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DEVELOPMENT**  
GOVERNMENT OF INDIA

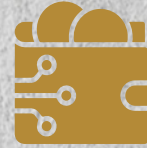


**LEAD** LEVERAGING EVIDENCE FOR  
ACCESS AND DEVELOPMENT  
KREA UNIVERSITY

# E-NABLING WOMEN ENTREPRENEURS: DIGITAL SOLUTIONS FOR FINANCIAL MANAGEMENT

## INSIGHTS FROM A PILOT STUDY

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## FOREWORD

Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM), is the flagship programme of the Ministry of Rural Development, Government of India. The programme focuses on improving the social status and economic capabilities of rural women through the formation of collectives, intensifying and expanding their existing livelihoods, identifying alternative economic opportunities, and improving access and linkages to markets through their collectives. Since its inception, the programme has made significant progress in mobilising rural poor and vulnerable women into their institutions at various tiers. DAY-NRLM interventions have also supported Self Help Group (SHG) members in taking up small businesses over the years by providing Revolving Funds (RF) and Community Investment Funds (CIF) with additional credit needs being arranged through Bank linkages.

Since 2019, LEAD at Krea University, under its Solutions for Transformative Rural Enterprises and Empowerment (STREE) programme, has assisted NRLM in testing digital solutions for growth-oriented enterprises under the National Rural Economic Transformation Project (NRETP). Under the e-Financial Management System project, entrepreneurs across three states were trained on digital bookkeeping practices, with support from the Block Business Development Service Providers. This report presents learnings from the experiences and outcomes of implementing the e-Financial Management Solutions (e-FMS) pilot. The project is a welcome step towards enhancing digital financial literacy among rural women entrepreneurs.

In the digital age, the ability to understand and leverage simple and efficient digital financial tools becomes increasingly vital. For rural women entrepreneurs, this knowledge can facilitate market access, and improve business efficiency, among other benefits. I appreciate the technical assistance provided by the LEAD team to DAY-NRLM under the programme and hope that the learnings from the project will inform future efforts to connect women entrepreneurs with the digital economy.

  
(CHARANJIT SINGH)

## Acknowledgements

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# Key Insights





Recordkeeping is an essential practice adopted by enterprises to record their day-to-day financial activities. It helps entrepreneurs track their cash flows and assess their profitability. A majority of women-led enterprises in India fall under the nano and micro-enterprise category, are largely informal and use traditional or manual bookkeeping methods.<sup>1</sup> Moreover, entrepreneurs often do not maintain proper records of transactions, due to various reasons such as lack of skills and fear of tax liabilities.

Digital solutions such as recordkeeping applications present an opportunity to bridge this gap, by replacing the drudgery and arithmetic overload involved in manual bookkeeping systems. Moreover, in the absence of formal credit histories, these digital data points can enable formal lending institutions to assess the enterprise's financial and operational health and provide growth capital. Although smartphone usage has increased tremendously in India in recent years, there is a large gender gap primarily due to the prevailing social norms that dictate a woman's access to digital services. Oxfam's India Inequality Report 2022 suggests that only one-third of internet users are women; they are less likely to use mobile internet services than men. This gap further increases for rural women. Data from the National Family Health Survey (NFHS, Round 5) suggests that only 25 per cent of rural women have used the internet in comparison to 52 per cent of urban women. Similarly, 47 per cent of rural women have a mobile phone compared to 69 per cent of urban women. Under the Solutions for Transformative Rural Enterprises and Empowerment (STREE) program, we tested the efficacy of adopting digital ledgers - an e-financial management solution for women entrepreneurs associated with Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM). The pilot study was conducted with 504 entrepreneurs, across Ratnagiri (Maharashtra), Erode (Tamil Nadu), and Tumkur (Karnataka), between November 2022 to August 2023.

A two-day in-person training was conducted for the block Business Development Service Providers (BDSPs) to orient them on the purpose of the intervention. BDSPs were also trained on delivering the financial management content during every visit. The app partners Khatabook and myBillBook also trained the entrepreneurs on using the features of the apps. A step-by-step guide on registering oneself on the app, recording transactions, creating invoices and using other features available on the app was provided as well.

<sup>1</sup> Under the National Rural Economic Transformation Project (NRETP), nano enterprises are those that have a turnover of up to INR 6 lakhs per annum.



## Entrepreneur Profile, Financial Readiness and Skills



**96%** of the respondents were female entrepreneurs

63 per cent of the respondents had completed schooling up to class 10. The average age of the entrepreneurs in the sample was 41 years.

**89%** use WhatsApp



The top three apps used on smartphones were messaging apps and video streaming apps such as YouTube, Mitron, etc. (63 per cent) and payment apps such as Google Play, PayTM, and PhonePe (55 per cent).

Bank account penetration is high, with nearly all the entrepreneurs having a bank account. The usage of digital payments was higher among entrepreneurs who had separate bank accounts for their businesses.



Only **12%** of entrepreneurs who used digital payments also had a voice box.

*A large proportion of enterprises is engaged in production. Entrepreneurs have a high level of financial and digital readiness - nearly all entrepreneurs have a bank account and two-thirds own a smartphone. WhatsApp is the most common application used by entrepreneurs.*

**49%** 

**Production was the most common enterprise activity**

followed by Trading (31 per cent) and Services (20 per cent).



**72%** of the entrepreneurs reported possessing Financial Skills

while 90 per cent considered it important for their business. Similarly, 61 per cent of entrepreneurs possessed Accounting Skills with 82 per cent considering it important.



At baseline, **65%** of the entrepreneurs owned a smartphone in addition to seven per cent of entrepreneurs who used a shared smartphone

51 per cent of smartphone users spent less than 2 hours daily on their devices. The top three uses of smartphones were contacting customers (86 per cent), contacting family and friends (85 per cent) and being contacted by customers (68 per cent).



**95%** reported preferring to take a loan for their business from formal sources

with loans from the Self-Help Group-Village Organisation-Cluster Level Federation (SHG-VO-CLF) network being the single largest channel. Formal loans are also suitable when the loan size is large and the repayment duration is longer than a year.





## Adoption of Digital Recordkeeping Solutions

The evaluation found an improvement in the recordkeeping practices in the intervention block. According to the data collected after the end of the intervention. Recordkeeping practices include both digital and manual methods of maintaining records.



**75%** of entrepreneurs in the intervention block reported having adopted recordkeeping practices for their business in contrast to 57 per cent in the comparison block.

**80%** of the entrepreneurs who had at least completed schooling above 8th class were better at adopting recordkeeping practices than those who completed schooling till 8th class.

These entrepreneurs were also able to use the e-FMS app on their own and do not rely on family members/peers to access the app.

*The availability of multiple touchpoints for participants and active hand-holding support through follow-up visits by trainers play a significant role in enabling the adoption of the digital bookkeeping application and sustaining its use over time.*

Entrepreneurs who received intensive support performed better in using the e-FMS app to access their business information. These entrepreneurs were supported with frequent hand-holding visits and would record their transactions in the daybook diary before being entered into the app.



**87%** of the 45 entrepreneurs surveyed in this cohort used the app to determine their profitability.

Among entrepreneurs that had a higher likelihood of continued usage

**67%** of users reported generation of invoices as the most useful feature.



Entrepreneurs from the intervention block who received intensive support, which included frequent visits by facilitators and provision of a daybook diary, were more likely to continue using the app than the entrepreneurs who did not receive this support.<sup>2</sup>

The majority of the entrepreneurs who were interested in using the app for the long term, wanted the regular training visits to continue.



*Earlier I used to write in a notebook. Sometimes I would forget to do that. Whenever I was asked about my sales I could not tell whether it was for cash or credit. Now by using this app, I can know how much has been paid and what is overdue. Initially, it was tough to use the app, but the facilitators came and cleared all my doubts. Now it's easy for me to use.*

- A female entrepreneur from Gobi, Tamil Nadu who owns a small limestone kiln.

<sup>2</sup> Daybook is a type of book of record which contains a summary of all transactions recorded in a day.

# 1 Background





Recordkeeping is an essential practice adopted by enterprises to record the day-to-day financial activities of the business. It is used by entrepreneurs to track their cash flow and assess whether their business is profitable or not (Rachapaettayakom et al., 2020). The absence of recordkeeping can lead to the enterprise burning money and not utilising expansion opportunities, and in severe cases, to the closure of the business (Seman et al., 2019). Many small enterprises do not maintain proper books of records as they find it time-consuming or lack the necessary skills to do so. Enterprises also have the perception that adopting such a practice can disclose the tax liabilities of the enterprise (Chhabra & Pattanayak, 2014). This has made it a common practice among small entrepreneurs to maintain their financial records in their minds rather than through written records.

Innovations in computer, internet, and mobile technologies have led to computerised accounting systems replacing manual accounting systems due to which recordkeeping is now swift and error-free (Vadgama et al., 2019). Mobile applications that provide recordkeeping services are also available for small entrepreneurs, allowing them to adopt such systems for their businesses at a low cost. Such applications offer additional features such as invoicing, inventory management, reminders for receivables, and producing financial statements (Rahmayanti & Rahmawati, 2018) (Kholid et al., 2020) (Kamau et al., 2023) (Rajput et al., 2022). Small enterprises are more likely to adopt such mobile applications if they are easy to use and do not require high technical accounting knowledge. Besides, such enterprises prefer to use a single-entry system which makes mobile applications all the more useful as the apps can change single-entry records into double-entry records in order to generate financial statements (Kamau et al., 2023).

Although smartphone usage has increased tremendously in India in recent years, there is a large gender gap primarily due to the prevailing social norms that dictate a woman's access to digital services (GSMA, 2019) (Oxfam India, 2022). Only one-third of internet users are women who are also less likely to use mobile internet services than men. This gap further increases in the case of rural women, where only 25 per cent had ever used the internet in comparison to 52 per cent of urban women. Similarly, 47 per cent of rural women have a mobile phone compared to 69 per cent of urban women (NFHS, Round 5). Women also feel that male family members monitor their phone usage, limiting their agency in making the most out of digital financial services. Furthermore, with the sophistication of each mobile task, women have to rely on their family members for support which in most cases are their children (Barboni et al., 2018) (Sonne, 2021). As such, any digital intervention focusing on enabling rural women entrepreneurs to avail digital services should feature support mechanisms that provide significant hand-holding measures. While women-owned enterprises face several barriers in digital adaptation, rural entrepreneurs linked with Self-Help Groups (SHGs) have better adaptability to digital literacy and digital payment services when compared to other women-owned rural enterprises. However, they severely lagged behind their urban counterparts when it came to online selling, digital marketing and digital recordkeeping (Shah et al., 2022).

Under the STREE initiative, LEAD tested the suitability of adopting digital ledgers by women entrepreneurs associated with the NRETP. This report presents key findings from the evaluation.

# 2

## Project Background and Objectives



From 2019-2023, LEAD's STREE program provided technical assistance to the DAY-NRLM to implement interventions targeted towards scalable enterprises, under the NRETP. The e-FMS pilot study aimed to test the efficacy of digital ledgers to improve the recordkeeping practices of growth enterprises within the NRETP. Two digital ledger applications, Khatabook and myBillbook, were onboarded for the pilot that was implemented in three districts: Ratnagiri (Maharashtra), Erode (Tamil Nadu), and Tumkur (Karnataka).

The study had the following objectives:

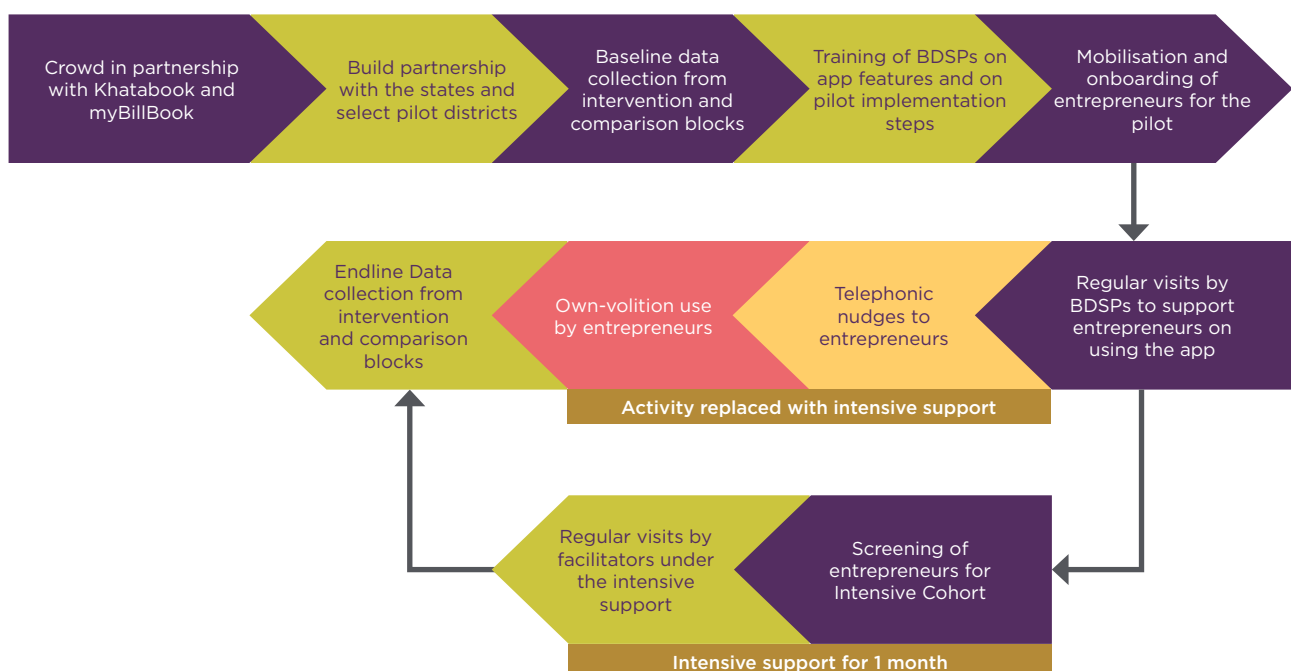
- Assess the major bottlenecks that impede the practice of bookkeeping by nano and micro-entrepreneurs
- Understand the digital adaptability of the SHG-run enterprises
- Utilise the competitive private app space to identify a performance tracking system that is easily downloadable and maintainable
- Measure the ease of performance tracking for enterprises by BDSPs using transparent records

## 2.1 Intervention Design

The pilot activities began with the baseline data collection across the implementation districts. Baseline data was collected from Ratnagiri in November 2022, Erode in January 2023 and Tumkur in February 2023. The e-FMS pilot was originally designed as a layered intervention with One Stop Facilities (OSF) cadres called BDSPs acting as mobilisers. BDSPs are local community members who work as business extension providers to entrepreneurs with each OSF block supported by 4-5 BDSPs. The following support structure assisted the BDSPs in maintaining regular contact with the entrepreneurs on matters of financial management using digital means:

1. Placement of a DAP (District Anchor Person) for on-ground hand-holding, field planning and refresher sessions
2. Dedicated training sessions organised by the app partners at the intervention block OSFs
3. Cascade of additional discussion content on financial management, curated by USAID and DAI's Digital Frontiers, in vernacular languages
4. Token incentive for the additional 10-15 minutes spent per visit with the entrepreneurs to onboard and retain them as app users.
5. Regular monitoring visits by the team on the ground for performance improvement and refreshers.

**Figure 1:** Intervention Design





## Original Design

The original implementation design was based on the following assumptions:

1. Availability of a dedicated and fully staffed cadre working exclusively on non-farm livelihoods promotion under NRETP, viz., the BDSPs; assuming that each BDSP caters to roughly 10-15 entrepreneurs who are part of the OSF
2. High entrepreneur density per village, leading to a regular frequency of contact and familiarity (weekly/bi-weekly) between BDSPs and entrepreneurs, ranging between 2 to 4 visits per month per entrepreneur
3. Availability of smartphones with a critical mass of women entrepreneurs affiliated with NRETP

The pilot was implemented through an iterative project management technique. Based on some observed deviations from the root assumptions listed above, the implementation design was revised from a layered intervention to an intensive approach. The deviations observed were as follows:

- The ratio of BDSP to entrepreneurs varied significantly between the three states, ranging from 2:150 in Ratnagiri to 9:300 in Erode and 7:150 in Tumkur, impacting the number of touchpoints.
- The density of entrepreneurs was low, with an average of 3 entrepreneurs per panchayat in Ratnagiri, 6 in Erode and 5 in Tumkur. The intervention group was thinly spread, thereby doubling the challenges faced by BDSPs in maintaining the touchpoints intended under this pilot

Both these factors impacted the implementation pace and led to low usage stats and pilot cohort retention. Thus, it was decided to forgo the DAP-led telephonic nudges and the own-volition use phase and extend the time frame for BDSP-led mobilisation.

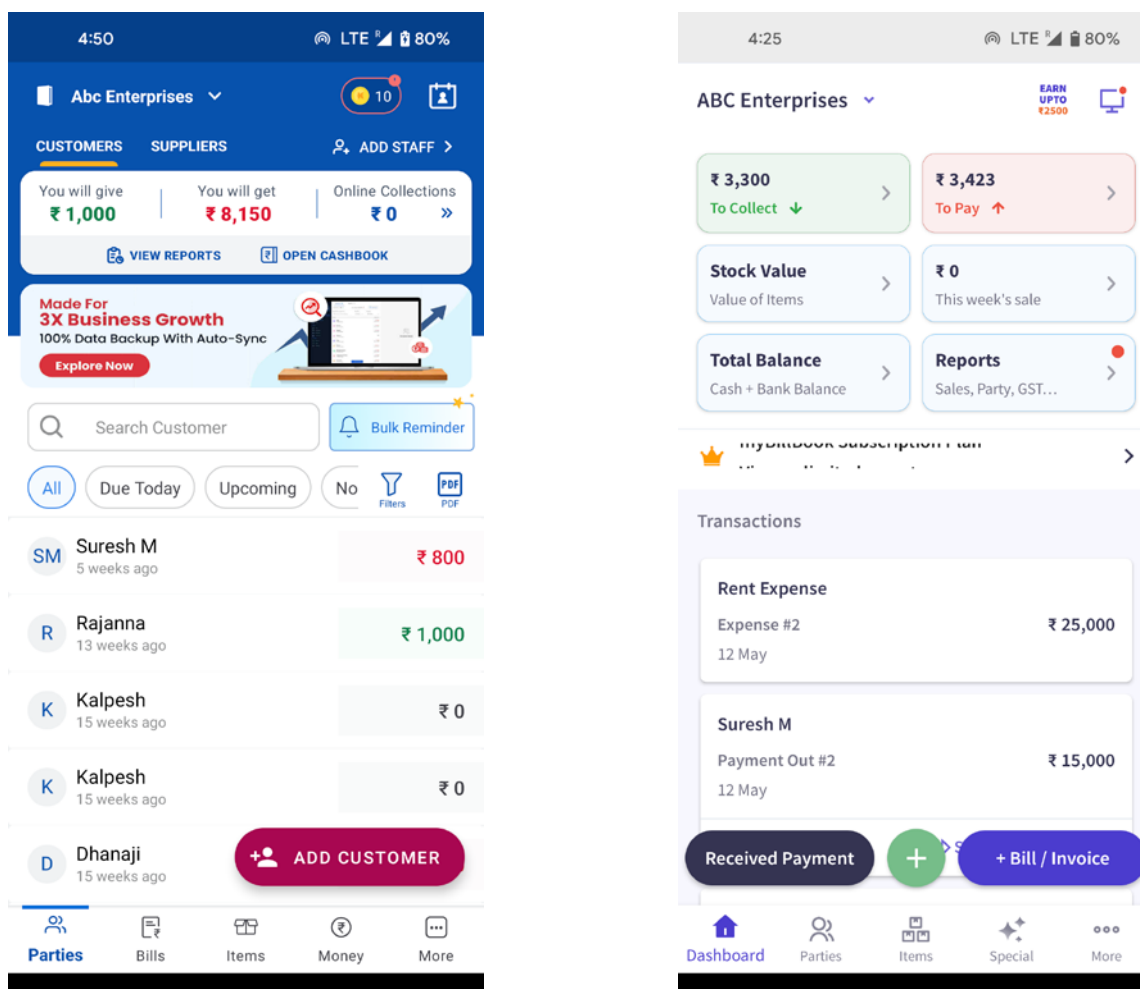
## Testing the Solution with an Intensive Support Cohort

The intervention design was adapted during the final phase of the intervention with the deployment of 'intensive support' extended to a smaller group of entrepreneurs. We did this to assess whether the entrepreneurs' reluctance to adopt digital ledgers can be redressed through a dedicated field team.

- Teams of 2 facilitators joined the DAP in each state to closely work with the entrepreneurs and support them in using the apps.
- The team conducted a screening survey to identify interested entrepreneurs to participate in the intensive support cohort.
- The entrepreneurs also provided their consent to allow the facilitators to access and collect their transaction reports through the app.
- A daybook diary that was custom-created as per the apps was provided to the shortlisted entrepreneurs. The entrepreneurs were expected to maintain the daybook on a regular basis with their business transactions alongside the app.
- The facilitators visited the entrepreneurs weekly to compare the transactions recorded on the app with the daybook. During these visits, the entrepreneurs shared the daybook reports available on the app with the facilitators.
- Besides monitoring, the facilitators also supported the entrepreneurs in addressing any issues they faced while using the app. The group of entrepreneurs that received this support formed the Intensive cohort.

## e-FMS Application Description

Khatabook and myBillBook were the apps used in the pilot. Both are digital ledger apps designed for small and medium businesses to record their transactions. The apps are available for free on Android and iOS devices along with desktop and web browser versions. Key features of the two apps are their ability to create and share invoices, track and settle credit transactions, view summarised reports and track inventory. During the pilot, Khatabook was tested in Maharashtra and Karnataka; myBillBook was tested in Tamil Nadu.

**Figure 2:** Screenshots - Homepage of Khatabook and myBillbook applications

Both apps have a similar layout with multiple tabs and a Homepage/Dashboard that displays the summary of recent transactions and amounts payable/receivable by the enterprise.

### Key Features

- First-time users can register themselves on the apps through their mobile numbers and create their profiles.
- The apps allow the users to record a variety of transactions that a typical enterprise experiences such as sales, purchases and expenses.
- The apps generate bills and invoices for every transaction which can then be shared digitally with customers and suppliers.
- Additionally, the apps summarise all transactions recorded on the application by generating a variety of business reports. Users can access and download pdf versions of these reports which can be used for auditing purposes, accessing various schemes and making important business decisions.

## 2.2 Pilot Rollout and Implementation

### 1. Training the Facilitators

- LEAD and the app partners conducted a two-day in-person training for the intervention block BDSPs.
- BDSPs were oriented on the purpose of the intervention and were also trained on delivering the content to the entrepreneurs during every visit. This content consisted of the following modules - Financial Management, Know Your Phone, Digital Payments and Business Promotion (the content was adapted from existing training modules developed by USAID and DAI).

- The app partners also trained the entrepreneurs on using the features of the e-FMS apps. This training was delivered by trainers from Khatabook and myBillBook who gave a step-by-step guide on registering oneself on the app, recording transactions, creating invoices and using other features available on the app.
- 31 participants attended the training across the three locations.

## 2. Mobilisation Plan

- The mobilisation plan focused on entrepreneurs who had access to a smartphone. BDSPs supported the interested entrepreneurs to download and register themselves on the e-FMS app using their mobile numbers.
- Registered phone numbers shared by the BDSPs were verified by the app partners after which the entrepreneurs were confirmed as part of the mobilised cohort.
- This entire process of mobilisation including confirmation from app partners lasted for a month.
- A total of 329 entrepreneurs were mobilised in the intervention blocks across the 3 states.

**Table 1:** Baseline Sample Description

State	District	Intervention Blocks	Number and Percentage of Entrepreneurs Mobilised out of the total cohort
Maharashtra	Ratnagiri	Ratnagiri	114 (60%)
Tamil Nadu	Erode	Gobi, Modakurichi	132 (51%)
Karnataka	Tumkur	Chikkanayakanahalli	83 (57%)

## 3. Monitoring

- For entrepreneurs to become sticky users, they were nudged through multiple, continuous touchpoints which translated into eight touchpoints and reminders.
- In addition to app sensitisation, the BDSPs also delivered financial management content during these visits.
- The DAP closely monitored the progress of these visits by tracking the number of visits made and the app usage status of the entrepreneurs.
- The BDSPs incentives were calculated based on the average number of visits conducted by them to every entrepreneur during the month.
- For the intensive support visits conducted during the last month of the intervention, a SurveyCTO-enabled tool was created to track the progress of the visits. This tool allowed for capturing the entries made on the daybook diary as well as the daybook report of transactions recorded on the app.

## 2.3 Evaluation Methodology

A quasi-experimental design was used for the evaluation. The states were selected by the DAY-NRLM based on the following criteria:

- Should be an NRETP implementing state
- Should have mature federations, assessed through prior experience in implementing enterprise programs
- High internet connectivity, based on data from the Internet and Mobile Association of India, May 2020
- High mobile phone usage by women, based on indicators from the NFHS, Round 5 (2020-21)



Karnataka, Tamil Nadu, and Maharashtra were the selected states. Each SRLM selected an intervention district consisting of at least two comparable OSFs (similar socio-economic background, level of urbanisation, etc). The two comparable OSF blocks were assigned as intervention and comparison in consultation with the district administration. The e-FMS pilot was only implemented in the intervention blocks with BDSPs supporting the entrepreneurs to adopt the digital ledger applications. Baseline and endline data were collected from both the intervention and comparison arms in all three states to facilitate comparison over time and to control for any externalities.

**Table 2:** Intervention and Comparison Blocks

	<b>Maharashtra</b>	<b>Tamil Nadu</b>	<b>Karnataka</b>
<b>District</b>	Ratnagiri	Erode	Tumkur
<b>Intervention Block(s)</b>	Ratnagiri	Gobi, Modakurichi	Chikkanayakanahalli
<b>Comparison Block(s)</b>	Sangameshwar	Anthiyur, Ammapettai	Sira

### Quantitative Inquiry

Short surveys were conducted to assess the effectiveness of each of the two digital ledger applications. The assessment covered the ease and frequency of bookkeeping in the app-based methods as compared to bookkeeping in the manual method. The Difference-in-Difference (DID) method was used to estimate the effect of the intervention by comparing the changes in outcomes over time between the intervention block and the comparison block (population that did not receive the intervention).

### Qualitative Inquiry

75 key informant interviews were conducted with the entrepreneurs and BDSPs across the comparison and intervention blocks during both the baseline and endline. The assessment with the entrepreneurs in the intervention block focused on understanding each application's usage and accessibility; while also identifying the ease of using certain features such as the process of recording transactions, invoicing and tracking income. Here, only the entrepreneurs that participated in the pilot were interviewed with a larger concentration of intensive cohort entrepreneurs. On the other hand, the interviews in the comparison blocks assessed the general recordkeeping practices of the entrepreneurs and the challenges associated with such practices.

The interviews with intervention block BDSPs focused on understanding their experience in facilitating the pilot and the scope of scaling up such an intervention through a layered model. Conversely, in the comparison blocks, the assessment focused on understanding their awareness of recordkeeping practices and their experience in engaging with entrepreneurs to promote such habits.



# 3

## Key Findings





### 3.1 Entrepreneur and Enterprise Profile

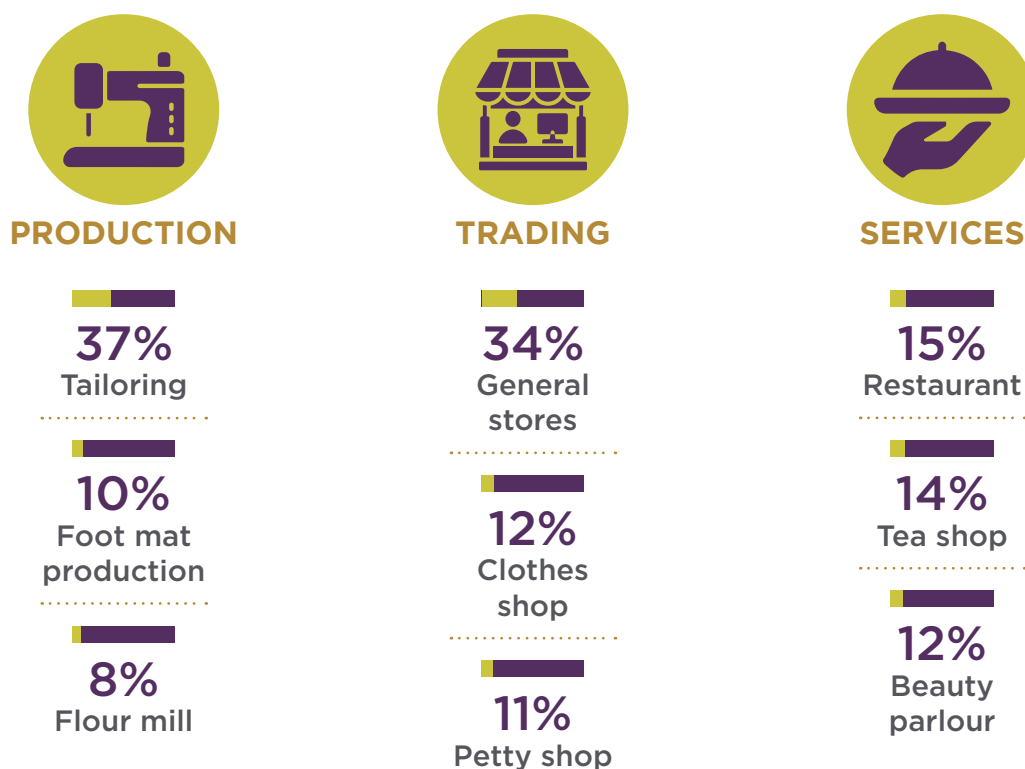
The respondents consisted of nano entrepreneurs that are supported under the OSF model. The sampling frame for data collection activities was based on block-level entrepreneur listing data provided by the respective OSFs. The sampling plan for respondents was proportionate to the type of enterprises present in each block i.e. production, trading or services. 504 entrepreneurs were surveyed across the three states with 251 representing the intervention blocks and 253 from the comparison blocks.

Overall, 96 per cent of the respondents were female entrepreneurs; 63 per cent of the respondents had at least completed schooling up to class 10. Their average age was 41 years and the median age was 42 years. The average household income stood at Rs. 26,344 while the average monthly business revenue stood at Rs. 18,823. The average family size was four which included two earning family members.

Overall, entrepreneurs' sources of income were from family members with a salaried job (42 per cent), having a salaried job themselves (24 per cent), or drawing agricultural income (27 per cent), apart from the income generated from the enterprise. However, there are state-level differences: in Maharashtra and Tamil Nadu, most entrepreneurs had family members with a salaried job, compared to any other income source. In Karnataka, most entrepreneurs had additional income from agriculture. Tamil Nadu reported the highest number of entrepreneurs who only earned from the NRETP enterprise (20 per cent); this number is less for Maharashtra (14 per cent) and further lower for Karnataka (8 per cent).

Nearly half of the enterprises were involved in Production activities (49 per cent), followed by Trading (31 per cent) and Services (20 per cent). The top three enterprises in each sector were as follows:

**Figure 3:** Top Three Sectors and Activities in the Sample





89 per cent of the enterprises were individually owned with the remaining enterprises being partnership firms. Formal loans were the major avenue for seeking credit with SHG (76 per cent) being the largest source followed by banks (11 per cent) and other financial institutions (8 per cent). For the endline assessment, respondents within the intervention block were subdivided into the following categories:

**Table 3:** Categorisation of Respondents Within the Intervention Block

Subgroups within intervention blocks		No. of Respondents
T1	Entrepreneurs who did not participate in the pilot	91
T2	Pilot participants who did not receive Intensive Support	115
T3	Pilot participants who received Intensive Support	45



# ENTREPRENEUR AND ENTERPRISE PROFILE

Sample Size of Entrepreneurs

	Intervention	Comparison	Overall
Overall	251	253	504
Maharashtra	86	93	179
Tamil Nadu	81	81	162
Karnataka	84	79	163



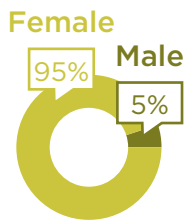
## ENTREPRENEUR PROFILE

■ Intervention (I) ■ Comparison (C) ■ Overall (O)

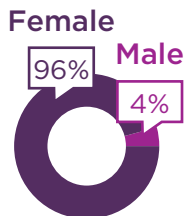


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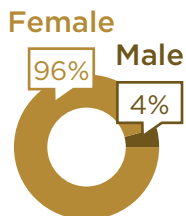
Intervention



Comparison



Overall



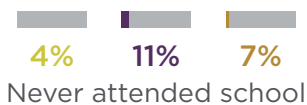
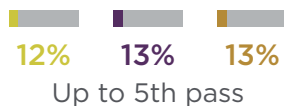
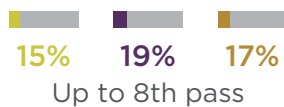
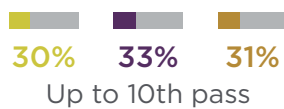
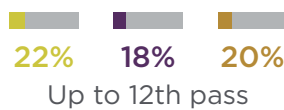
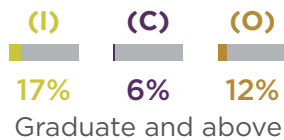
### AGE (IN YEARS)

Mean (I) (C) (O)

42



### EDUCATION



### HOUSEHOLD CHARACTERISTICS

Average number of family members

(I) (C) (O)

4

Average number of earning family members

(I) (C) (O)

2



### ENTERPRISE IMPORTANCE

(I) (C) (O)

14% 15% 15%

Sole source of income for the household

86% 85% 85%

Additional source of income for the household



### INCOME CHARACTERISTICS

(I) ₹ 26,386

(C) ₹ 26,303

(O) ₹ 26,344

Average household monthly income

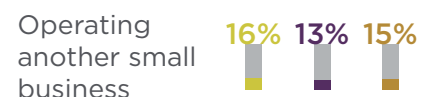
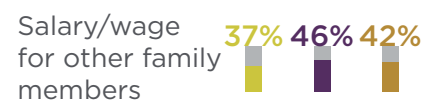
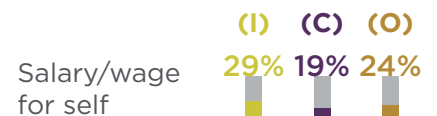
(I) ₹ 19,813

(C) ₹ 17,842

(O) ₹ 18,823

Average monthly revenue from enterprise

### Household income sources





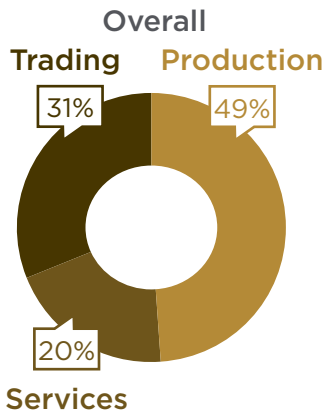
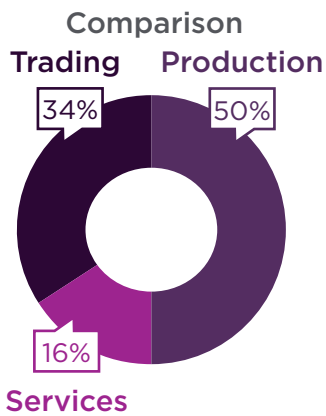
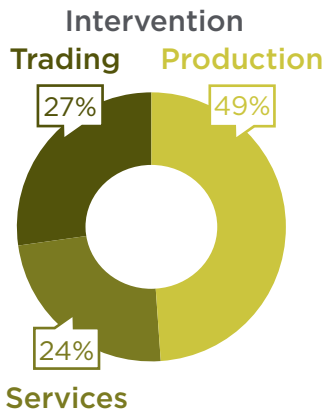


## ENTERPRISE PROFILE

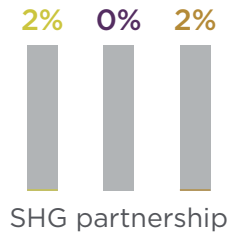
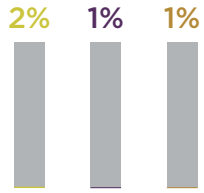
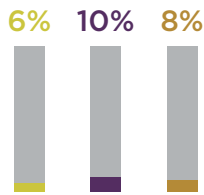
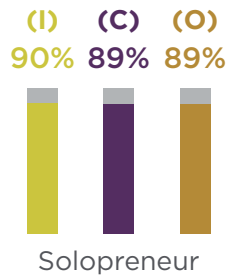
■ Intervention (I) ■ Comparison (C) ■ Overall (O)



### TYPE OF ENTERPRISE



### OWNERSHIP TYPE



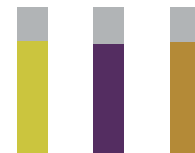
### CREDIT

Availed/planned to avail any loan for business during the past three years

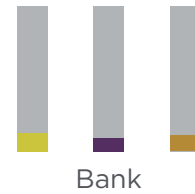
#### Source of loan<sup>3</sup>

(I) (C) (O)

77% 75% 76%



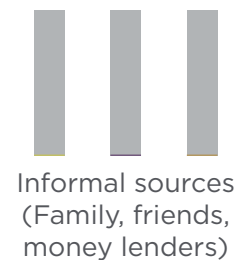
13% 9% 11%



1% 14% 8%



1% 1% 1%



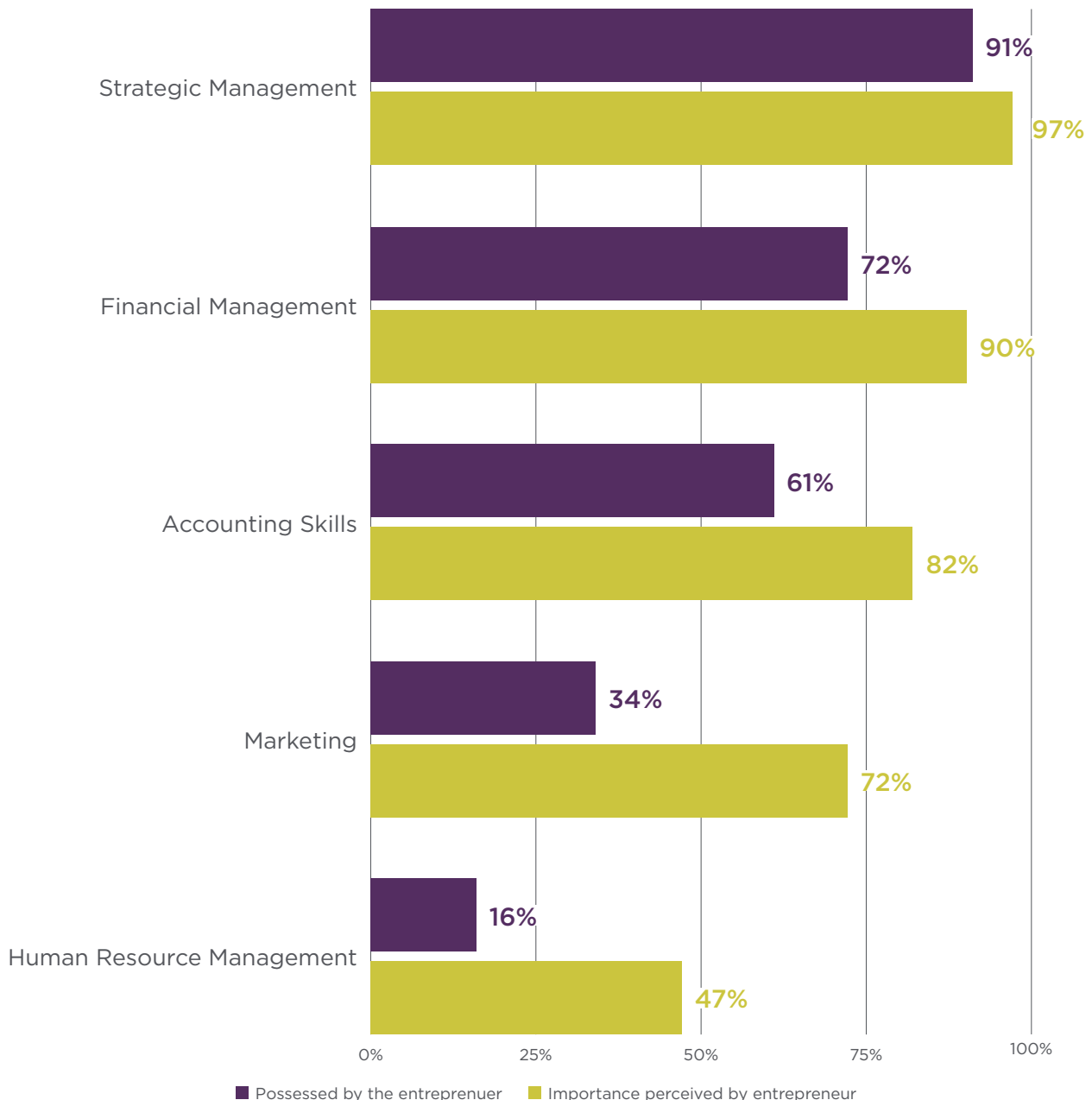
<sup>3</sup> Loan taken from multiple sources; therefore the percentage exceeds 100.



## 3.2 Skills and Financial Behaviour Snapshot

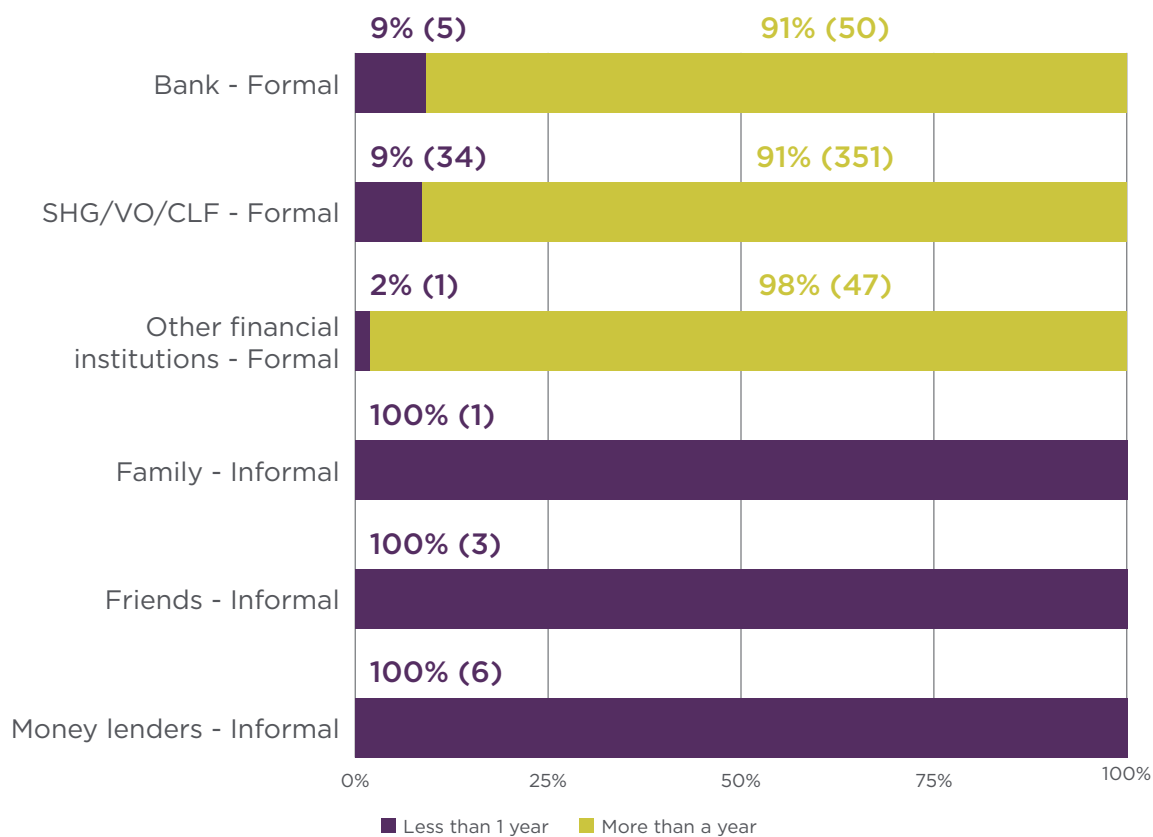
It was observed that several entrepreneurs did not acquire certain business skills even though they considered it important for their business. Strategic Management (decision making, communication, time management and leadership skills) was the most prominent skill possessed by them followed by Financial Management (planning expenses, preparing budgets, setting up prices and banking) and Accounting (bookkeeping, recordkeeping, preparing ledgers and tracking inventory). Only one-third of the entrepreneurs possessed Marketing skills (promoting products and services, setting up stalls, publicity). This number halved for Human Resource Management (managing employees, hiring and negotiating wages) at 16 per cent.

**Figure 4:** Gap Between Current Business Skills and Those Perceived Important by the Entrepreneur

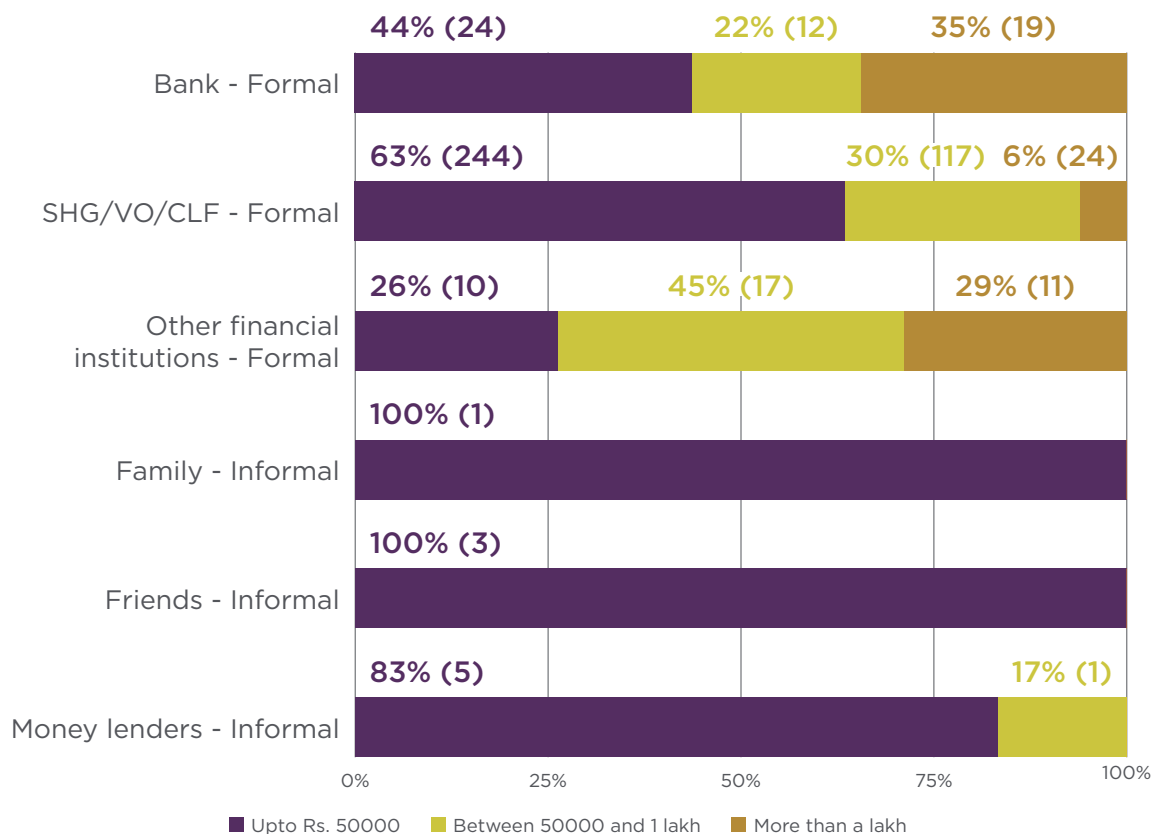


Entrepreneurs' perception of considering a skill to be important was useful in broadly understanding the presence of skill gaps within the respondent cohort. Financial Management and Accounting were deemed by most entrepreneurs to be important for their business and the e-FMS pilot aimed to address the gap in these skills through digital means. A significant gap existed in Marketing skills highlighting the importance of developing support mechanisms for nano entrepreneurs to build their marketing and branding capabilities.

**Figure 5:** Credit Seeking Behaviour of the Entrepreneurs

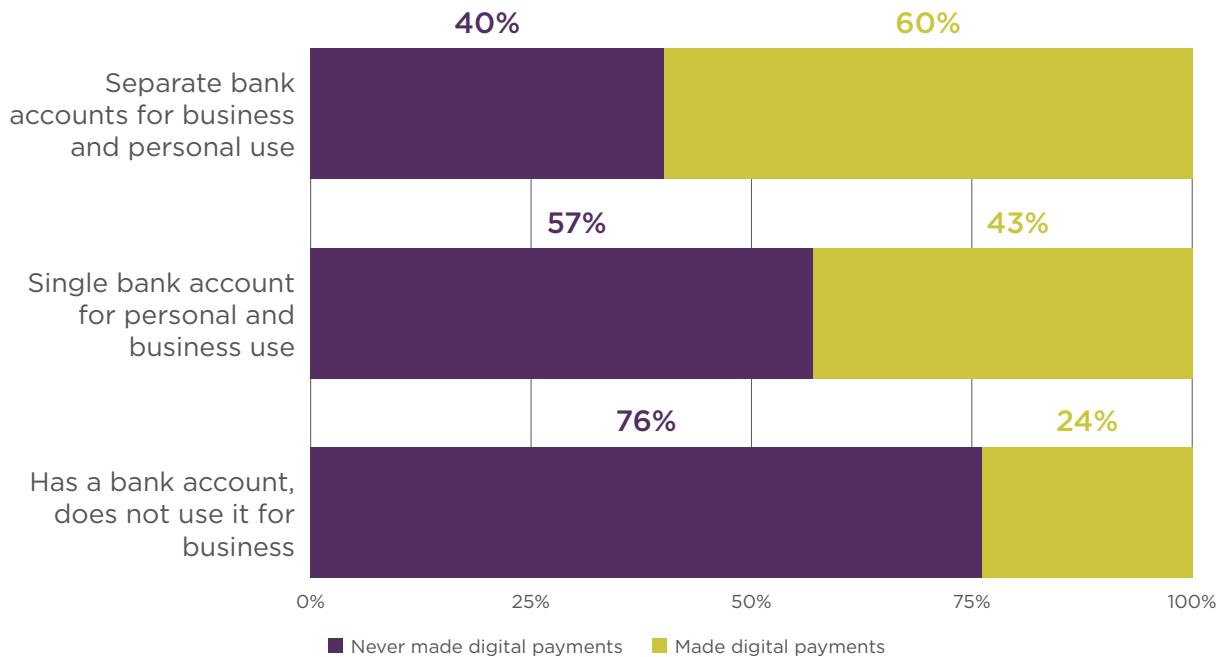


**Figure 6:** Size of Loan



Formal loan channels were the most preferred options with 95 per cent of the entrepreneurs opting for formal loans. SHG/VO/CLF network loans were the most prominent medium with a majority of these loans being for amounts less than Rs. 1,00,000. Formal loans were also considered for longer duration i.e. more than a year in comparison to informal loans which had a repayment period of less than a year and for a ticket size of less than Rs. 50,000. Additionally, the term of loans borrowed through informal channels was typically less than one year. The top three reasons for preferring formal loans to informal channels were lower interest rates (93 per cent) followed by an easier application process (73 per cent) and the absence of collateral requirement (54 per cent).

**Figure 7:** Relationship Between Using a Bank Account for Business Purposes and Digital Payments



More than 99 per cent of the entrepreneurs had a bank account with varying levels of usage for conducting business transactions. 80 per cent had a common bank account for both personal and business use with 85 per cent of trading enterprises, 79 per cent of services and 78 per cent of production units falling in this group. 16 per cent of users had separate accounts for business with more trading enterprises (85 per cent) adopting this approach than services (79 per cent) and production units (78 per cent). A small group did not use their bank accounts for business-related transactions (four per cent).

Additionally, only 45 per cent of the entrepreneurs had made digital payments in the past. As seen in figure 7, it can be observed that the likelihood of making digital payments increases as entrepreneurs begin using bank accounts for business purposes and it peaks when entrepreneurs have a separate business bank account.

A closer look at entrepreneurs' digital payment usage patterns for business purposes also indicated that they mostly received payments from customers (72 per cent) followed by payments to suppliers (55 per cent) and Mobile recharges (50 per cent). Out of the 221 users who had made a digital payment, only 12 per cent had a voice box.<sup>4</sup>

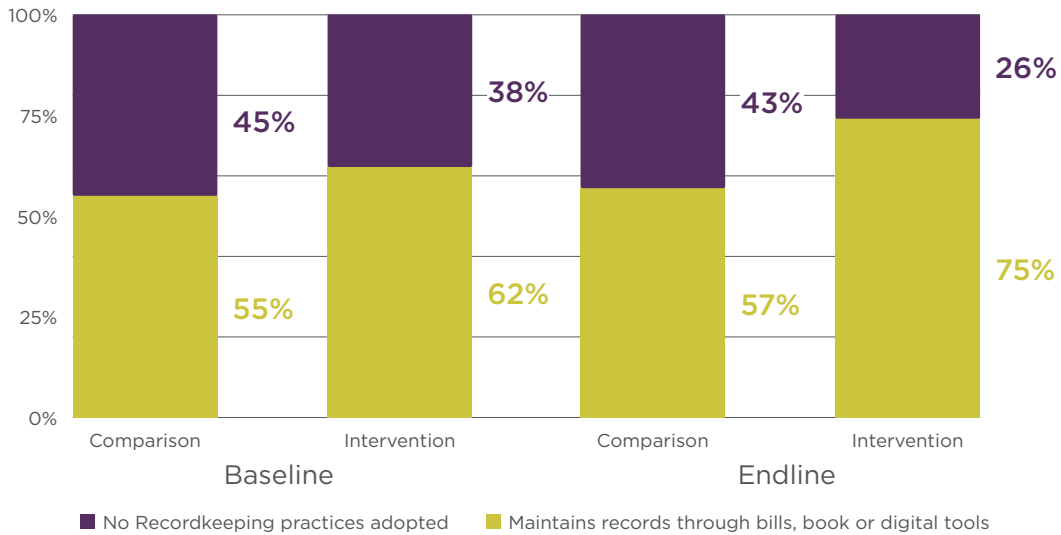
<sup>4</sup> A voice box is a device that gives audio confirmation about the amount received through any UPI app.



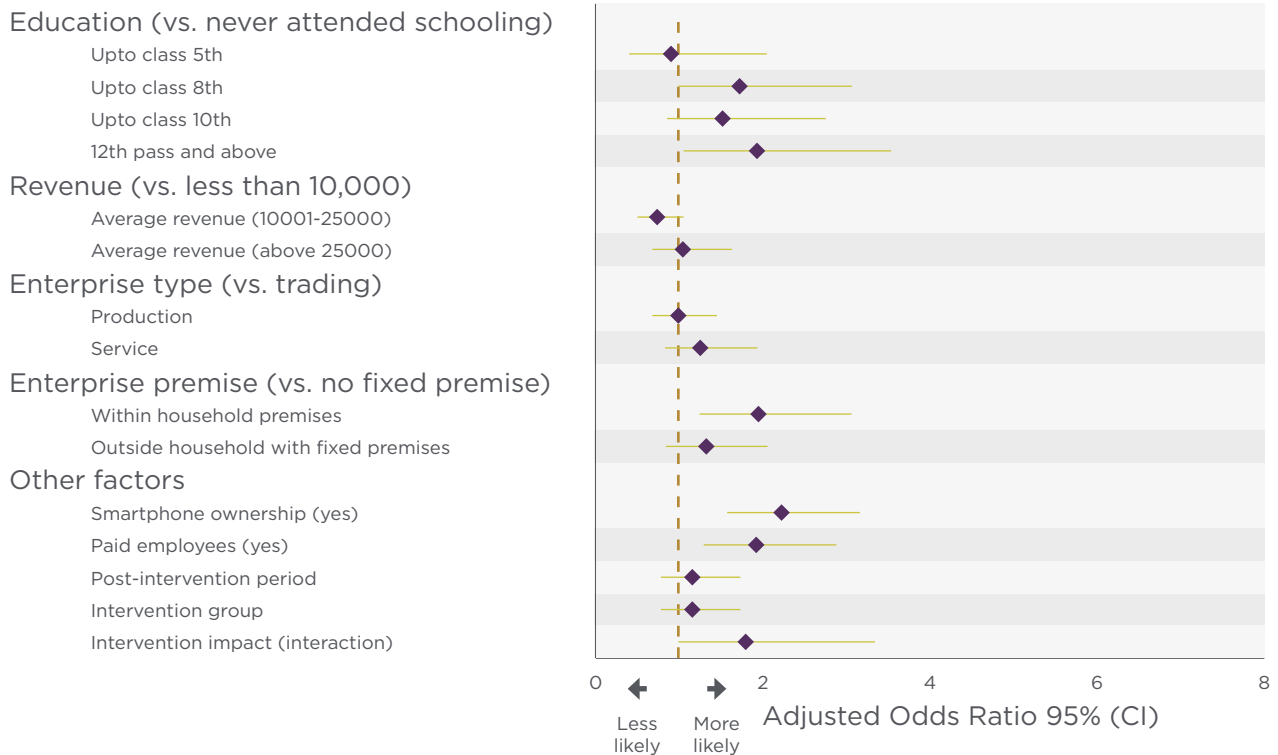
### 3.3 Impact of the Intervention

The intervention group has seen considerable improvement where 75 per cent of the entrepreneurs have adopted some recordkeeping practice. Moreover, 21 per cent of the intervention group entrepreneurs also maintained records through the e-FMS app. Adoption of digital bookkeeping is only present in the intervention blocks which can be attributed to the pilot.

**Figure 8:** Comparison of Recordkeeping Practices Between Baseline and Endline

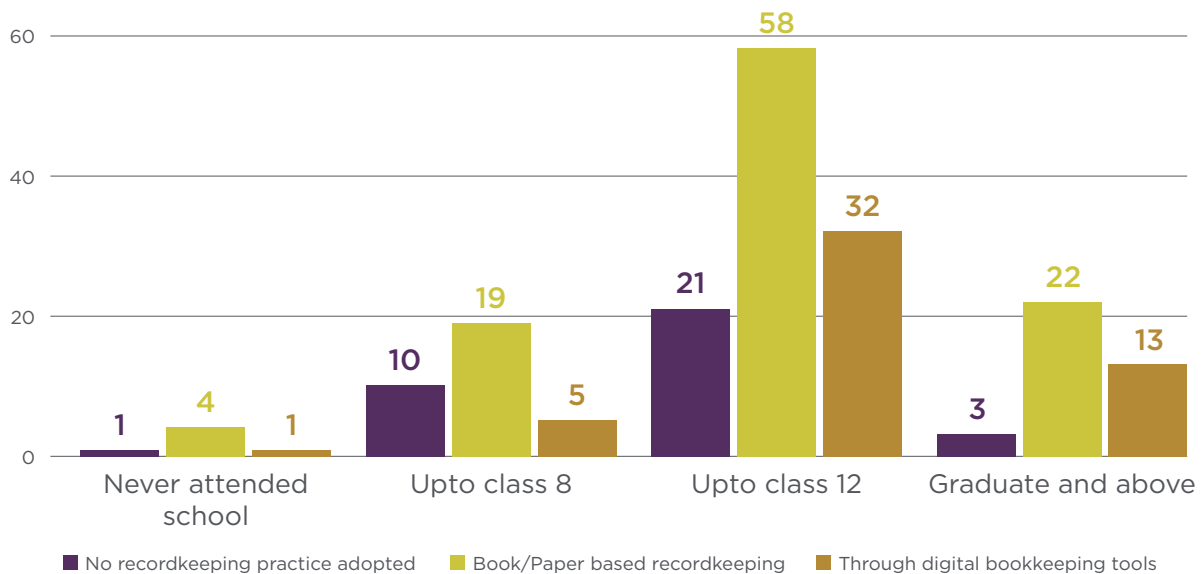


**Figure 9:** Forest plot of adjusted Odds Ratios (ORs) along with 95% confidence intervals for bookkeeping practices, by entrepreneur and enterprise characteristics



The impact on recordkeeping practices at the endline was also measured through the Difference-in-Difference method by controlling for entrepreneur and enterprise characteristics such as education level, business revenue, smartphone ownership, household earnings, enterprise type, paid employee count and location of enterprise. The above figure represents the forest plot of the adjusted odds ratios of adopting recordkeeping practices given the background characteristics and intervention. The entrepreneurs having education level 12th pass and above are 2 times more likely to adopt recordkeeping practices compared to those who never attended school. The entrepreneurs owning smartphones are 2 times more likely to adopt recordkeeping practices compared to those who do not own smartphones. The Overall impact of the intervention on recordkeeping practices is marginally significant as evident from the odds ratio (1.8) of the interaction term of intervention period and intervention group. However, the 95% Confidence Interval (0.97 to 3.30) indicates wider uncertainty in the estimates due to small sample size of the pilot study.

**Figure 10:** Link between Education and Recordkeeping Practices



Basic arithmetic and literacy are the core skills required by entrepreneurs to maintain records of their business transactions. The above chart features the education levels of entrepreneurs from the intervention block who were mobilised to participate in the pilot (160).<sup>5</sup> A majority of the participants who adopted paper-based or digital recordkeeping had at least completed schooling up to class 12.

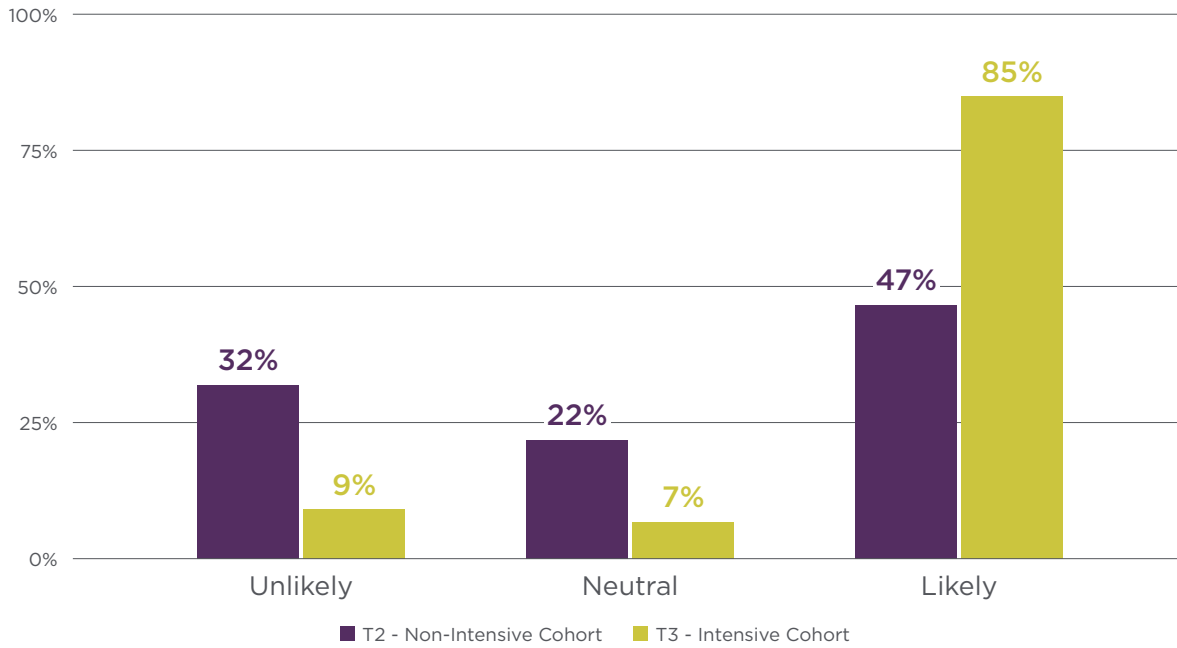
**Table 3:** Link between Education Level and Primary operator of the e-FMS app

Operator of the Digital Bookkeeping Tool	Never Attended School	Up to Class 8	Up to Class 12	Graduate and Above
Entrepreneur	0	2	28	13
Family and others	1	3	4	2

Higher education levels also signified the entrepreneurs' ability to learn and adopt the latest smartphone applications. The above table represents the primary operators of the e-FMS app in relation to the entrepreneurs' education level. Although entrepreneurs with higher education levels represented a majority of the e-FMS application users, they also were more independent in using the app by themselves and a small portion of them relied on their family members or peers.

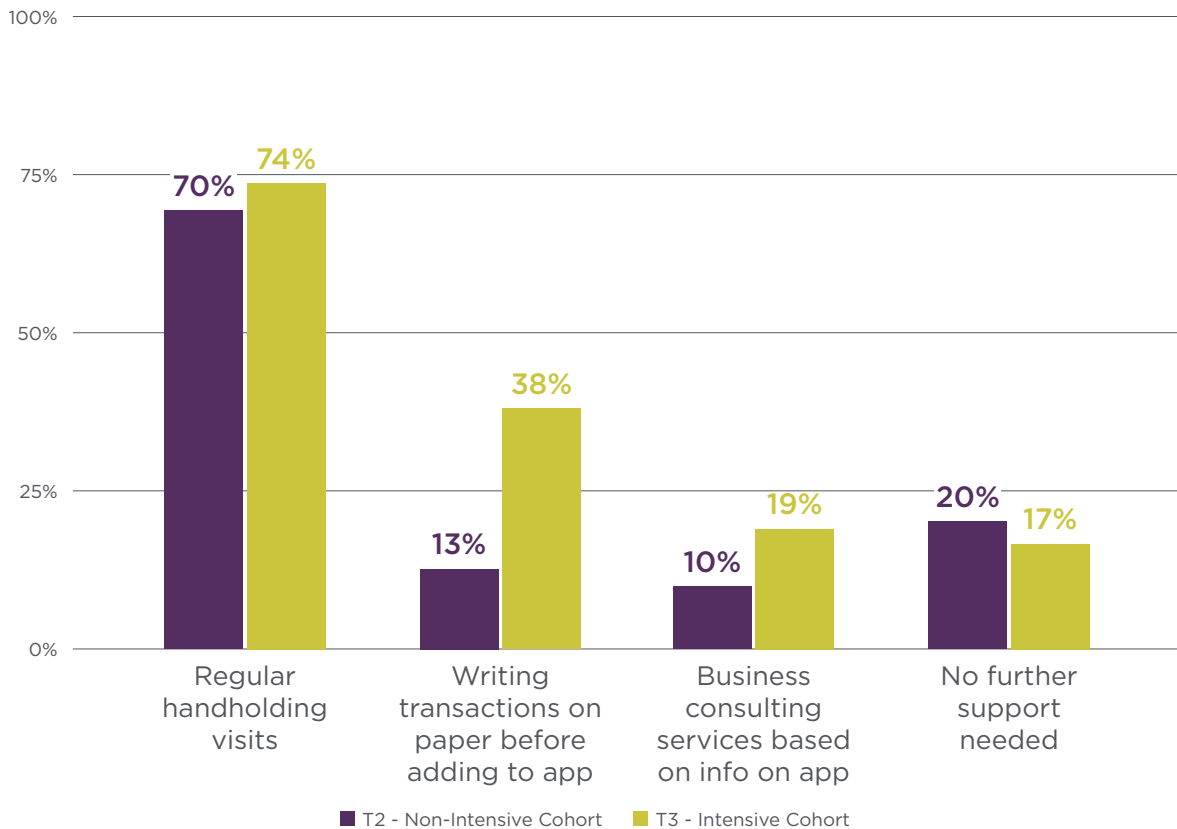
<sup>5</sup> Actual number visible in the chart is more than 160 since some entrepreneurs practise both paper based and digital recordkeeping.

**Figure 11:** Long-term Adoption of the App



Pilot participants from the intervention group belonged to two major categories which also determined the level of support they were provided to use the app. Those in the Non-Intensive Cohort only received BDSP support, while the Intensive Cohort participants were closely supported by separate facilitators for a month-long period. This enabled the Intensive Cohort to be more familiar with the app features and also identify the benefits of using such an app. A majority of the Intensive Cohort participants expressed that they were likely to continue using the app even after the pilot had ended.

**Figure 12:** Support Suggested for Long-term Adoption of the App

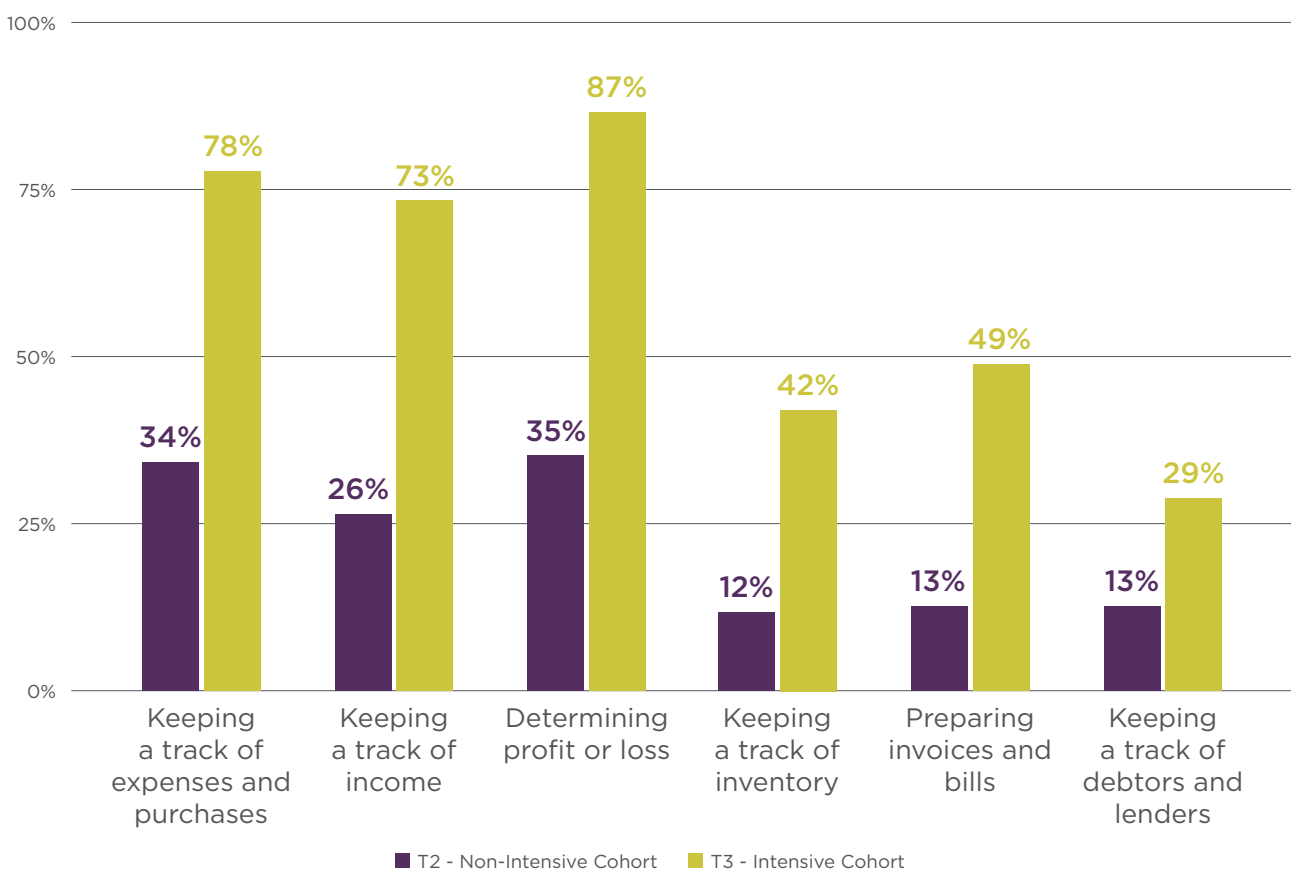




Between the Non-intensive and Intensive Cohort, a total of 92 entrepreneurs reported to likely continue using the app. A majority of the entrepreneurs across both cohorts opted for regular hand-holding visits as the support mechanism that they would need to use the app in the long term. While both the cohort participants did receive this support, the frequency of visits for the Intensive Cohort was higher than the one provided by the BDSPs. During the key informant interviews, the BDSPs cited that they were already overworked which affected their regularity in the visits. They further highlighted that long distances coupled with large durations of commute and unavailability of efficient means of transport were also a hurdle towards them administering the usage of the application.

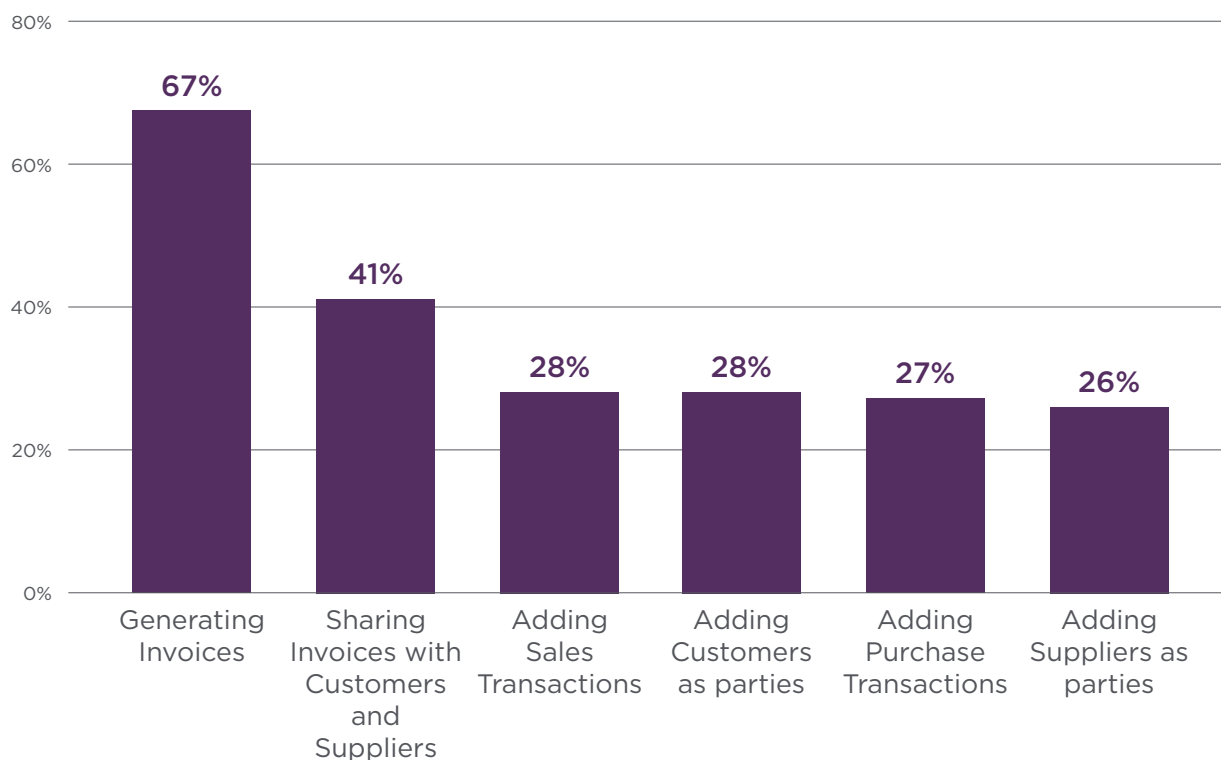
Apart from regular visits, entrepreneurs from the Intensive Cohort also preferred to write down their transactions on paper before recording the same on the e-FMS app. This is identical to the daybook feature provided to the Intensive Cohort where the entrepreneurs were expected to record their transactions before being added to the app.

**Figure 13:** Comparison of Information Accessed Through the App  
(Non-Intensive vs Intensive Support)



A direct comparison between the two cohorts that participated in the pilot indicated that most entrepreneurs under the intensive support were better off in accessing business information through the app than their Non-Intensive Cohort counterparts. This can be attributed to the fact that the Intensive Cohort found utility in assessing the financial health of their enterprise through the app since they were consistent in their recordkeeping habits over a period of time i.e. period of support. The entrepreneurs predominantly used the app to determine profitability and track the cash flow (expenses, purchases and income). It was also highlighted in the qualitative interviews that a majority of entrepreneurs did adopt maintaining their records on the app as they understood the utility of it.

A recurring challenge reported by the BDSPs was the inertia faced by entrepreneurs as they trusted the traditional know-how which had supported them in running their businesses. Those who had discontinued the usage of the app majorly cited paucity of time to be the reason behind their inability to maintain their records in the app. Some of them also cited the app-based method to be very complex, while their traditional practice served them better in managing their business.

**Figure 14:** Most Preferred App Features

The above figure represents the top six app features that were deemed to be useful by entrepreneurs across both cohorts who were likely to use the app in the future (N=92). Generating invoices was the most useful feature followed by sharing invoices with customers and suppliers. Such invoices are custom-created by the apps upon adding a transaction entry which can then be shared digitally by the entrepreneurs. Moreover, the invoices also contain necessary details of the enterprise, product/service, party name and other transaction details which makes it easy for the entrepreneurs to manage their customer/supplier relations.

# 4

## Implications and Recommendations





Findings from the evaluation suggest that hands-on training and regular hand-holding support play an important role in encouraging stickiness and supporting women entrepreneurs to leverage different features of digital applications. Ongoing support is important to encourage user adoption, especially for entrepreneurs who are new to both formal recordkeeping and digital applications.

- **Need for hand-holding visits at regular intervals:** The intervention was designed with the assumption that the BDSPs can provide ongoing hand-holding support to entrepreneurs for maintaining their financial records - by making regular entries in the e-FMS application and monitoring their progress. It was observed, however, that the BDSPs were unable to regularly visit the entrepreneurs, given their existing professional responsibilities and workload. Dissatisfaction with the compensation for the additional responsibility was another deterrent for the BDSPs to administer the usage of the e-FMS application. The entrepreneurs who were supported only by the BDSPs felt the need for frequent visits and more hand-holding support.

In the intervention block where the entrepreneurs were supported by the facilitators, the number of visits was reported to be adequate, thereby indicating that efficiency gains can be harnessed by leveraging dedicated cadres to provide hand-holding support through regular visits.

- **Regular Training of Trainers (ToT) for facilitators:** The BDSPs who participated in the pilot felt the need for regular training on the usage of the e-FMS application in order to be better prepared to tackle and troubleshoot the doubts and concerns of the entrepreneurs while administering the usage of the application. The BDSPs also expressed the need for refresher training to enhance their understanding of financial record management and bookkeeping practices.
- **Awareness of the importance of financial management and recordkeeping:** During each follow-up visit with the entrepreneurs, the BDSPs delivered study modules on 'financial management using digital means' to the entrepreneurs which served as a primer for them. However, such modules can have a better effect on the entrepreneurs if delivered at the start of the intervention. Self-paced learning modules can be provided to the entrepreneurs upon completion of which they can be onboarded on the e-FMS intervention. This would ensure that entrepreneurs have attained a foundational understanding of financial recordkeeping practices before learning to use a digital bookkeeping tool.
- **Gradual transition to app-based recordkeeping through paper-based practices:** It was observed during the Non-Intensive support that it was difficult for entrepreneurs to directly adopt a digital recordkeeping tool without being exposed to paper-based records. While a paper-based method is easier for entrepreneurs to adopt, it also enables them to develop a regular habit of recording their transactions. The entrepreneurs can then gradually learn to use the e-FMS app which helps in preparing invoices, identifying net profit and generating financial reports. This was the same approach used during the intensive support phase of the pilot when a daybook diary was introduced.
- **Need for a dedicated monitoring mechanism:** In order to enhance the impact of the pilot, a robust and dedicated monitoring mechanism is required. This can be done by the existing grassroots cadre such as BDSPs or through dedicated resources to monitor the monthly reports generated by the entrepreneurs through the application. Adopting the e-FMS application at the OSF level can ensure such monitoring as monthly/quarterly reports from the apps can be used by the OSF for the entrepreneurs' financial appraisal and business plan development.

The rapid adoption of digital technologies across various sectors of the economy is creating new opportunities for micro, small and medium enterprises. With the exponential growth in access to smartphones and low-cost data, digitisation can open up new avenues for nano and micro women entrepreneurs as well. However, gaps in digital skills and literacy pose a barrier to widespread adoption by these enterprises. This project sought to test a digital application for formalising recordkeeping practices of nano and micro women entrepreneurs associated with DAY-NRLM. The evaluation found that an intensive support model, i.e. regular handholding through in-person visits was more effective in encouraging entrepreneurs to adopt and use the application. While intensive support did ensure the adoption of the e-FMS app during the course of the pilot, sustained long-term adoption would rely on the active engagement of last-mile representatives - the Block Business Development Service Providers in this case.

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# Annexures

## 1. About STREE at LEAD at Krea University

STREE was conceived in December 2019 to support DAY-NRLM's vision of creating a robust enabling entrepreneurial ecosystem for women in rural India under NRETP. It is a technical assistance initiative spearheaded by LEAD at Krea University, which aims to drive women-led enterprise development, with research at the core of its work. The STREE initiative is supported by the Bill & Melinda Gates Foundation for scalable enterprises under the NRETP. The primary aim of STREE is to ensure that institutional support mechanisms are in place, to enable women to manage higher-order and more entrepreneurial ventures in the non-farm space. STREE follows three pathways to progress:

- Implementation support for system strengthening through a dedicated technical assistance team deployed at the DAY-NRLM and the Madhya Pradesh SRLM
- Design thinking that channelises funding, and LEAD at Krea University's research base, partnerships, and implementation experience to develop, test, and recommend low-cost-high-impact scalable pilots to the NRLM
- Adoption of rigorous monitoring & evaluation systems to monitor implementation efficacy and spur adaptive programming

## 2. About DAY-NRLM, NRETP and OSF

DAY-NRLM, is the flagship programme of the Ministry of Rural Development, Government of India. The programme focuses on improving the social status and economic capabilities of rural women through the formation of SHGs and expanding their existing livelihood opportunities by taking up small business (Ministry of Rural Development, 2020). The NRETP implemented through DAY-NRLM is a focused initiative that intends to support growth and track entrepreneurs in obtaining the right-fit services with an aim to provide support for economic initiatives related to a) agriculture, livestock, non-farm and skills development, b) financial inclusion and c) convergence initiatives.

NRETP has set up One Stop Facilities (OSF) to support existing non-farm nano-enterprises on a growth track as well as a few new enterprises that have the potential to grow.<sup>6</sup> OSFs are business facilitation centres that are intended to plug the knowledge gap to aid such enterprises in their formalisation process. These centres are set up at a sub-district level with each OSF supporting 2-4 contiguous blocks catering to 150 enterprises in each block. OSFs offer a wide range of services such as business ideation, business plan preparation, training, market linkages, mentoring and financial linkages.

<sup>6</sup> Businesses that have sought some degree of formalisation through registration, application for business loan etc, with the potential to expand customer base or diversify product profile.







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