEL BY GENDER



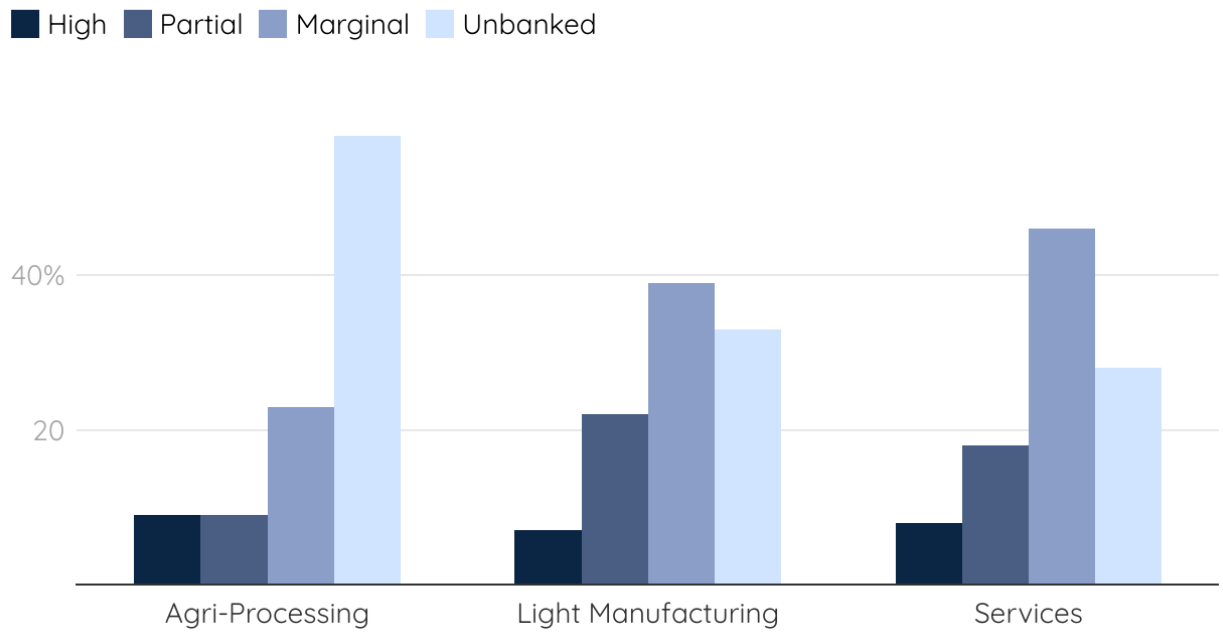
Industry

Agri-processing firms are unbanked at higher rates than light manufacturing and select services (see Figure 2.10).[5] Services have the lowest proportion of unbanked firms and the highest proportion of highly integrated firms. The median percent of value flowing into or from a bank

[5] There is additional data broken out at the county (site) level in the appendix of the Kenya Data Overview, available at smallfirmdiaries.org

account is low for all industries: with banked agri-processing firms at 11%, compared to 19% and 15% for light manufacturing and services firms respectively.

FIGURE 2.10: BANKING ACTIVITY LEVEL BY INDUSTRY



Formality

While requirements to register a business bank account vary across banks, the most common requirement was a KRA Pin Certificate, an ID number issued by the Kenya Revenue Authority. Only a quarter of the firms have a KRA registration. Looking at formalization, we find that, while firms with a tax registration (KRA pin certificate) are much less likely to be unbanked, having a tax registration does not perfectly predict banking integration, as partially integrated firms are most likely to have tax registration (Figure 2.11).

FIGURE 2.11: PERCENT OF FIRMS WITH TAX REGISTRATION BY LEVEL OF BANKING ACTIVITY

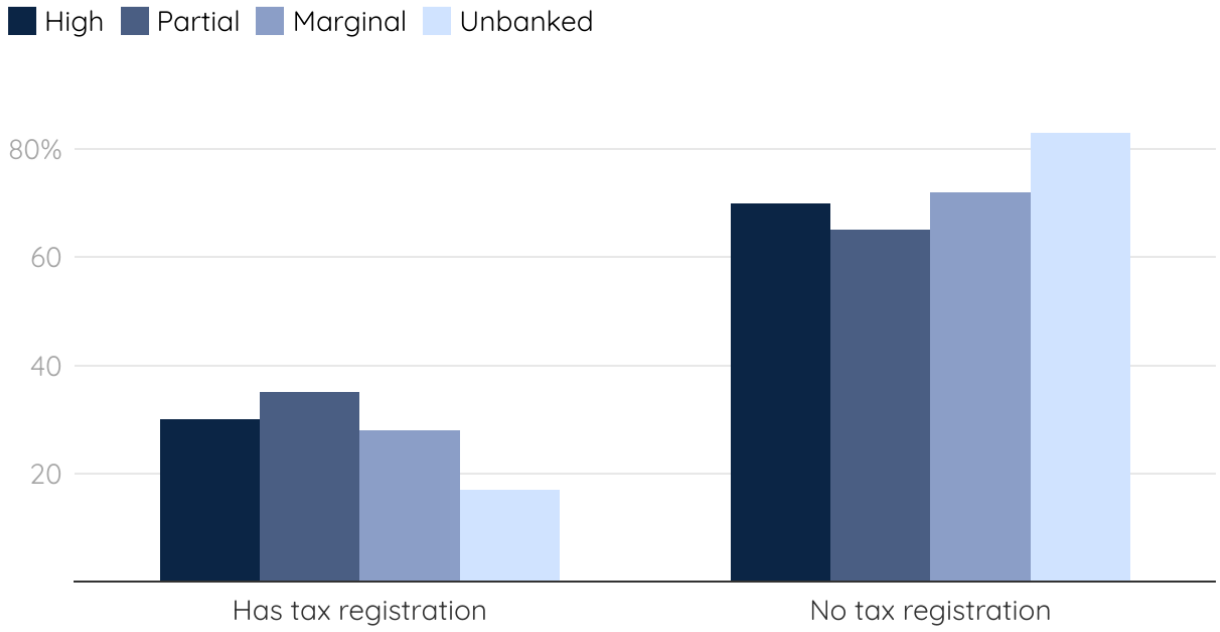
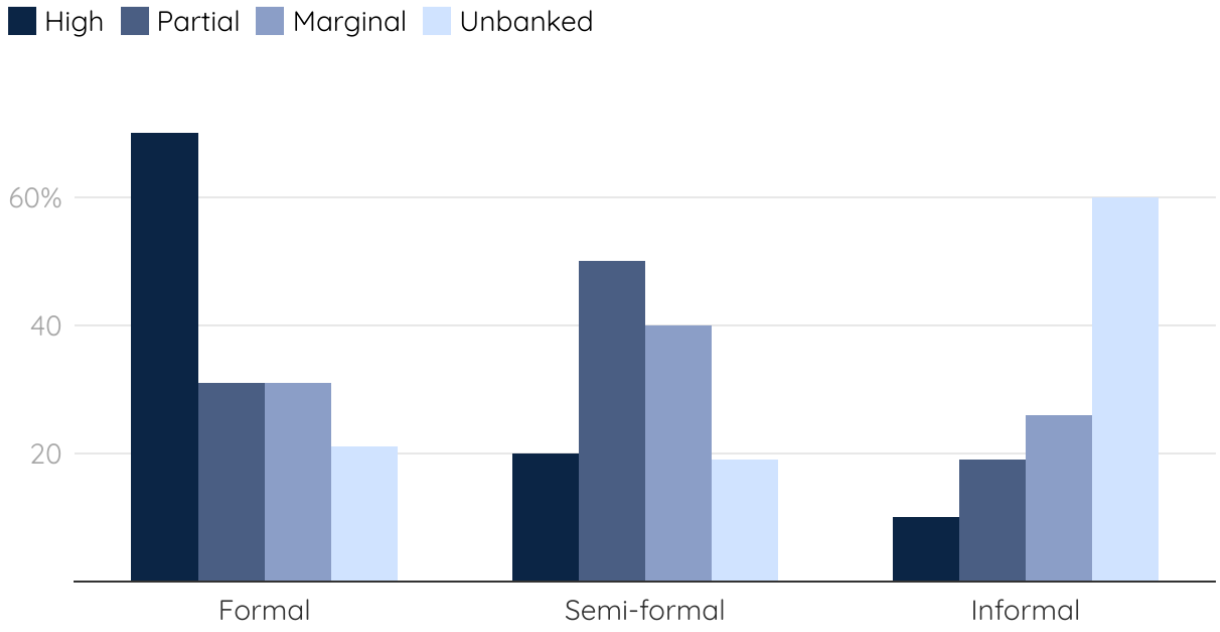


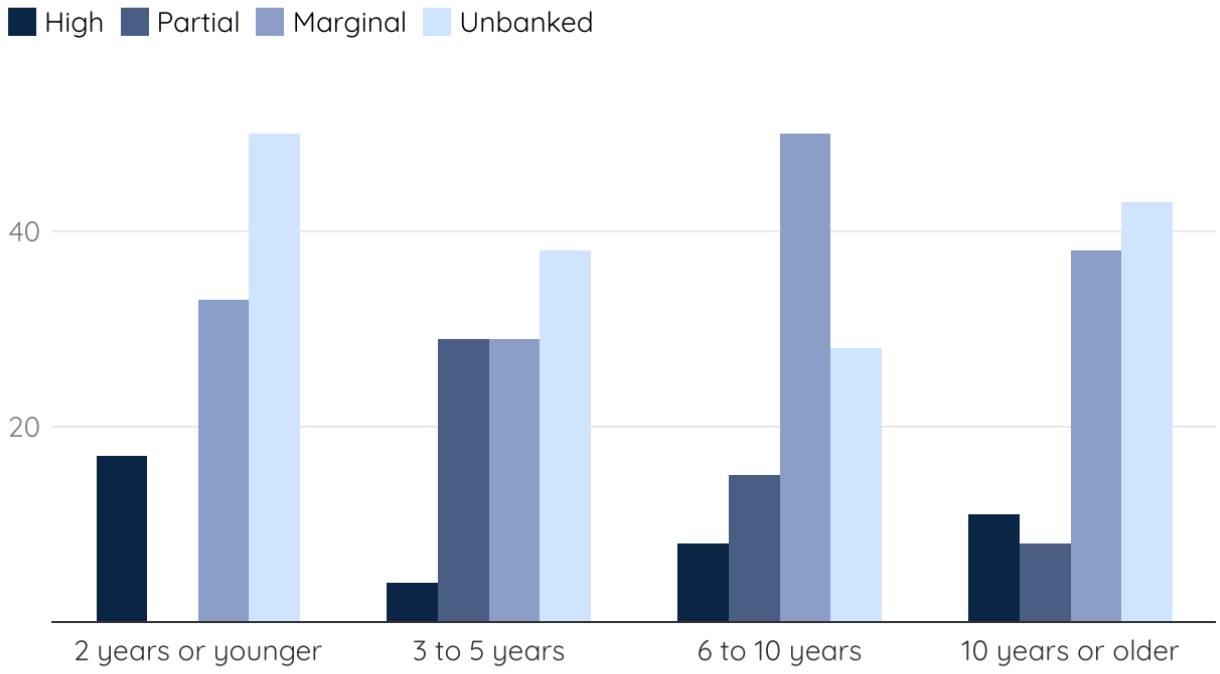
Figure 2.12 shows that there is a close correlation between level of integration with the firms' own perceptions of their formality.

FIGURE 2.12: SELF-REPORTED FORMALIZATION STATUS BY LEVEL OF BANKING ACTIVITY



We also looked at the pattern of banking integration across firm age and found no distinct relationship. A slightly higher percentage of firms younger than 2 years were unbanked, but these firms also had the highest proportion of highly integrated firms. (Figure 2.13)

FIGURE 2.13: FIRM AGE BY LEVEL OF BANKING ACTIVITY



3. Drilling Down on Mobile Money Integration

As noted, using our cash flow data, 64% of our sample used a mobile wallet for business purposes during the study. Of those firms, 39% used their mobile wallets for more than 50% of the value of their business transactions.

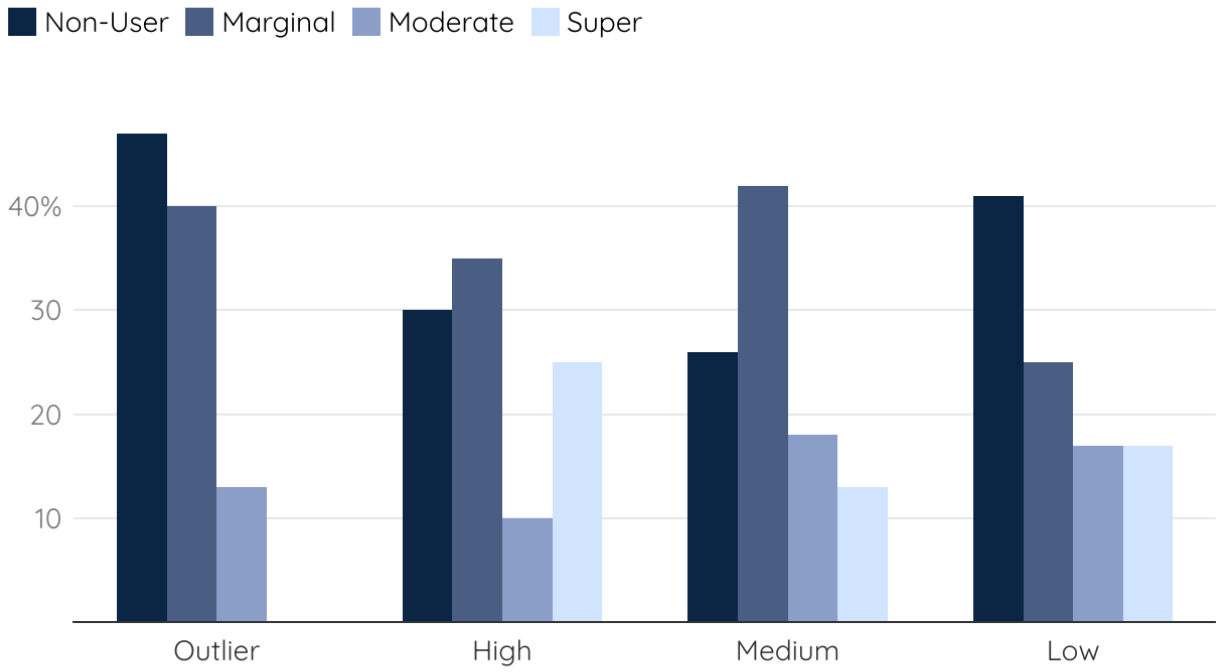
Taking the same approach as when categorizing a firm's banking integration, we group firms by their usage of mobile money wallets. Perhaps the single most surprising finding in the Kenya Small Firm Diaries is that the majority of our sample (68%) do not use or are only marginal users of mobile wallets for business purposes (Figure 3.1). This is in stark contrast to perceptions about the penetration of mobile money. Based on an initial review of some of the few studies that have specifically looked at mobile money usage among small firms, there are several points of difference: 1) most of these studies ask about whether mobile money was used but not the account where the transaction ends; 2) most studies have a very high proportion of retailers, while the Small Firm Diaries excludes retail firms.

FIGURE 3.1: LEVEL OF MOBILE INTEGRATION (BUSINESS TRANSACTIONS)

Level of mobile integration	Definition	Percentage of Firms
Super user	More than 75% of transaction value conducted into or from a mobile wallet	16%
Moderate user	Between 25% and 74% of transaction value conducted into or from a mobile wallet	16%
Marginal user	Less than 25% of transaction value conducted into or from a mobile wallet	32%
Non-user	Do not report using a mobile wallet	36%

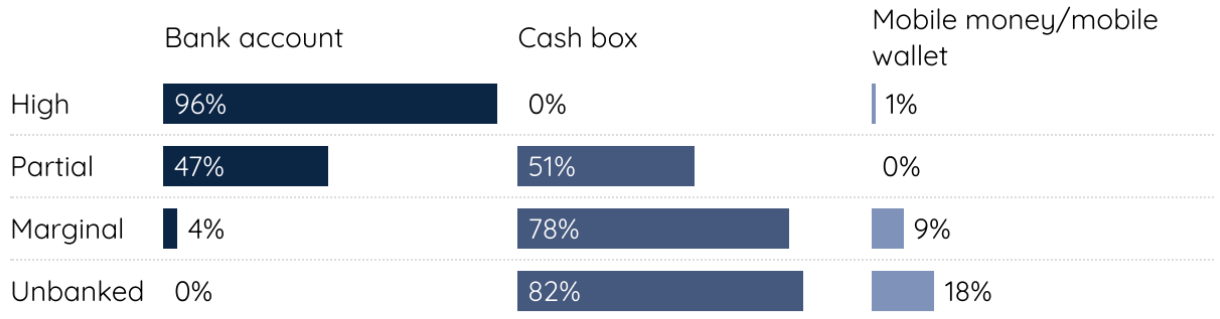
To better understand what drives firms' mobile wallet usage, we looked deeper at the characteristics of different user groups. Looking first at revenue size, we see a variable pattern, in which outlier earners (significantly higher revenues than most of the sample) are least likely to use mobile wallets at all (non-users), followed by the low revenue categories. High revenue firms have the highest proportion of super users, but the least moderate users, while medium revenue firms have the highest proportion of moderate and marginal users of mobile wallets (Figure 3.2)

FIGURE 3.2: MOBILE MONEY ADOPTION BY EARNING LEVEL



The pattern is more clear cut when we examine the relationship between banking integration and mobile money adoption (shown in the Financial Access section above, and reproduced here, Figure 3.3). While mobile money has made inroads among the firms that are using bank accounts least, it has still not come close to displacing cash among these firms. There is clear opportunity however, as there is a dispersion of intensity of use particularly among the marginally integrated firms. Marginally banking integrated firms are a mix of marginal, moderate and super users of mobile wallets.

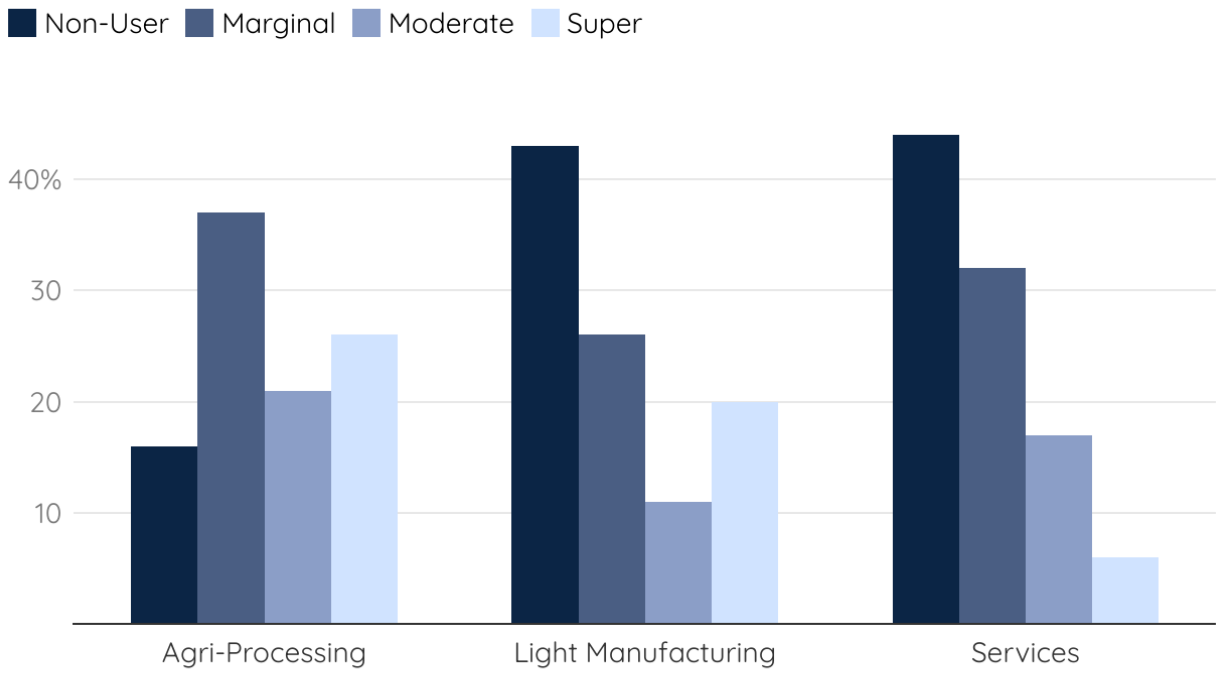
FIGURE 3.3: MEDIAN PERCENT OF TRANSACTIONS MOVING THROUGH ACCOUNTS BY LEVEL OF BANKING INTEGRATION



A higher percent of men use mobile wallets than women (70% vs. 57%). However, in terms of firms that use mobile wallets, about a third of both men- and women-owned firms are moderate or

super users. In terms of industry, 83% of agri-processing firms use mobile wallets, compared to 56% of both light manufacturing and services firms (Figure 3.4). Notably, the opposite was the case with regard to bank account use, where agri-processors were the least likely to use banks relative to services firms and manufacturers. Based on field interviews, the higher proportion of agri-processors is driven by the need to collect payments from customers based in other regions. For example, when a female fish processor in the study first opened her business, she'd have to travel several hours to collect payments from her customers who sold her fish in other markets. Since the introduction of M-Pesa, she's been able to collect payments digitally and saved time and money.

FIGURE 3.4: MOBILE MONEY ADOPTION BY INDUSTRY



Looking at levels of perceived formality (explained further in the following section), informal firms have the highest usage rates of mobile wallets—75% compared to 62% of formal firms, and 49% of semi-formal firms. Using KRA registrations instead, the distribution is more equal, 58% of firms with a KRA registration have a mobile wallet compared to 65% of those without a registration.

Overall, firms with the highest usage of a mobile wallet in our sample tend to be informal, agri-processors, and male. There is also a notable lack of mobile money use for business purposes among the most banking integrated firms, and among the highest revenue firms.

4. Banking and Mobile Money Integration

We have discussed banking and mobile money integration in detail in the previous sections. Here we briefly explore the distribution and characteristics of firms that have either a bank account, a mobile wallet or both. Following this categorization, we find that the vast majority of our firms are banked and/or users of mobile money: 92% of respondents used a bank account, mobile wallet, or both during the study.

Using the same categorization method as for integration above, the percentage of transaction value initiated from and terminating in these accounts, we find that, while more firms are highly integrated (>75% of transaction value through accounts) using this broader metric, the majority of firms are still only partially or marginally integrated into the overall formal financial services system. Only 8% of firms use neither a mobile money nor bank account, however, as opposed to 38% of firms that do not use bank accounts (Figure 4.1).

FIGURE 4.1: FORMAL AND DIGITAL FINANCIAL INTEGRATION

Level of Integration	Threshold	Percent of firms
High	75% or more of transaction value through accounts	28%
Partial	25% to 75% of transaction value through accounts	36%
Marginal	Less than 25% of transaction value through accounts	28%
Unintegrated	No bank account or mobile money account	8%

While we would not expect there to be perfect overlap between firms using bank accounts and mobile money accounts, it is nonetheless unexpected how small the overlap is: just 34% of firms used both a bank account and a mobile wallet during the study. In other words, nearly two-thirds of the firms use bank accounts and mobile wallets as *substitutes*, not complements.

5. Exploring DFS Adoption and Usage

SUMMARY

The innovation of mobile money and its rapid adoption by low-income households in Bangladesh and Kenya created a wave of enthusiasm that digital financial services could be the pathway to financial inclusion—and significant benefits—for formerly financially excluded populations around the world. Over the last decade, while mobile money has spread to more than 50 countries, it's become clear that East Africa and South Asia are outliers rather than templates for the rest of the world.

That is in part because many different types of service providers quickly recognized the potential uncovered by mobile money's rapid growth in a few countries. The term digital financial service, or DFS, was coined to recognize that there were many ways and many potential providers of services that could compete with or replace physical cash that were unlike the specific providers and mechanisms in Kenya and Bangladesh. Here we use the term "mobile money" or "mobile wallets" only for payment accounts accessed through a mobile phone[6]. We use digital financial services as an umbrella term that includes banking and payments services delivered through the internet (which may be accessed via a smartphone, a SIM toolkit, USSD access or a PC), banking apps accessed via a smartphone, and what might be called "traditional" alternatives to cash like credit cards and debit cards that allow non-cash payments (as opposed to being used for withdrawing physical cash from an ATM). However, the distinctions between the terms, which are often used interchangeably, make conducting research difficult as users don't always make clear cut distinctions between types of services, mechanisms/modes of delivery, or service provider. A further complication is that some of our questions about technology and DFS use may have been interpreted by firms to include any use, not just use for business purposes. As a result, while we offer our own categorizations and statistics, throughout this section we try to be clear about the exact questions we asked in case others would categorize or analyze the responses differently.

Digital financial services continue to offer significant possibilities for bringing households and firms into, or further into, the formal financial system. DFS also potentially enables business models for delivering financial services to customers who have been viewed as too expensive or unprofitable to serve by financial services providers. Thus, a key area of investigation for the Small Firm Diaries was the extent to which the small firms used DFS, the reasons they did or didn't use DFS, and the factors that might induce them to use DFS more.

In summary, we find that the small firms in the study were generally proficient users of technology and had high reported usage of digital financial services, but had lower usage of mobile money in their businesses than may be expected in Kenya.

[6] The IMF defines mobile money as "a pay-as-you-go digital medium of exchange and store of value using mobile money accounts, facilitated by a network of mobile money agents"

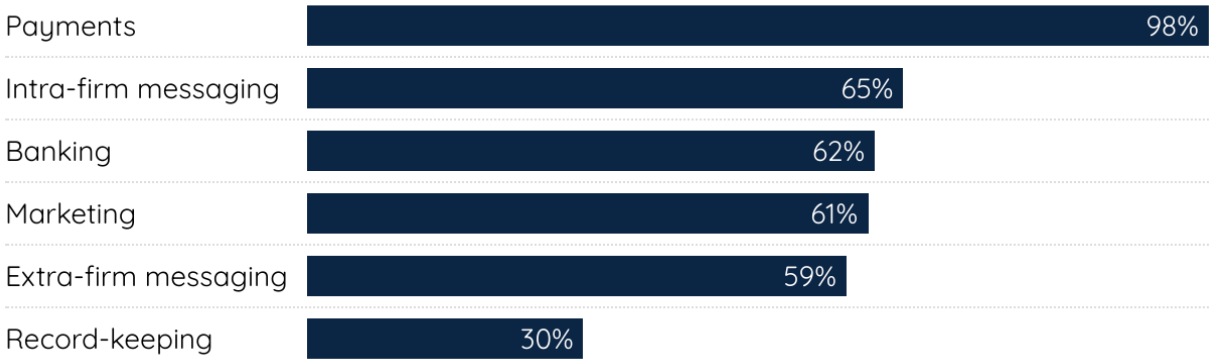
HOW DO FIRMS USE TECHNOLOGY FOR BUSINESS?

Smartphones are important tools for the majority of businesses in our Kenyan sample. Over 80% of our firms use either a smartphone or computer or both for their business (almost all firms that use a computer also use a smartphone). This holds true across industries and gender. Unbanked firms have significantly lower smartphone adoption rates than banked firms (74% vs. 91%).

Of the 80% of firms that use a smartphone and/or computer for business, close to 100% use these tools for payments and/or banking (see Figure 5.1) (note that this figure is not directly comparable to mobile money usage as payments can include bank transfers or other online payments). There are 48 firms that report using smartphones or computers for payments, but do *not* use it for banking in their business. Use of technology varies along with the level of banking integration. 92% of highly integrated firms and 100% of partially integrated firms report using a smartphone/computer for business purposes, compared to 72% of unbanked firms (though below we'll also look at a few unbanked firms that use mobile money extensively). Of the highly integrated firms using technology, all use a smartphone for payments and/or banking.

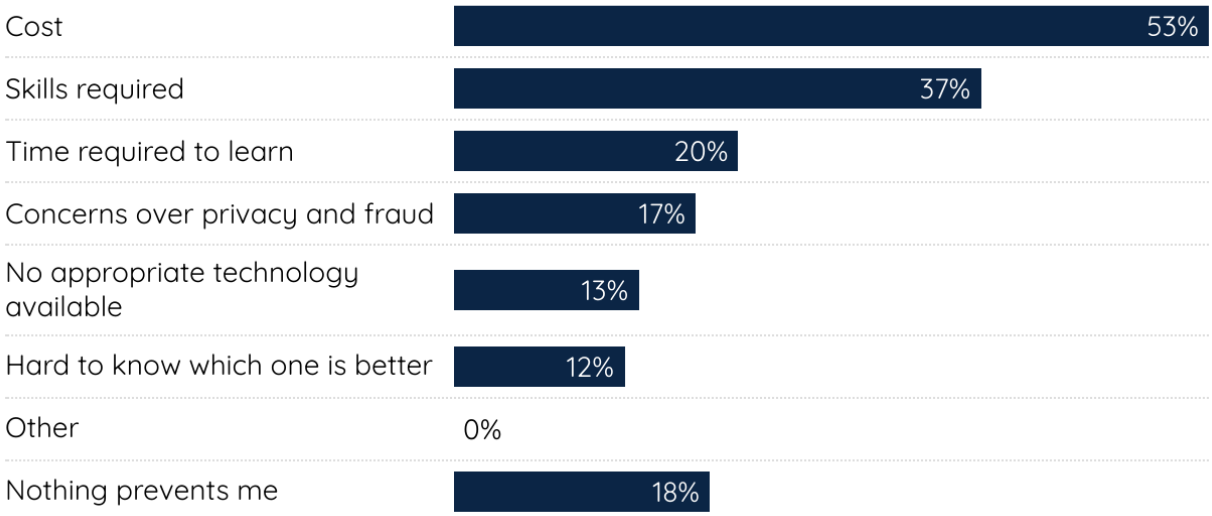
FIGURE 5.1: REASONS FOR USING A COMPUTER OR SMARTPHONE

Among firms that report using either device



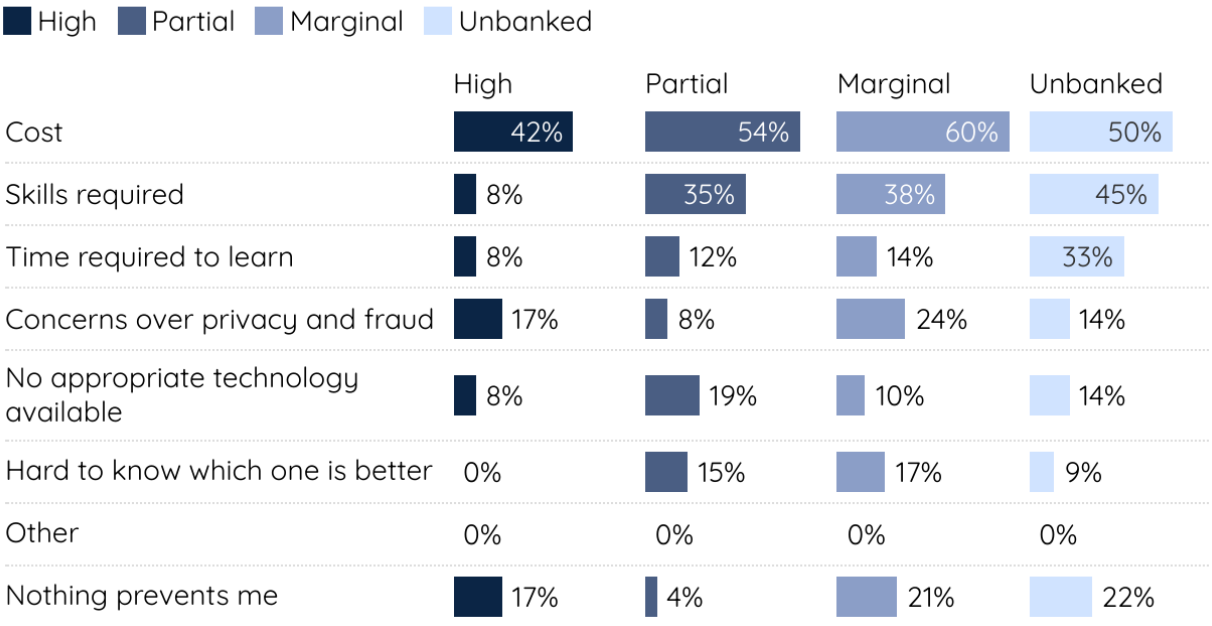
In a separate survey on attitudes towards and adoption of technology, we asked firms what prevents them from using technology broadly (Figure 5.2). Over half of firms reported cost as a barrier to using technology, while only a third reported a skills barrier. Interestingly, less than 20% of firms reported concerns over privacy and fraud.

FIGURE 5.2: BARRIERS TO TECHNOLOGY ADOPTION



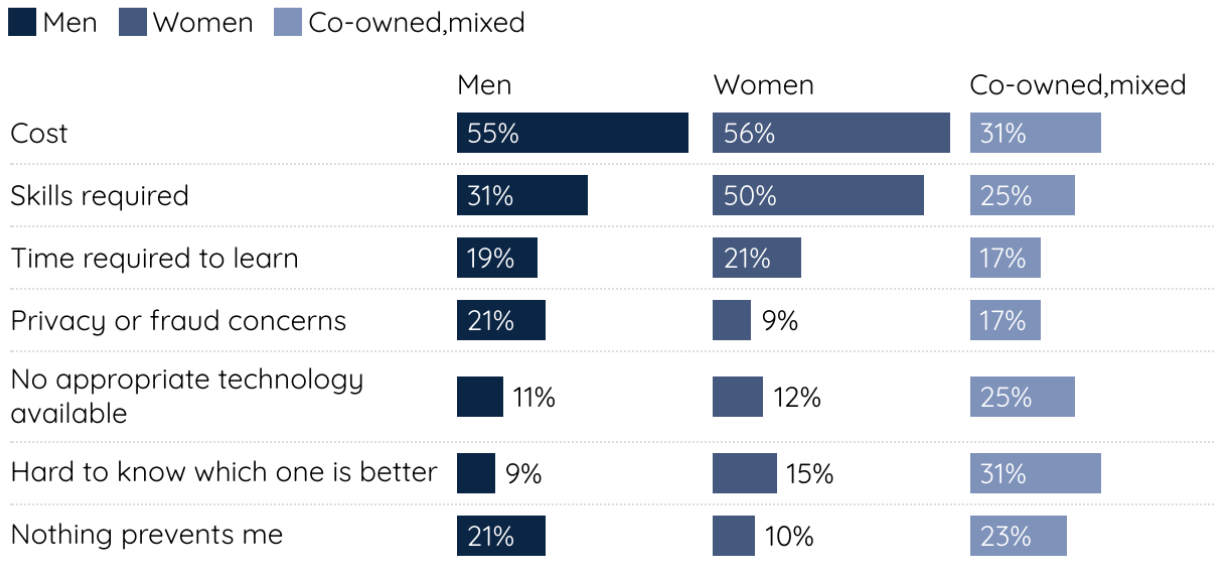
Cost was the most prevalent barrier to adoption of digital financial services across levels of banking integration. However, a much higher proportion of unbanked, marginally, and partially banking integrated firms reported skills required as a barrier than more highly integrated firms. Unbanked firms are much more likely to report time required to learn how to use and set up smartphones as a barrier than other firms. (Figure 5.3).

FIGURE 5.3: BARRIERS TO TECHNOLOGY ADOPTION BY LEVEL OF BANKING INTEGRATION



As shown in Figure 5.4, women were also significantly more likely than men to report skills as a barrier to adoption (50% of women as opposed to 31% of men).

FIGURE 5.4: BARRIERS TO TECHNOLOGY ADOPTION BY GENDER

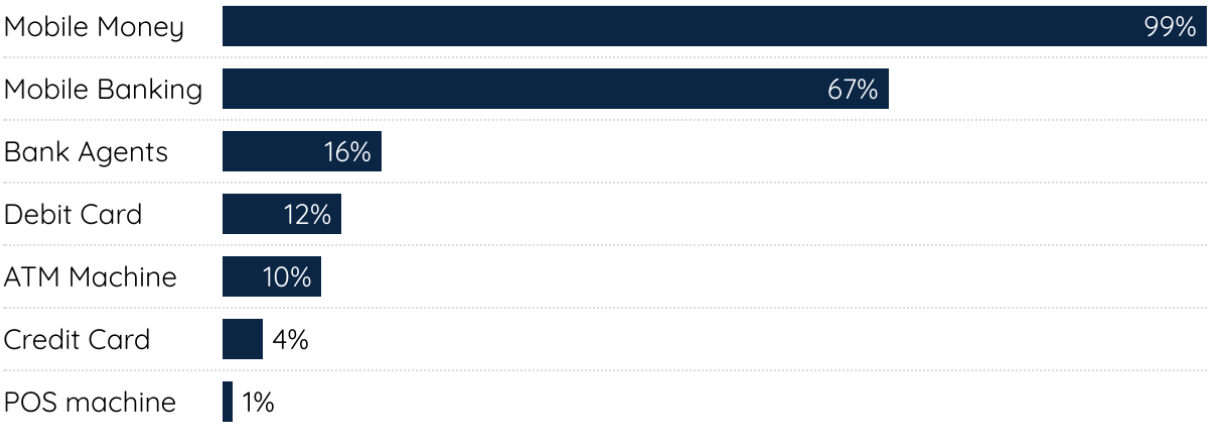


We also asked the firms that used a smartphone/computer for business purposes why they had begun using the tool. Firms could report multiple reasons for uptake, which many chose to do. It was common for firms to report uptake for self-driven reasons, such as seeing the value of efficient services and bookkeeping, as uptake driven by other stakeholders, such as customers and workers requesting it. Most importantly, there was not a clear single driver behind technology adoption (Figure 5.5). Two thirds of firm owners reported more than four reasons for adoption.

FIGURE 5.5: REASONS FOR UPTAKE OF PHONE OR COMPUTER, PERCENT OF FIRMS

In addition to general technology usage, we specifically ask all firms about what forms of *digital financial services* they use generally—not just for business, regardless of whether they report using a smartphone/computer for business. There is a wide disparity between tools: POS terminals and credit cards, staples of the move away from cash in high-income countries, are much less in use than mobile money, and mobile banking (Figure 5.6). The use of mobile money for business transactions shown in our cash flow financial data was significantly lower than reported usage of mobile money according to our one-time survey module here, 64% vs. 99% . This discrepancy could be driven by the use of mobile money in a firm owner's personal life rather than for the business.[7]

FIGURE 5.6: REPORTED DIGITAL FINANCIAL SERVICES



[7] This is corroborated by FSD-Kenya's MSE tracker 2023 which finds that 53% of small firms (1-9 employees) receive customer payments via mobile money and 61% use mobile money to pay for supplies, despite much higher numbers of small firms (93%) reporting using mobile money in FinAcess surveys.

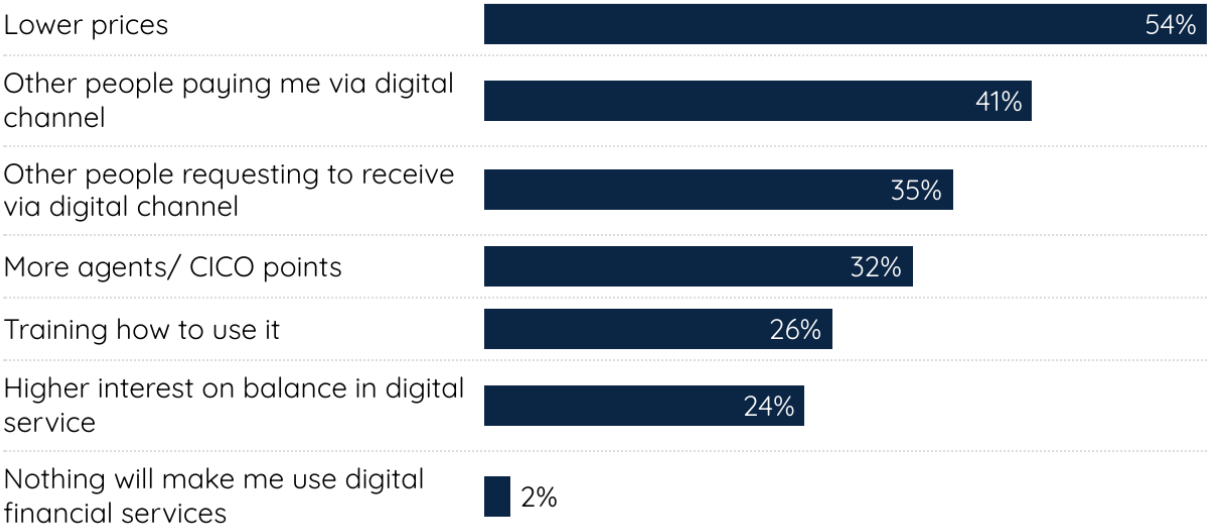
We also ask users of DFS, as reported in the question above, what challenges they've experienced. Over half of our sample of DFS users reported experiencing issues with the services. The most common issues reported were similar across banking integration levels. Delayed receipt of funds and money sent to the wrong address were the most commonly experienced. At a sample level, the most common challenge was money being sent to the wrong address (78%), followed by money arriving late (51%). Other issues, such as unauthorized fees, fraud, or missing funds were reported by less than 20% of the sample.

Challenges aside, the firms in our study saw various advantages in using digital financial tools, such as security, convenience, and record keeping. For example, a carpenter in Kisumu shared that he prefers when customers pay via M-Pesa as it is fast and easy to move the money and it separates his business capital from his household money, which prevents him from misappropriating the funds. Another firm, a candy wholesaler in Nairobi, noted he prefers M-Pesa because of the security and records of transactions it provides

In a set of questions on attitudes towards and adoption of technology, we asked about what changes to digital payments, specifically, would increase firms' usage (Figure 5.7). Over half of firms report lower prices as a reason to use digital payments more. The second most common reasons were other people, like suppliers or customers, requesting to send or receive a digital payment, and lower prices as reasons to use digital payments more, closely followed by more agents or CICO points.

Answers did not vary significantly across banking integration levels. About half of firms across all integration levels quoted lower prices as a potential driver to increasing digital payments usage. Similarly, a third to almost half of firms across integration levels would use digital payments more if other people were paying them via digital channel. While more than a third of banked firms reported "More agents/Cash in/Cash out points" as a potential reason to use digital services more, only about a quarter of unbanked firms noted that as a point of consideration.

FIGURE 5.7: REASONS FOR MORE DIGITAL PAYMENT USAGE



6. Credit Access

SUMMARY

When thinking about helping small businesses thrive, policymakers—taking the lead from the message of the microcredit revolution—have generally focused on access to credit as a key intervention. After 40 years, however, the results of increasing credit access to microenterprises has been decidedly mixed. On the one hand, it's clear that there is demand for credit, that microenterprises can be good credit risks, and that there is a business model for providing microcredit at scale in developing countries with minimal subsidy.[8] On the other hand, the promise of microcredit as a stepping stone to growth has proven false. The majority of borrowers do not grow their microenterprises, and few if any borrowers seem to "graduate" to larger loans at more commercial banks (though it's important to note that this is in part because of opposing pressures on MFIs—the borrowers capable of graduation are the borrowers that are most profitable for the MFIs and key to their sustainability).[9] In the Small Firm Diaries we were eager to understand the credit access, needs and behaviors of small firms. Were these firms "graduates" of microfinance programs? Did they have access to credit at all? If so, where was the credit coming from? How big of a barrier was credit access to their growth and aspirations? The answers to these questions turned out to be surprising, especially given what we saw in terms of the number of firms that were partially or highly integrated into the banking system.

In our sample, we see little relationship between the level of banking system integration and credit usage. firms that are only marginally integrated borrow from banks at similar rates to those that are more integrated. Still, credit usage for the business is relatively low: only 49% of our sample in Kenya had at least one active loan for their firm during the study period. We find few patterns of credit usage; firms across income levels, gender, and industry were all similarly likely (or unlikely) to use credit—though we do see a reversal of the typical gender gap with more women than men reporting using credit. About a quarter of the firms that took loans borrowed from a commercial bank and reported low reliance on informal sources (though 29% of firms that save for their business report doing so in a rotating savings and credit group which may not be reported as loans).

Firms say they want or use credit to make investments or address cash flow issues, and cite cost as the most important barrier. Very few firms across both genders report needing loans constantly or often.

Banks are not the only source of credit. About the same number of firms report taking loans from suppliers as from commercial banks. There's also a large overlap between the use of formal bank credit and supplier credit—they are complements, not substitutes. At the same time, the firms are

[8] It's important to note two caveats: subsidy is still prevalent in microfinance, though often hidden by being delivered via below-market-rate capital to MFIs, especially for MFIs that serve the most excluded populations; much larger subsidies are necessary as countries become wealthier as the "soft" costs of serving marginalized customers rise much faster than profit margins. See Cull and Morduch 2018 and Klein and Ogden 2023 (forthcoming) respectively.
[9] See Banerjee, Karlan and Zinman 2015, Meager 2019, Rigol and Roth 2021

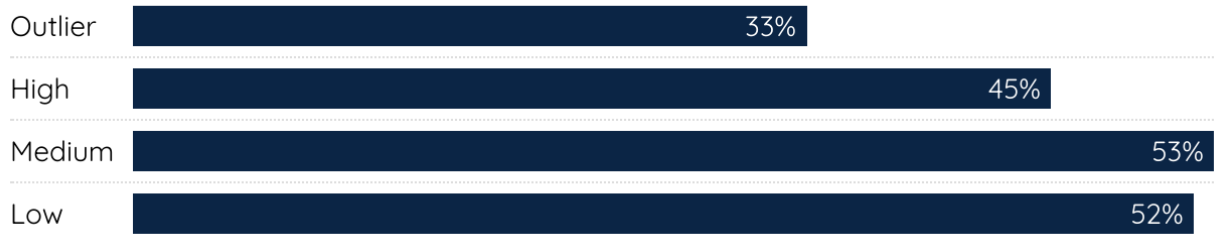
an important *source* of credit: roughly a third of firms (and 71% of firms that engage in any form of supply chain finance) *give customers credit.*

But perhaps the most important finding from the Small Firm Diaries in terms of credit access is that working capital, or liquidity management credit is the most pressing need for many firms. So while we see firms saying they want credit to "invest" we most commonly see large purchases[10] being raw materials, which we consider a liquidity need as opposed to an investment in increased productivity, such as more sophisticated equipment. We also see firms note that access to finance is a barrier to their success; but we see many of these firms also say they rarely or never need loans. We interpret this mismatch generally as a statement about the need for tools specifically designed to manage liquidity rather than a need for the types and cost of loan products currently available in the market.

CREDIT ACCESS AND SOURCES

Half (49%) of our firms reported holding a loan of any kind during the study (including loans that were active at the start of the study and new loans taken during the study).[11] The stereotypical gender gap is reversed: a higher proportion of our female firm owners (56%) took loans than male firm owners (48%). There were minimal differences across industries: services firms were most likely to take a loan at 45%, compared to 40% for light manufacturing firms, and 38% of agri-processing firms. High and medium revenue firms use credit at a slightly lower rate suggesting that credit is used to address liquidity shortfalls rather than for investment (see Figure 6.1).

FIGURE 6.1: PERCENTAGE OF FIRMS WITH A LOAN BY MONTHLY REVENUE CATEGORY

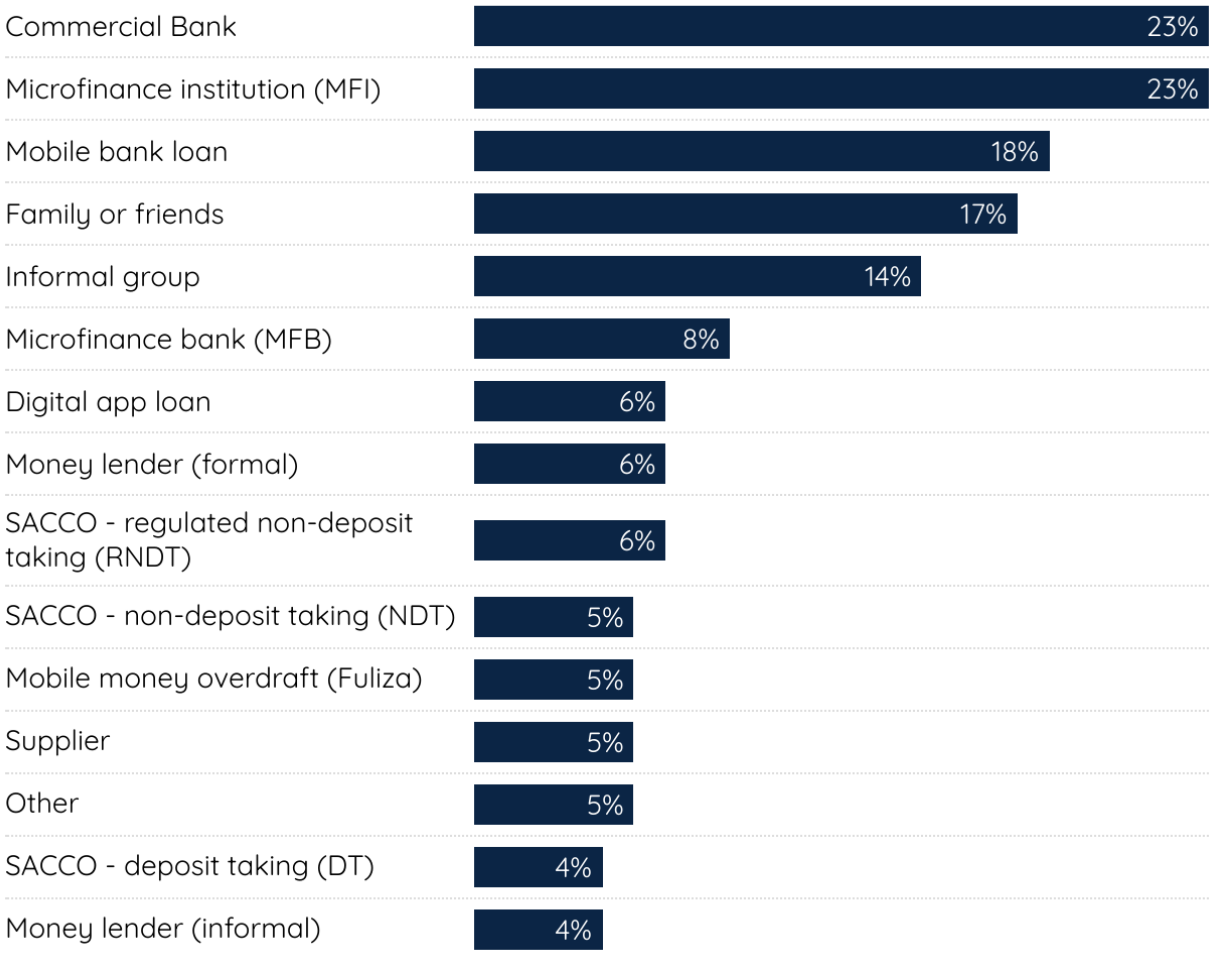


Commercial banks, MFIs, and mobile banks are the most common loan source in Kenya (see Figure 6.2). Most firms rely on one source of credit, but there are overlaps between categories—15% of firms with a commercial bank loan also have a loan from a mobile money lender, moreover the same percentage have a loan from friends or family.

[10] We define large purchase as single expenses with an amount that is larger than three times the standard deviation above the mean of single expenses for the given firm

[11] For comparison purposes, Global Findex 2021 finds that 46% of Kenyans over age 15 have borrowed from a formal financial institution or mobile money provider, while 76% have borrowed from any source.

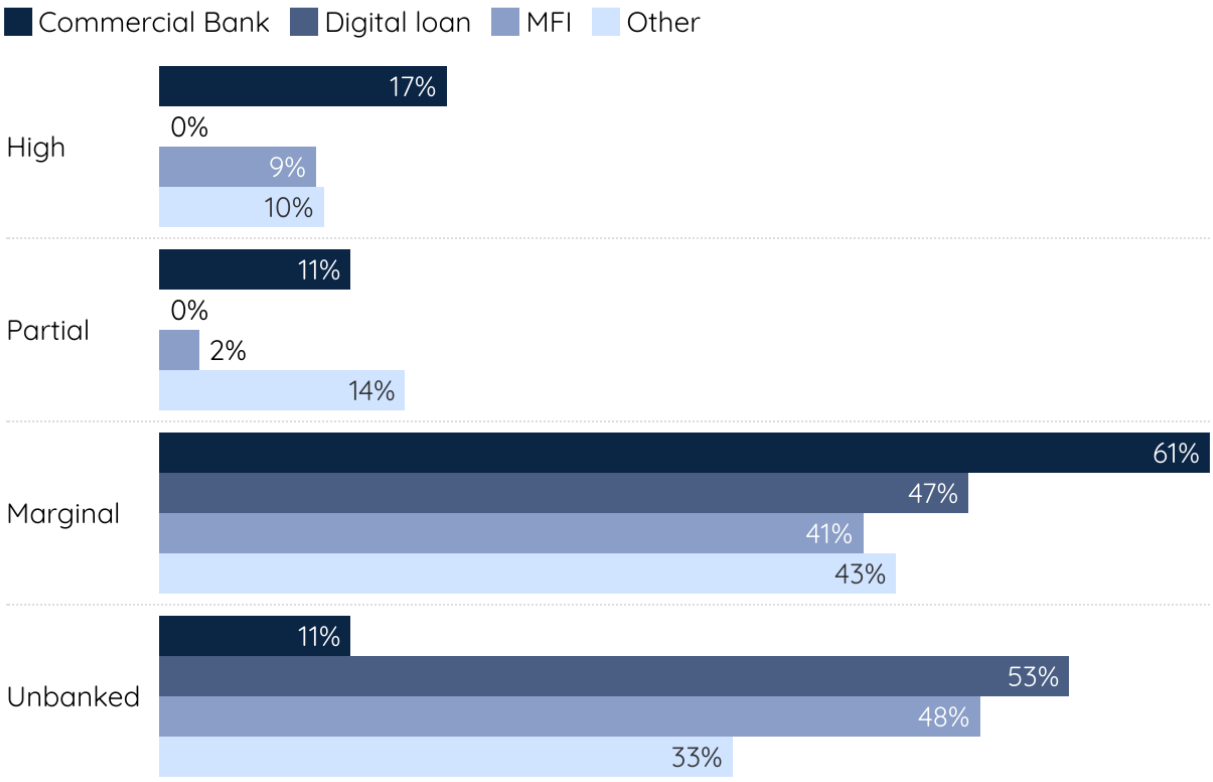
FIGURE 6.2: BUSINESS LOAN SOURCES, PERCENTAGE OF FIRMS



Being significantly integrated into the formal system is not a prerequisite for access to bank credit. While the highly integrated firms have the most loans from commercial banks, marginally integrated and even a few firms that do not report or use deposit accounts specifically for their business also have loans from commercial banks (Figure 6.3).[12]

[12] This is possibly explained by a firm owner having a bank account that they use for household finances, but not for the firm, but leveraging that relationship for a loan that they use for the business.

FIGURE 6.3: LOAN PROVIDER BY LEVEL OF BANKING ACTIVITY



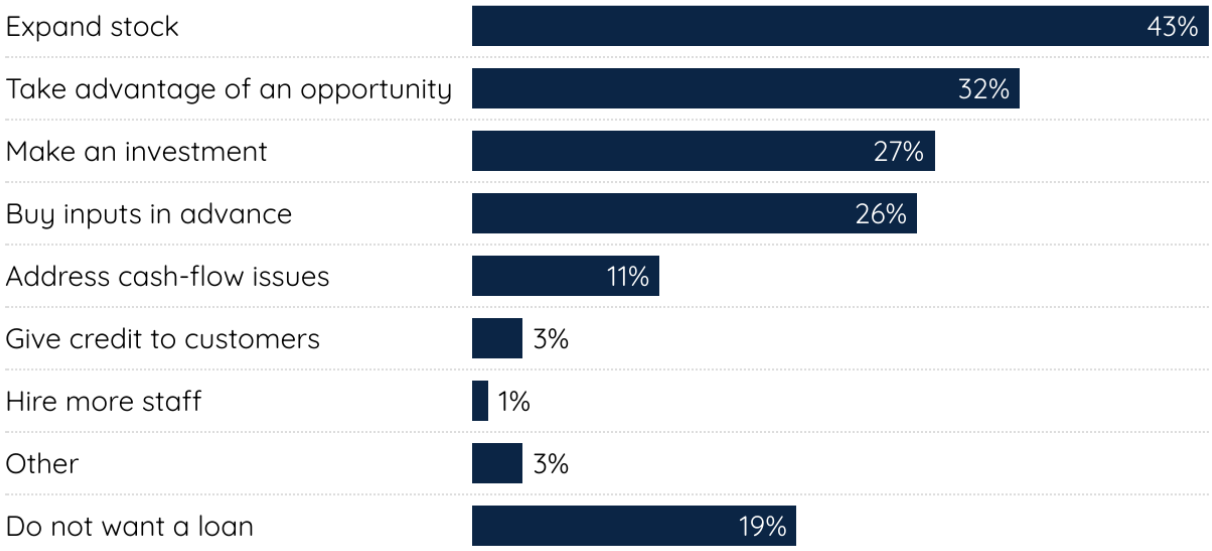
As our data only captures active loans during the study period, we also asked firms in a separate survey what sources of finance they generally use for their business (Figure 6.4). Results were similar to the loan data reported above, however digital app loans were more prevalent than credit from commercial banks' (36% vs. 30%). One-fifth, or less, of firms reported using other sources, such as informal savings groups, family, or MFIs to finance their business. When asked which of these reported sources were most important for the business, the pattern continued—digital app loans was the most frequently reported (24%), followed by commercial banks (19%) and SACCOs/Cooperatives (16%), with all remaining sources selected by 10% or less of respondents.

FIGURE 6.4: REPORTED SOURCES OF FINANCES FOR BUSINESS

CREDIT USE

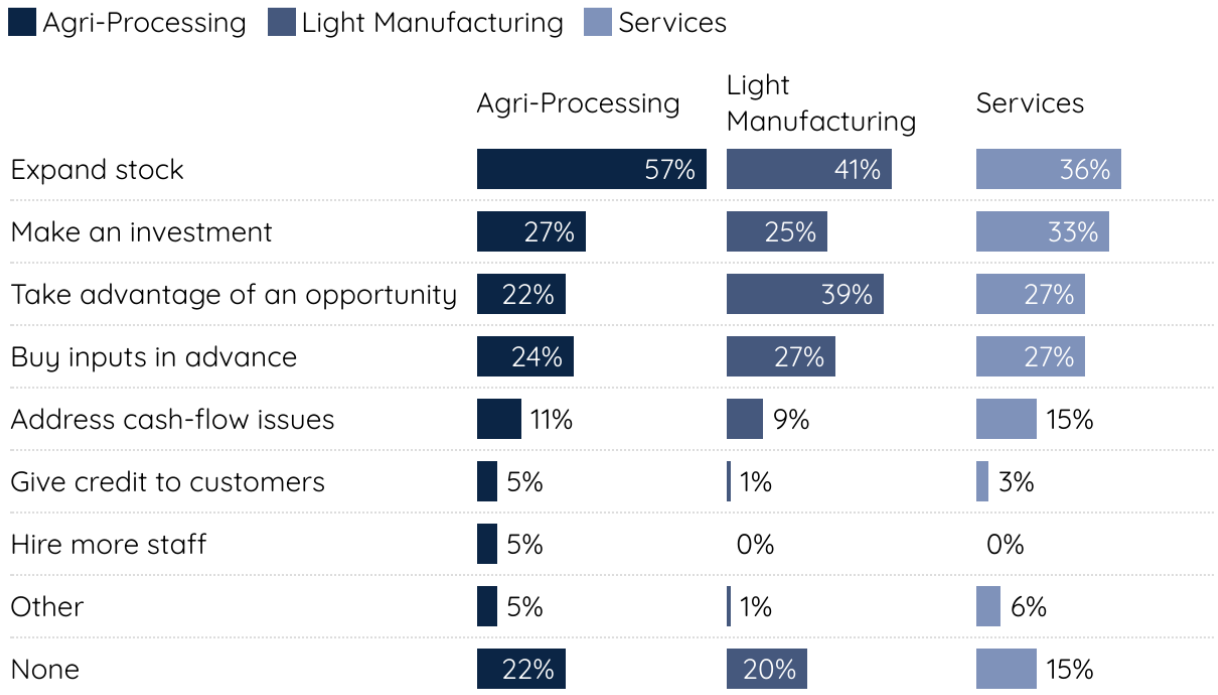
During the study, we asked firm owners what they use or would want to use a loan for, with a variety of options. (see Figure 6.5) The answers choices were not mutually exclusive: firm owners could choose multiple responses. The most popular response was "expand stock," followed by "take advantage of an opportunity," "make an investment," and "buy inputs in advance." Across all industries, firms were especially likely to say they were interested in loans to expand stock.

FIGURE 6.5: DESIRED USES FOR LOANS



In total, the desired uses for loans are predominantly within what could be categorized as working capital, rather than for purchasing assets. This is particularly true if at least some portion of the "take advantage of an opportunity" answers are related to purchases of raw materials or paying for such things as labor or transportation of raw or finished goods, which seems likely given what we see of firms' spending patterns. Specifically, we see that most large purchases are for raw materials/inventory. We do see that roughly 40% of firms that report being interested in credit to take advantage of an opportunity also express an interest in loans for expanding stock and buying inputs—we interpret this as suggestive evidence of the need for working capital. Using this interpretation we do not see a difference between industries in terms of desired uses for borrowing (see Figure 6.6).

FIGURE 6.6: DESIRED USES FOR LOANS BY INDUSTRY



Moreover, when asked in a separate survey about desired future investments in general, firms followed a specific pattern, with 45% of firms reporting they want to invest in expanding stock, compared to 35% in a productive machine. When asked what was preventing firms from making these future investments, a lack of capital was the predominant answer by far—reported by two-thirds of firms, compared to 10% or less for any other category (Figure 6.7). Of the 55 firms that reported wanting to invest in productive machines, 75% of them reported lack of capital as a barrier. However, of those 41 firms, only 21 reported constantly or even occasionally needing a loan.

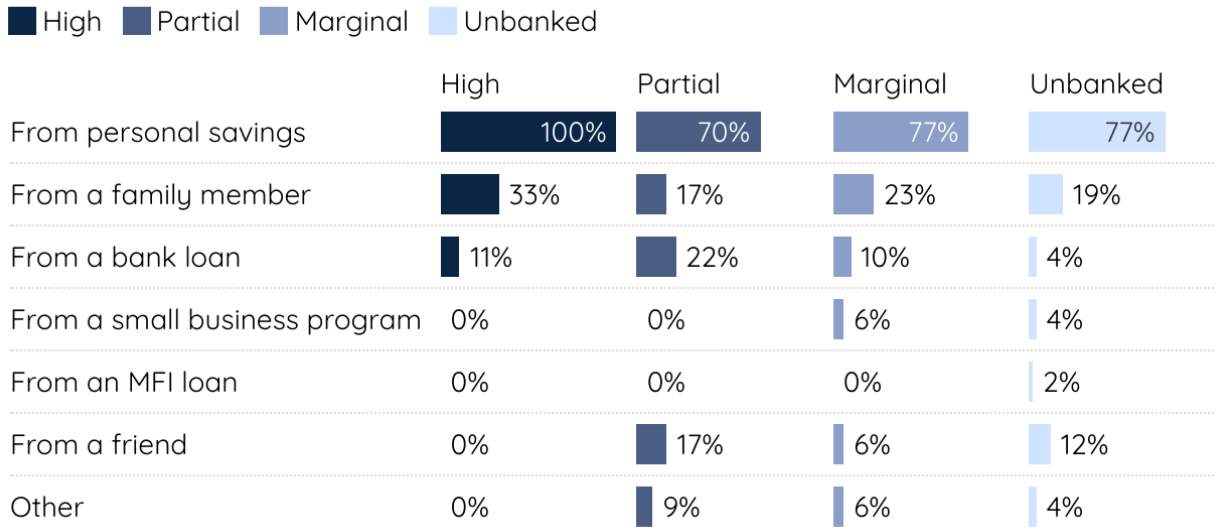
FIGURE 6.7: REPORTED BARRIERS TO FUTURE INVESTMENTS

START-UP CAPITAL

In alignment with our low credit usage during the period of the study, firms also reported low usage of any form of credit, to start their businesses. In comparison, using data from India on microfinance borrowing, Banerjee et al calculate about one-third of borrowers are "gung ho

entrepreneurs" who grow their business with microcredit while the remaining two-thirds either do not grow or never start an enterprise. Regardless of level of financial integration, the majority of firm owners used their own savings for start-up capital—similar to rates seen among small business start-ups in the United States. Use of loans as start-up capital also does not predict current loan usage 84% of loan takers during our study used savings to open their businesses (Figure 6.8).

FIGURE 6.8: SOURCES OF START-UP CAPITAL BY LEVEL OF BANKING ACTIVITY



	High	Partial	Marginal	Unbanked
From personal savings	100%	70%	77%	77%
From a family member	33%	17%	23%	19%
From a bank loan	11%	22%	10%	4%
From a small business program	0%	0%	6%	4%
From an MFI loan	0%	0%	0%	2%
From a friend	0%	17%	6%	12%
Other	0%	9%	6%	4%

WHAT DRIVES CREDIT USAGE?

Most firms report relatively low desire to actively use credit, noting only an occasional, rare, or nonexistent need for a loan. A quarter of agri-processing firms report never needing a loan and a further 30% say they rarely need a loan. Light manufacturing firms mostly need loans rarely, while 70% of service firms need a loan only occasionally or rarely (Figure 6.9). Overall, very few firms across both genders report needing loans constantly or often (Figure 6.10).

FIGURE 6.9: DESIRE FOR LOANS BY INDUSTRY

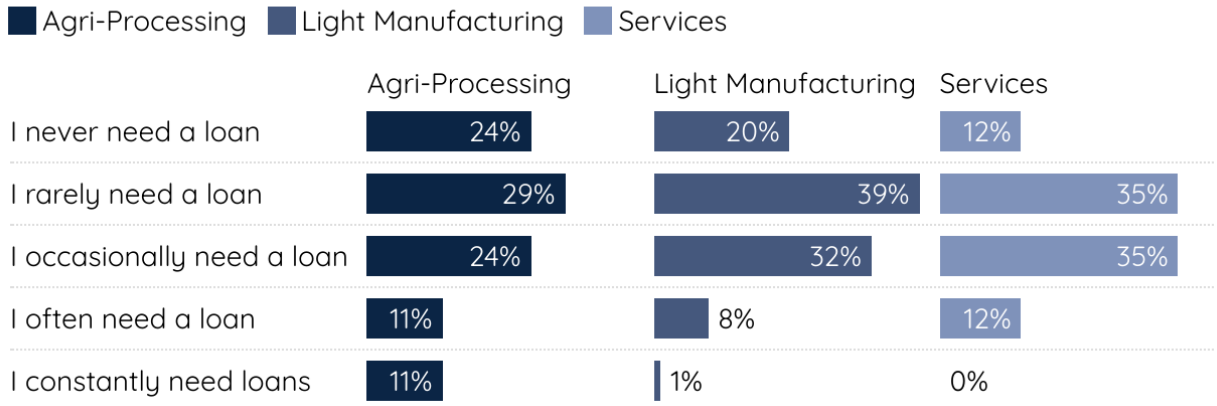
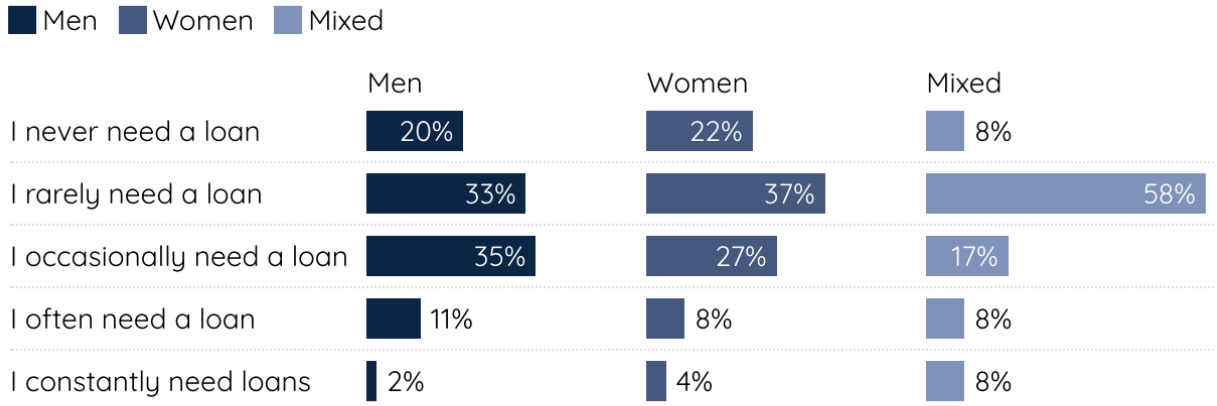
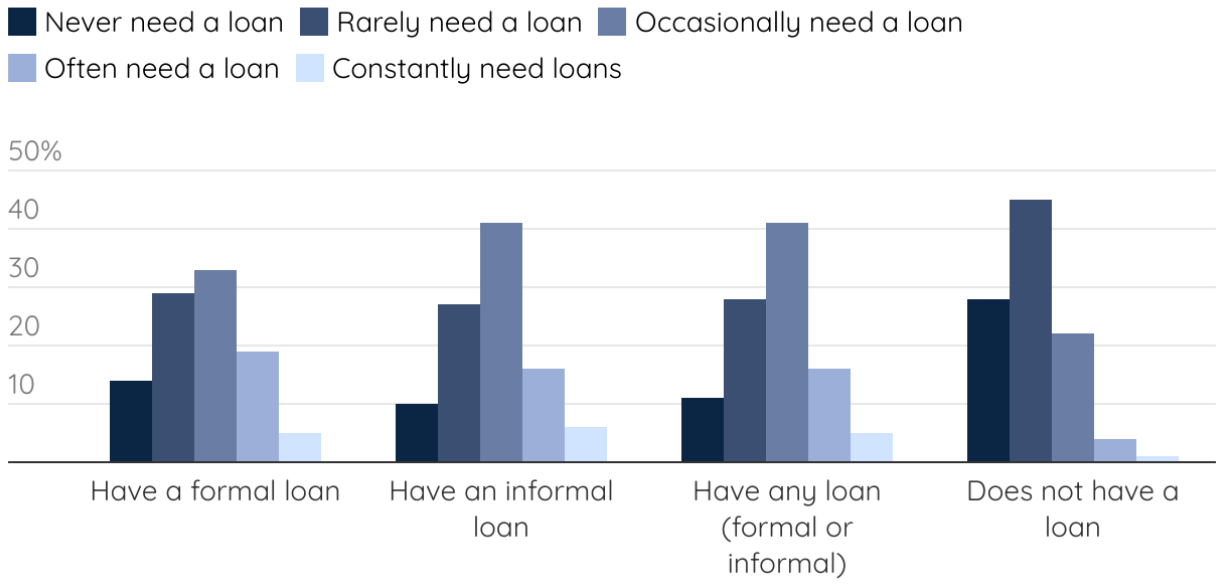


FIGURE 6.10: DESIRE FOR LOANS BY OWNER GENDER



There is some mismatch between desire for credit and reported use of credit. About 15% of firms with a formal loan say they never need a loan. (Figure 6.11). Meanwhile, of firms that do not report a current loan, one fifth report occasionally needing a loan. It is very possible that this pattern is explained best by lenders making accurate judgments of the firms' credit risk—the firms that constantly need loans are firms that are riskier and find it harder to be approved; while the firms that "never" need a loan, don't need a loan because they can generally self-finance, which makes them more attractive customers for lenders. This interpretation is supported by the fact that there isn't a correlation between "constantly needing" loans with firms that are growers; in other words, the firms that constantly need loans don't need them to fund rapid growth (which would make them more attractive to lenders).

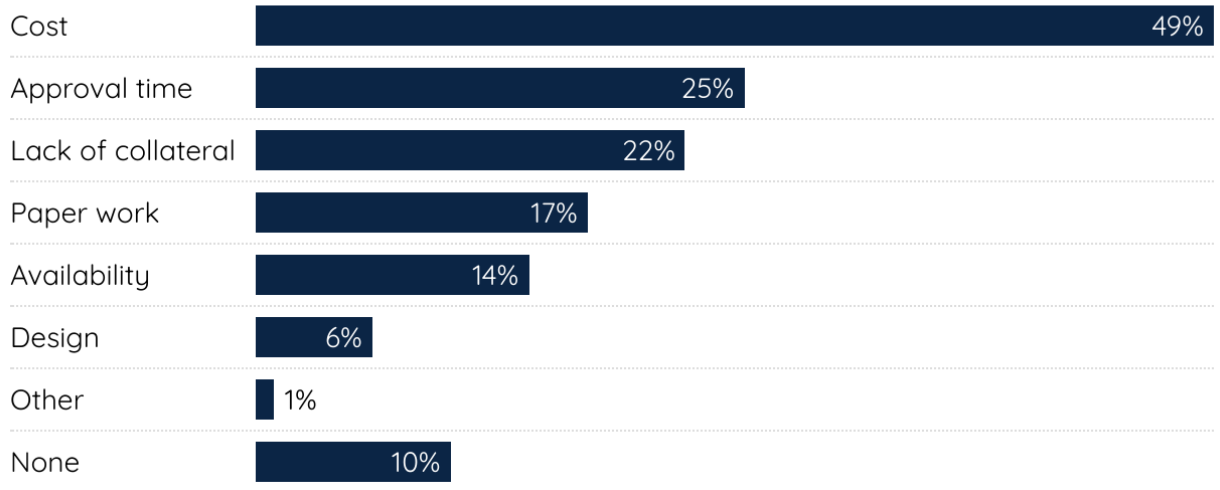
FIGURE 6.11: PERCENT OF FIRMS WITH LOANS TAKEN BY REPORTED NEED FOR LOANS



WHAT ARE THE BARRIERS TO CREDIT ACCESS?

We also asked firms about the barriers that prevented them from accessing credit. Cost was the most frequently cited barrier, reported by close to half of firms. Notably, issues at the forefront of policy design, such as lack of collateral, availability, and design were reported less than half as often (24%, 21%, and 6% respectively) (see Figure 6.12). Regardless of loans taken, firm owner gender, or industry, cost was the main barrier cited followed by the time it takes to get approved loans.

FIGURE 6.12: PERCEIVED BARRIERS TO ACCESSING CREDIT



FIRMS DESCRIBE THEIR STRUGGLES WITH CREDIT

When asked about their experiences with loans, respondents most consistently mentioned concern about the cost of a loan and apprehension that if they did get a loan they might not be able to keep up with the payments—they might be digging themselves into a financial hole too deep to dig out of—a very valid concern given the volatility we observe.

High interest rates and payback periods are primary reasons that some firm owners tend towards informal loans when they are an option. During the study a female couch manufacturer shared with us that she had borrowed KES 10,000 from a family member with zero interest. Even though she planned to pay back the loan quickly (and she did), she felt more comfortable knowing that her family member was more patient and would not penalize her if she needed to defer payments. However, later in the study she needed a larger loan of KES 80,000 and her family was unable to loan that amount. This pushed her to approach a formal bank for a loan, which she got for one year at 13% interest.

In addition to looking at firms' perceptions of barriers to credit, we can also look at other firm characteristics to see which firms are less likely to use credit. Based on a firm's perceived level of formality, 48% of informal firms have no loans, compared to 56% of formal and 49% of semi-formal firms. Between perceived formal and semi-formal firms, we see few differences in the usage rate of "informal loans"; 41% and 35% of informal and semi-formal firms, respectively, took an informal loan during the study, compared to 38% of formal firms. This suggests that formal firms that may have access to institutional sources of credit still rely on informal credit due to issues with credit product design, cost or other barriers noted above. Of note, follow-up work among small firms in Colombia after the study there had ended corroborates the credit product design hypothesis: firms report using formal credit for asset purchases while relying on informal credit for liquidity and working capital.

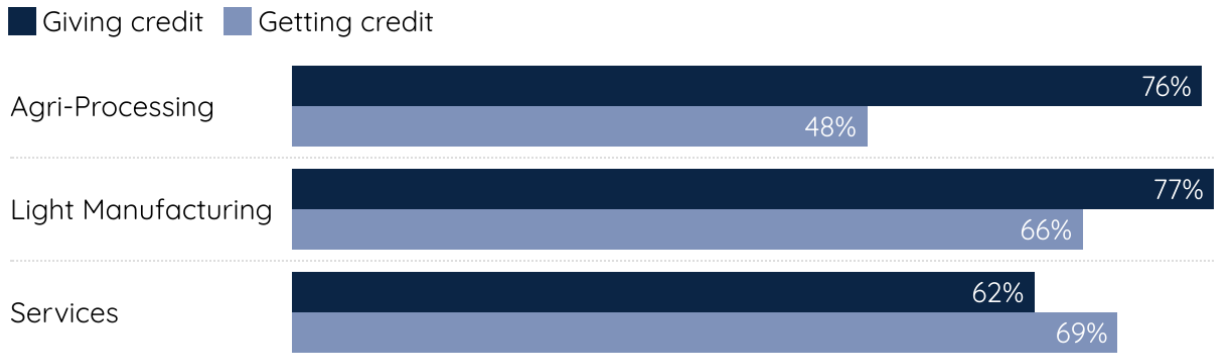
SUPPLY CHAIN FINANCE

Given what we see of firms' interest in using credit for working capital and liquidity management, understanding the opaque domain of supply chain finance for small firms is particularly interesting. Supply chain finance is highly evolved in many high-income countries, with formal contracts, secondary markets for receivables, and more recently an explosion of "buy now, pay later" services for both consumers and small businesses. Where firms and contracts are less formal, supply chain finance is even more informal and hard to see. We attempt to get a complete picture of supply chain finance as it illuminates the tools, challenges and opportunities around working capital and liquidity management for small firms. We define supply chain finance broadly. We include both financial flows and tacit or in-kind transfers—in other words, the lack of a financial flow—regardless of whether they are between firm and supplier, or firm and customer—and find that about half of our firms (42%) use supply chain finance.

Looking deeper than the general category of supply chain finance, we can separate out the use into two categories: getting credit and giving credit. Based on the struggles with liquidity that firms face it is at first glance surprising that the firms (with the exception of services firms) give

credit—transferring liquidity to customers—more than they receive it (Figure 6.13). On further thought however, it is likely true that the firms are serving low-income customers who have even greater liquidity challenges than they do.[13] Thus, while these firms are liquidity constrained they are providing a lot of liquidity to their customers and play a very large role in the financial lives of low-income households and neighborhoods. Overall use of supply chain finance is fairly similar across industries, but agri-processing firms receive more credit and give less credit than light manufacturing or services.

FIGURE 6.13: TYPE OF SUPPLY CHAIN FINANCE USED BY INDUSTRY



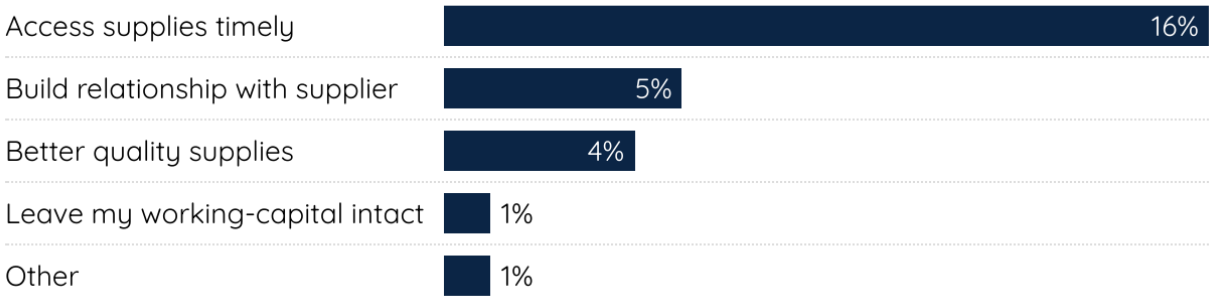
When we ask specifically about supply chain credit, more firms report taking loans from suppliers than report having an active loan during the study (21% vs. 5%). This may reflect that firms don't consider the ability to pay a supplier later as a "loan" but do understand it as supply chain credit. We also find that supply chain finance is complementary to bank credit (which also supports the possibility that bank credit products are not a good match for working capital needs). As the factors that make a firm creditworthy are similar regardless of whether a bank is lending cash, or a supplier is allowing a firm to pay 60 days after delivery, some of the overlap in bank borrowing and supplier borrowing is probably a reflection of a firm's creditworthiness. Those who do receive credit from banks or suppliers are also in a better position to extend that liquidity to customers.

Why do firms seek credit from suppliers, other than the obvious benefit of not having to hand over cash? We ask the firms about their reasons for and perceptions of use of supplier credit. Figure 6.14

[13] The extreme liquidity challenges and volatility that low-income households face are documented in the books *Portfolios of the Poor* and *The Financial Diaries*.

shows that some firms view supplier credit primarily as a way to access supplies quickly.

FIGURE 6.14 REASONS FOR TAKING LOANS FROM SUPPLIERS



Firms see a variety of advantages of supply chain finance compared to other sources of credit (see Figure 6.15) but both users and non-users of supply chain finance most frequently mention that it strengthens business relationships. Unsurprisingly, users of supply chain finance are much more likely to perceive that it can strengthen relationships than non-users, as well as that it creates mutual benefits. Of course there are risks as well as advantages (Figure 6.16). Non-users and users of supply chain finance alike believe that it poses a risk to their relationships with suppliers and customers.

FIGURE 6.15: PERCEIVED ADVANTAGES OF SUPPLY CHAIN FINANCE

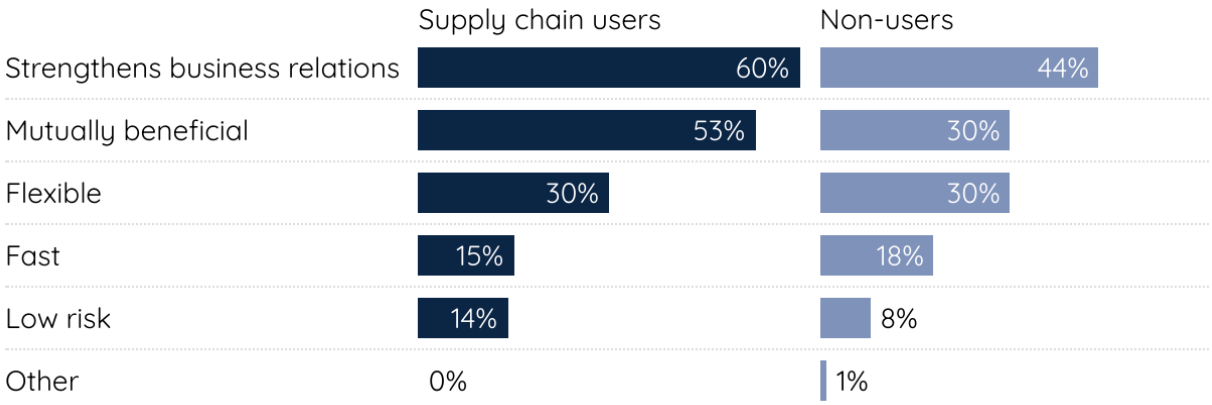
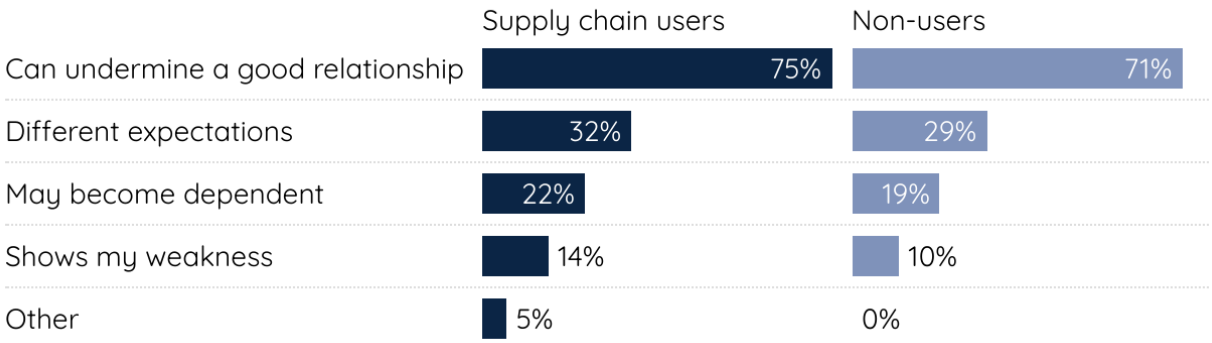


FIGURE 6.16: PERCEIVED DISADVANTAGES OF SUPPLY CHAIN FINANCE



Overall, supply chain finance seems to be an underexploited opportunity for supporting small firms and their customers. Using the knowledge of suppliers can solve one of the major challenges of business lending—understanding credit risk in the context of limited and incomplete information and limited enforcement. Providing liquidity to suppliers to enhance their provision of credit or gathering information from suppliers in order to underwrite working capital loans to the firms themselves would also likely trickle down to the firms' customers by allowing the firms to offer more credit than they already do.

7. Conclusion

This report has reviewed data gathered during the Small Firm Diaries in Kenya on small firms' use of financial services. While we have tried to provide a comprehensive overview of the data we have, there are many remaining areas for further analysis, including better understanding gender, county, demographic, and industry differences. We will also seek to better understand the firms' choices in using accounts and the transaction mechanisms that they use as we publish profiles of participating firms and industries.

The Small Firm Diaries Kenya team welcomes feedback from stakeholders, practitioners and policymakers on additional questions or areas of interest, as well as ideas and insights to help better understand the nuances of the data we have gathered. To get in touch and to read additional publications on Kenya and other countries in the study, visit smallfirmdiaries.org.

Study Credits

The principal investigators for the Small Firm Diaries global project are Timothy Ogden and Jonathan Morduch; and for the Kenyan arm of the study, Amrik Heyer and Tamara Cook.

The Small Firm Diaries global project is led by the Financial Access Initiative (FAI) at NYU Wagner. Field research was carried out by L-IFT and MFO. Funding for the global study was provided by the Mastercard Center for Inclusive Growth and the Bill & Melinda Gates Foundation. In Colombia, additional funding came from the Argidius Foundation, and the Aspen Network of Development Entrepreneurs (ANDE). In Kenya, FAI is grateful for research partnerships with FSD Kenya.

In addition to funding the Kenyan arm of the study, FSD Kenya served as the local research and engagement partner. The FSD Kenya team contributed to Kenya-specific elements of the research design, supported the data collection process, and collaborated in creating research outputs, including this report. FSD Kenya also convened the MSME Advisory Group which served as a valuable sounding board throughout the project, responding to early research findings, and advising on Kenyan priorities and context.

The authors acknowledge the contributions of Rachael Eplee, Laura Freschi, Yeji Lee, Camila Londoño Sanin, and David Pinedo De La Hoz in creating this report.

About the Study

The Small Firm Diaries is a global initiative to better understand small firms in low-income neighborhoods of developing countries.

Visit smallfirmdiaries.org for more information and additional publications.

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