

Determining the Financial System Needs of Micro-Entrepreneur Women

Final Report



ITU
FINTECH CENTRE

on 4.0 International



INFORMATION
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Project Team

Dr. Maryem Mustafa Principal Investigator, Assistant Professor Information Technology University

Lubna Razaq Director, FinTech Center, Information Technology University

Maryem Zafar Usmani Project Manager, Fintech Center, Information Technology University

Noor Mazhar Research Associate, Fintech Center, Information Technology University

1. Executive summary

This research investigates women in micro entrepreneurship in Pakistan. The purpose is to provide contextual information in which these female micro entrepreneurs get into businesses, their personal and enterprise financial life cycle, the circumstances they face and how it affects their personal and entrepreneurial lives, and explore the potential financial and non-financial solutions that cater to their specific needs. The 20 interviewed Pakistani female micro-entrepreneurs explain the strong linkages between their personal and entrepreneurial lives. While they independently make decisions about their business operations, these decisions/choices are often strongly driven by several factors in personal lives: needs of their children which limits their ability to work outside of home; health problems, either their own or their husband's which may drive their decision of the degree of work they undertake. We also observe that providing microcredit for enterprises alone is not sufficient for their economic wellbeing. They need mechanisms for saving, investment and risk protection for personal needs along with clarity on business concepts which affect their profitability.

This report further analyses their behaviors and responses, and identifies the key issues specific to our sample. It further proposes series of instruments that may be researched upon, developed, and used to incentivize female entrepreneurs to use digital finances services and move closer towards financial inclusion.

Key highlights from our findings:

1. **Preference for home-based businesses:** These are more prevalent in our sample, and women choose to opt for home-based businesses so that they are able to cater to their dual responsibilities alongside each other. However, this factor negatively impacts their opportunity for business growth.
2. **Technology usage:** Nearly all respondents have ownership of or access to a phone as needed. There is a willingness of uptake and usage of technology as and when these entrepreneurs perceive a significant need being fulfilled. Women in our sample start to use YouTube, WhatsApp, and Imo for their personal as well as enterprise use, regardless of the level of education, with and without assistance. There is a positive relation between education and smartphone usage. While these women may not be educated themselves, they are educating their daughters, and hence the likelihood of their next generation's ownership and use of smartphones will be higher.
3. **Decision making:** While decisions are made jointly at the household level, these women have complete agency over their entrepreneurial activities and decisions.
4. **Financial Behaviors:**

- a. **Payments:** These women segregate funds into short term on-going expenditures such as grocery, monthly expenditures such as loan installments, ROSCA payments, and under the pillow savings at home or saving small amounts with money guards. They also segregate funds based on the priority of payments. For instance, loan repayments and ROSCA payments have highest priority among our respondents. Therefore, they tend to separate funds for high priority payments or periodic expenditures such as utility bills etc. at home in different boxes, sometimes under locks, to prevent spending them.
 - b. **Savings:** Savings for our respondents are not limited to risk mitigation in the short to medium term. They also include long-term saving regimes geared towards the specific goals of accumulating dowry and wedding funds for their daughters, as well as for house building and repair which hold immense significance for these women. They often resort to ROSCAs as a means of savings, for the flexibility it offers them in terms of choosing the amount, as well as the schedule of payments. There is also a demand of a certain level of privacy when it comes to savings.
 - c. **Investments:** Due to a lack of complete information about investment opportunities, these women are likely to suffer from frauds, for those who choose to take risks for greater returns.
 - d. **Borrowing:** Most of the women in our sample have borrowed for their own businesses and are responsible for their loan repayments. There is a strong preference for interest free loans, for both religious as well as economic purposes. There is a preference for privacy when it comes to formal or informal borrowing. However, formal borrowing currently does not ensure such privacy. Additionally, informal loans are often preferred due to the flexibility in repayments that they offer.
5. **Flexibility in payments:** Flexible payments are central to the financial lives of micro-entrepreneurs, and a key characteristic making informal financial dealings preferable over formal services. Flexibility takes into account the fluidity and uncertainty of the personal circumstances of these low income women, while capitalizing on their commitment and discipline.
 6. **Business acumen:** Good business acumen is positively related to improved business outcomes, however, it is not correlated with the level of education. The females who lacked in this area were more likely to be struggling in their businesses, and were unable to make their ends meet. They lacked in concepts of opportunity costs and inflation, failed to account for fixed costs, and were unable to assess the feasibility and demand of their business.
 7. **Fluid finances:** The financial conditions of these women may be subject to adverse changes in a matter of a few months. These incidences entail health statuses of the micro entrepreneurs or their spouses, change in status of home ownership (which results

in losing clients in case of relocation or the additional burden of rents), seasonality of business, etc. When designing products and services for female micro-entrepreneurs, there is a need to account for the fluidity of their circumstances.

Key themes in recommendations:

1. DFS Technological Design Guidelines:

Culturally, micro-entrepreneur women have shared phone usage regardless of whether they own the phones, as all family members often have access to their phones, or if they do not own phones, they still have access to the phones of their family members when needed. In a lot of cases, these women share their husband's phones as well. Hence, privacy/secretcy mechanism for financial applications need to be considered when designing for these women on mobile phones.

One key element to understand is that most of these micro-entrepreneurs use technology as well as financial services, as and when they perceive a need that is being fulfilled through these services, and there is a value proposition associated that appeals to them. The lack of smartphone ownership among micro entrepreneur women who can afford them, is driven by the lack of perceived utility to invest in a smartphone. When there is a utility of a smartphone built into their lives, women do invest in smartphones.

With regards to DFS, utility needs to be created for women to invest and use DFS over smartphones. While the utility will come from designing need based financial products and features, facilitated by DFS, the required usability and technological interventions can be provided over smartphones., as they present the flexibility to control the interface and design for usability and animation suggested for low literacy users as seen in our sample. The input and output options in feature phones are either text based (SMS, USSD) and cannot be used by low literacy users or are expensive to implement such as voice based options (IVRs).

2. DFS Financial Product Design Guidelines

Financial products need to be tailored to micro entrepreneurs' needs for savings, investments, and expenses, taking into account the fluidity in their circumstances. In the current scenario, for most of their savings needs, women resort to ROSCAs, whether it is for long term or short term needs. This behavior pattern highlights the importance of flexibility in terms of payment amounts, duration and frequency. For the design and ease in implementation of flexible financial product, DFS becomes an important channel. In this report, we highlight guidelines to develop financial products specifically geared to the needs of female micro-entrepreneurs. Children's wedding and house building possess the highest priority for savings.

2. Introduction

Globally, 2 billion adults remain unbanked while 1.1 billion of them have access to mobile phones. Considering the ubiquity of mobile networks and mobile devices and the limitations of banks and MFIs/MFBs to expand physically or feasibly owing to high-cost structures, the use of ICTs to provide financial services, also known as Digital Financial Services, has become central to the financial inclusion discussion.

Pakistan has one of the lowest financial inclusion ratios in the world with only 14% of the adults having access to a formal financial institution and even within that small percentage, the gender gap is significant (13%). Pakistan contributes 5% to the global unbanked population ranking only after China and India. Digital Financial Services promise to solve the problem of access on the supply side but despite being around for almost a decade, there has not been significant uptake in Pakistan with only 4% registered users of mobile money in 2017¹. The success of a mobile money system requires understanding of the socio-cultural, political and regulatory context which can only be achieved through in-depth qualitative research².

The effort to increase women's financial inclusion through digital channels not only requires exploring and addressing the barriers faced by women in accessing, understanding and using technologies and platforms underpinning Digital Financial

Services but also identifying the potential enablers to achieve this financial inclusion. To increase the adoption, trial and usage of financial services by poor women in Pakistan, we take an asset-based approach and focus on the segment of women which possess most assets for adopting and using Digital Financial Services. Our previous exploratory work on women in Pakistan³ suggests that women who have the technology ownership, mobility, necessary funds, and agency to use those funds, among other factors, are closer to adopting Digital Financial Services. From our exploratory study on women of varying profiles, we see micro-entrepreneur women fulfilling most of the qualifying criteria, therefore, this stage of our research focuses on micro-entrepreneur women.

This particular qualitative research study takes a closer look at the personal and enterprise related financial and non-financial needs of micro-entrepreneur women in Pakistan to identify opportunities for design of Digital Financial Services to increase financial inclusion.

3. Research Objectives

The purpose of our research was to determine the requirements for designing a holistic financial system built around Digital Financial Services tailored to the needs of these micro-entrepreneur women, thus enabling DFS adoption and usage.

¹ FII Wave 5.

² Rea, Stephen C. and Taylor C. Nelms. (2017). "Mobile Money: The First Decade." Institute for Money, Technology and Financial Inclusion working paper

³ Ibtesam et. al. (2018). Knowledge, Access, and Decision-Making: Women's Financial Inclusion In Pakistan

Our objectives:

1. Develop an understanding of the financial transaction types and processes as well as the transaction modes and modalities;
2. Appraise the different financial instruments at play currently in the personal and professional lives of female micro-entrepreneurs;
3. Investigate the financial behavior that they engage in and their existing engagement (if any) with financial institutions;
4. Explore their needs with respect to managing finances for their micro businesses and themselves which can include both system and information needs.
5. Understand their use and non-use of technology;
6. Examine the sociocultural and socio-economic landscape which underpins their technological and entrepreneurial orientation.

4. Methodology

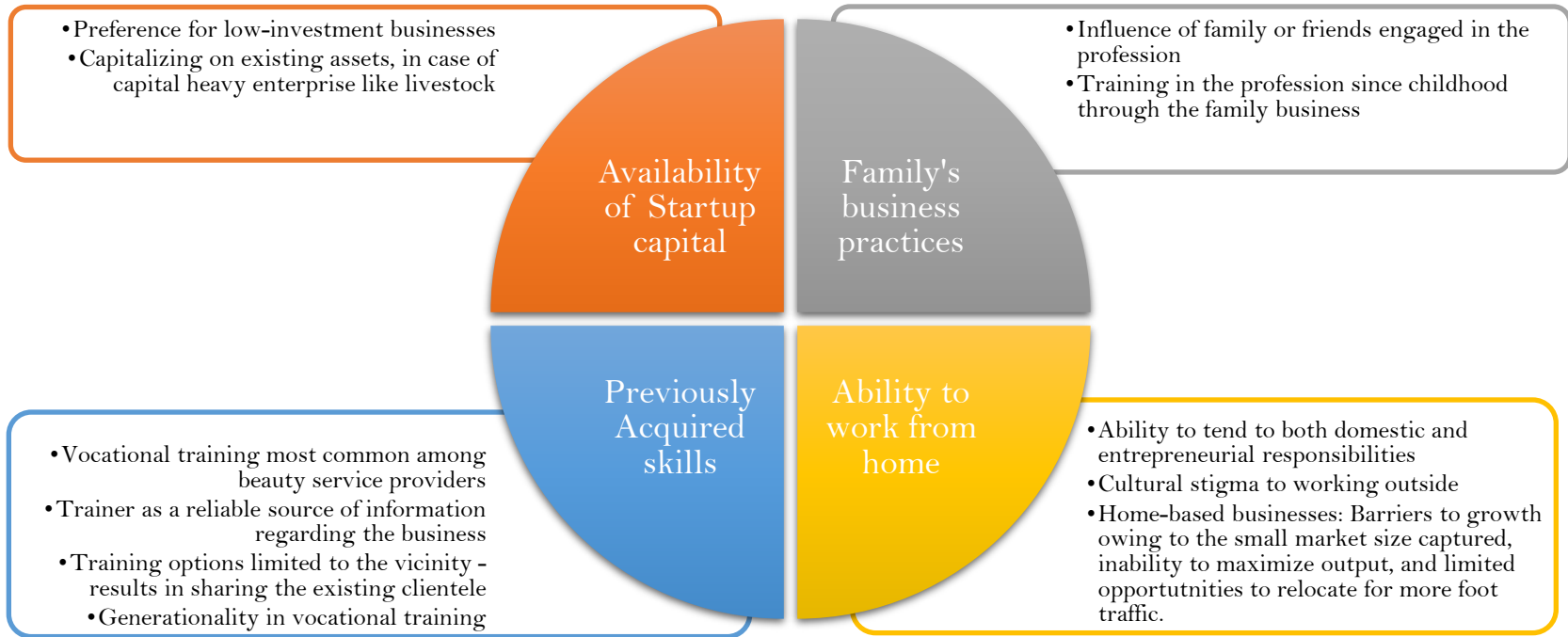
A survey instrument was developed to capture the information relating to the research objectives. An open-ended semi-structured questionnaire was prepared in English and translated into the Urdu language for the purpose of interviewing women micro-entrepreneurs in the cities of Lahore, Gujranwala, and Faisalabad. To achieve the objectives of this study, a sample of 20 micro-entrepreneurs was selected to allow for a detailed and extensive data collection activity. Women between the age group of 25-50 were interviewed, with an average age of 35 years. Respondents with an income bracket ranging from PKR 15,000-50,000 (USD 121 - 405) were chosen given that ninety percent female owners of micro, medium and small enterprises lie within this bracket⁴. Two rounds of interviews were conducted, and participant observations carried out.

⁴Aslam, A. (2013). Moving Towards Micro and Small Enterprise Lending Opportunities and Challenges. Pakistan Microfinance Network Islamabad: Pakistan Microfinance Network

Findings

5. Selection of Profession

Each factor contributing to these micro-entrepreneur's choice of profession narrows the array of options available for them to choose, as their sources of information remain restricted to their limited social circle. Additionally, the preference to establish a home-based business limits the ability of these women-owned enterprises to grow, as the time remains divided between family and business, and their clientele is limited to their vicinity, where the competition may already be high.

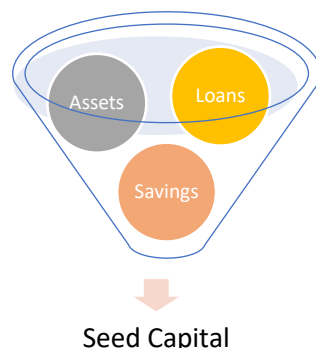


“Customers, you see, sometimes we have sales of PKR 1000-1200 per day, sometimes 600-800. We don’t need to lie....When we have more supply, we even have PKR 2500 per day. But it’s been two months since that. Even though we have all the supply, we can’t force customers. We have another shop right next to us, actually there are so many shops here in our street big and small. Whichever is near, people go to that one.”

6. Financial Services Usage

Startup capital

Micro-entrepreneurs often use a combination of these tools to accumulate startup capital needed for their ventures. Four of our respondents have used formal loans from MFIs as well as assistance from family members, while other used combinations of personal savings and MFI loans, as well as personal savings and family assistance. Only two respondents had some sort of asset they could sell to finance their business.



For businesses that require an upfront cost for equipment (tailoring, gloves, livestock), micro-entrepreneurs sought formal channels of lending for starting up, while for services like retail, beauty, respondents grew their businesses over time and products and assets were gradually bought, and formal loans were taken for working capital or growth..

Their rough estimates of the initial purchase of assets suggests that the seed amount ranges between PKR 5,000 to PKR 70,000.

Loans

Nearly half of our respondents have taken loans through formal channels to initiate their businesses. While the remaining who applied for formal loans, did so for the working capital of their businesses, when they were confident that they would be able to repay it. This is indicative of their risk aversion as well as explanatory of their choice of businesses, which in almost all cases are labor and not asset intensive.

Assets

Only two of the respondents had an asset that they could sell to initiate their venture. Both of them report that the value of their assets was more than what they received. Due to their circumstances and the lack of access to a better market for the sale of their assets, they know that they get exploited.

Savings

Our respondents use savings accumulated through ROSCAs and otherwise to use as the seed amount for their businesses.

For the startup capital, the ROSCAs are mostly funded through savings from the husband's salary, while the few respondents who were previously working invested their own savings in ROSCAs to build their startup capital.

Bank Accounts

Almost half of our respondents have bank accounts. Most of them opened an account for one of the following reasons:

- a) To meet the requirement of a micro-finance institution,
- b) Were asked to do so by a vocational training center,
- c) To receive money from siblings abroad,
- d) To receive salary when they were previously working

Usage: None of our respondents who have bank accounts have used their bank account more than three times. They have primarily used their bank account to receive money, and never to save it.

The key patterns identified with respect to bank account usage and perception:

- Bank branches are accessible to all our respondents, and none of them stated inaccessibility to a bank branch as a reason for not using conventional banking services. The respondents said that they do not save in bank accounts because they believe that they do not have enough money to save in bank accounts.
- Most of our respondents who have bank accounts are familiar with procedures that they need to undertake when they go to a bank:

“I gave them the cheque and a copy of my ID card. They told me to wait, and then give my thumb impression because I am not literate. Then they gave me the money. There was no problem.”

- Knowledge of how banks work and its perception: Negative Our respondents demonstrate some level of knowledge of how financial institutions operate as a business, whether or not they’ve used the services:

“Banks don’t keep your money safe. They lend it to other people, and that is how they make money.”

- Vocational training institutes encouraged their trainees to open bank accounts to save money and have savings separate from those of their family members. This indicates that vocational training institutes can be used as a channel to provide training on financial services and financial autonomy in addition to the skillset which they already provide.

Over-the-counter Transactions

The figure below illustrates the use of over-the-counter transaction services in our sample:

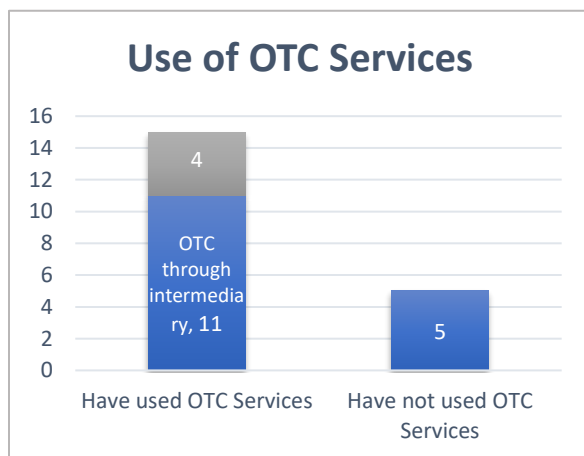


Figure 1 Use of OTC Services

- Our respondents who are familiar with over-the-counter transaction services can fully explain the process of sending or receiving money using these:

“When someone sends you money, you get a message with a number. Then they call you and tell you another number.

You go to the shop with your ID card and phone, show them the message and then they give you the money.”

“There is no receipt for over-the-counter transactions. The messages we get are the receipt, so I keep them safe. I don’t delete any messages from my phone.”

- OTC use for enterprise: Two of our respondents have used over-the-counter transactions for enterprise related transactions. These were one-off instances where the payer was not available and later sent the money using over-the-counter services.
- Perception of OTC services: These women, generally, have a positive perception about OTC services, and express that these services have made transactions easier for them.
- OTC Services for personal use: Others used it for personal needs such as receiving or sending ROSCA payments and to receive money from family members.
- Ability to compare services and service providers: A few respondents were able to compare the use of over-the-counter services with conventional banking:

“We don’t have to wait in long lines or go till the bank. These shops are everywhere, and open till late at night. Just opposite my beauty salon, there is a shop.”

“If we need money soon, I ask my daughter to send it through Easy Paisa. Omni takes too long.”

- Perception of their ability to conduct OTC transactions: While they currently have their family members conduct these transactions for them, the respondents believe that they can and will be able to carry out these transactions on their own, if need be.

- Awareness of costs and opportunity costs: Additionally, they exhibit awareness of the charges involved in using these services:

“They do deduct some amount if you send let’s say Rupees 1000, but if I take a rickshaw to give the ROSCA installment, it would take at least one hour and Rupees 4-500 as fare for one side.”

7. Technology Usage

We observed these women using an electronic weighing scale to weigh grocery, using electric stitching machines, using calculators, using the mobile phone to see the time and set alarms.

Correlation between education and phone type and usage

- Phone Ownership: Thirteen of our twenty participants own mobile phones. Although not all our respondents own mobile phones, all have access to shared mobile phones, which they share with husbands or sons.
- As the education level increases, the likelihood of smartphone ownership increases as well. All women, who received no education at all, owned feature phones, and their phone usage is limited to receiving phone calls.
- A positive correlation between education and the willingness to learn new technologies. Our respondents who are matric qualified use applications such as WhatsApp and Imo.
- There is an uptake of technology as and when a significant need is being fulfilled. Applications like

WhatsApp, which fulfill their communication needs of connecting with family aboard at low cost, have high a perceived benefit, making investment into smartphones justified. This cost of using these applications is further reduced by availability of data packages from telecom operators. On the other hand, women who do not see any significant need being fulfilled by smartphones consider it a waste of money.

“I haven’t kept a separate mobile phone at home. When my husband goes out, he takes the phone. When he comes back, if I need to make a call, I use his phone.”

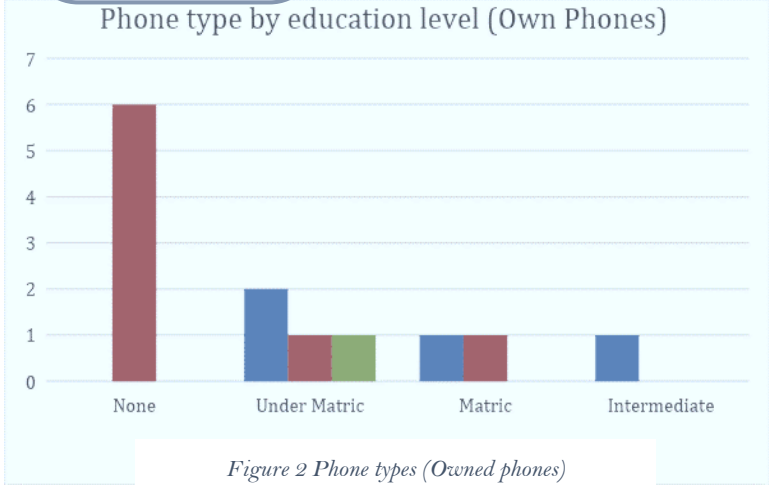
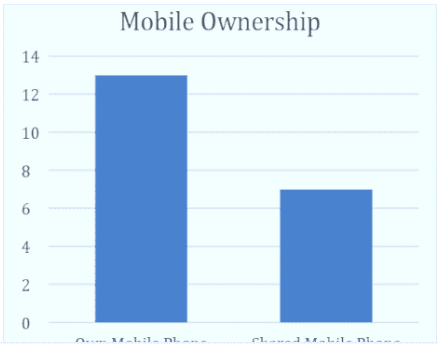


Figure 2 Phone types (Owned phones)

“My brother is in Saudi Arabia. I use WhatsApp and Imo to contact him.”

“Sometimes if I can’t pick up my clients call, I send them a voice message over WhatsApp.”

Using Technology in enterprise

Respondents who are familiar with the use of YouTube use it for their enterprises, for instance one of our respondents uses YouTube to learn new hairstyles.

Najia*, who in the first interview, reported to only use Imo and WhatsApp to contact the family members, in the subsequent interview, reports to have used YouTube and searched for makeup ideas herself, for her client's needs. Once, she had to do bridal makeup and was not sure about the combination of foundations for her customer's complexion. She used YouTube to research on it, by using different search terms, until she found the right video and successfully found the right combination. **However, one challenge she identified was that search results showed both English and Urdu videos, while she only preferred to watch the Urdu ones.**

One of our respondents, who is a tailor, asks her husband to find her images of latest designs from the internet, so she can stay up-to-date with the latest trends.

Another owner of a beauty salon, who is educated till intermediate, had a PC with internet connection at her parlor, which she used to learn hairstyling and makeup techniques etc. She now owns a smartphone, which she uses for WhatsApp, purchased on installments.

Preference of calls over text messages

Regardless of education level, all the respondents prefer using phone calls, or voice notes, over text messages and most find it taxing to type text messages.

Social Attitude toward mobile usage

When asked about the advantages and disadvantages of mobile phones, all our respondents stressed on making the 'right' use of mobile phones, i.e., to stay in touch with family and not interact with strangers.

Additionally, all our respondents believe that unmarried women owning mobile phones is not looked upon favorably by the society. One of the respondents, although was getting her daughters educated so they can have a better future than her, did not think using phone was good for her daughter, while it was alright for the son.

Assistance in Technology use

Most of the respondents seek their husband's or children's help if they encounter challenges with phone usage. However, the incidence of seeking help is higher in cases where education levels are low. Moreover, the type of assistance sought in such cases can be as basic as saving contacts. Whereas those with some level of education often seek help in learning application usage.

Next generation is more tech-savvy as expected!

While these women are not educated themselves, they are educating their children, and hence the likelihood of their next generation's ownership and use of smartphones will be higher. We also see women seeking help from their daughters in the use of technology for enterprise. One of the micro entrepreneur who runs a tailoring shop asks her daughter to come from home and help her look for designs as per customer request whenever a customer would visit to place a stitching order. Tired of repeated visits to the shop, the daughter taught her mother how

to use Google audio Urdu search which the micro entrepreneur uses to search for designs now.

8. Financial Behavior and Preferences

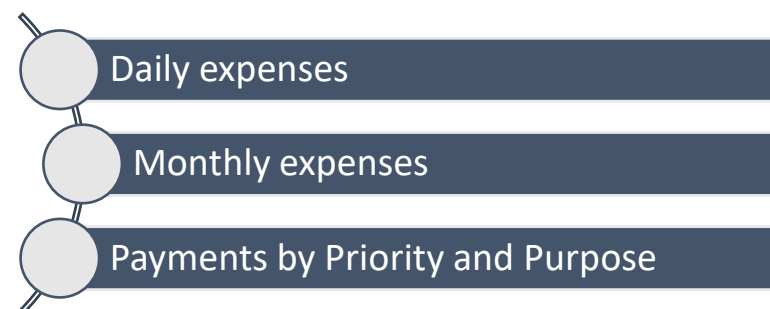
The entrepreneurial decision-making dynamics of the micro-entrepreneur women in our context vary significantly from context in other developing economies. While in other developing economies, interventions are implemented to improve agency in businesses for female micro-entrepreneurs⁵, our sample shows that these women already make decisions related to their enterprises on their own. However, decisions in the household domain are made jointly by the female micro-entrepreneurs and their spouses with the spirit of compromise dominating these decisions.

- In their **Enterprises**, these women decide to take loans for their enterprises on their own, are responsible for their own loan repayments, and make enterprise-related financial decisions like purchasing inventory, selection of stock, selection of vendors themselves. They channel their earnings from enterprise into savings, through ROSCAs or otherwise, investment into their businesses or elsewhere, business or household expenses, etc.
- However, once their earnings enter expenses in the **household domain**, these decisions are made jointly. In case of a disagreement in the prioritization of household expenses, most of these women reach a compromise, while some expend as per their own priorities in secrecy, as they have the luxury to do so since they have control over their earned income.

⁵ Effectiveness of Entrepreneurship Development Interventions for Women Entrepreneurs: An ILO-Web Issue Brief (2014)

Payments

Prioritizing and Segregating funds



These women distinctively prioritize loan repayments as well as ROSCA payments, above all else. Additionally, they keep their funds for monthly and everyday expenses separate, often in different boxes, sometimes under locks, to prevent spending them.

they put into this box, they totally forget about ever having it so they don't end up spending it.

Sophia* has separate boxes where she puts her 'cost price money' which she has to reinvest in the business and her spending money. Her husband pays for the utility bills and grocery, and she saves her money through ROSCAs and pays loan instalment and also pays for other expenses such as children's education, building the upper portion of her house etc.

Her economic/financial concepts such as opportunity cost of time, economic opportunity cost, perishable/ non-perishable good are very clear and she is very saving oriented and believes in containing her lifestyle to be able to save money. She believes in reinvesting her savings into her business rather than keeping them stored away as she believes that money sitting idle will yield no return.

She has a feature phone which she bought after her daughters got married to be able to talk to them and finds smartphones a waste of money.



Boxes used by micro-entrepreneur to segregate amounts for current expenditures and for reinvestment into her business. The box with bigger lock is for money reinvested into her business. She shared that the money

Flexible Payments

Flexible payments are central to the financial lives of micro-entrepreneurs and a key characteristic making informal financial dealings preferable over formal services. They are lucrative because this flexibility takes into account the fluidity and uncertainty of the personal circumstances of these low income women while capitalizing on their commitment and discipline. Some examples of the importance of flexible payments embedded in the various informal instruments used by micro entrepreneurs are:

Installment for durables and electronics

- Mobile phones, electronics for household or dowry

Flexible Payments on Informal loans

- Preference for informal loans that account for time of repayments, as well as personal circumstances

Flexible savings contributions

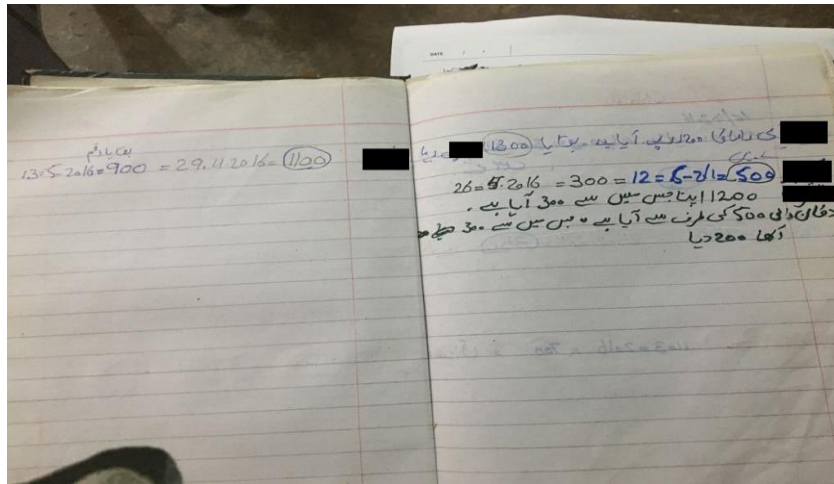
- Flexibility in ROSCAs, which accounts for the amount, duration, and period of payments, according to their financial circumstances

The business opportunity of flexible payments

We saw a real life example of a micro-entrepreneur realizing the need for flexible payments for women of her socio economic segment and building an entire business out of this one need.

Sobia* lived in a nuclear family system and was living under very poor conditions prior to starting her own business. Her husband was a mason and they lived in a one bedroom house. She initially worked for another woman, selling her fabric and taking PKR 50 commission on every sale. A parlor owner recommended her to apply for a loan with an MFI she had also borrowed from. The loan allowed Sophia to be able to purchase her own fabric to sell on instalments; she purchases a suit for PKR 600 and sells it for PKR 1000-1200. She managed to build other rooms in her house through the profit from her business. She could not afford to give her daughter's dowry and is now buying them household items to compensate for it. She has bought a refrigerator and a motorcycle for her husband on instalments.

*Diary of the micro-entrepreneur selling clothes to women on installments.
The diary is maintained by micro-entrepreneurs daughter in 8th grade
shows the running balances of customers and their various payments.*



Savings Behaviors

Flexible saving regimes

- ROSCA as one of the saving mechanisms for those with the capacity to save
- ROSCAs allow for flexibility in 1) the time period and the duration, 2) the contribution amount, 3) frequency of contribution, and 4) number of ROSCAs
- Regardless of the informal nature of ROSCAs, women make these payments a priority. Their behavior highlights the micro-entrepreneurs' capacity to save and the need for flexibility in choosing the amount, frequency and duration of saving contributions rather than having predefined, one-size-fit-all saving products
- Flexibility is more important to women running seasonal businesses

Privacy and permissions in short term savings

- Saving in secrecy from the husband is culturally disapproved, and women do not suggest or admit to it openly. Acceptable reasons for hiding savings include the husband being an addict, a gambler, or mistreating the wife
- However, for shorter durations, women tend to request other women to act as money guards when they are trying to save money while hiding it from their husbands.
- Instances were reported in which women asked the micro entrepreneurs to act as money guards
- Current cash-in mechanisms further compromise on the privacy of these women, as they are often unable to visit shops unaccompanied

Motivations for Saving

Our research also indicates that micro-entrepreneur women in Pakistan actively engage in savings with 75% of our sample saving through ROSCAs. However, with regards to purpose, we highlight that these savings are not limited to risk mitigation in the short to medium term, but also include long-term saving regimes geared towards specific goals of accumulating dowry and wedding funds for their daughters and for house building and repair, which hold immense significance for these women.

Saving Behaviors

We identify four key aspects of the informal saving behaviors and regimes of micro-entrepreneur women in Pakistan, which contribute towards design guidelines for financial institutions to provide need-based products for micro-entrepreneur women in Pakistan. We also discuss the dynamics of saving for house building and dowry which breathe insight into the design of truly need based saving products geared towards these two goals. These include:

Purposeful Long-term Savings

- Housebuilding: Another priority for these women, and they end up investing in multiple ROSCAs for land acquisition, and house building - often building it in phases and over multiple years
- Dowry is an essential part of the financial lives of micro-entrepreneur women, and high levels of commitment and capacity are exhibited when saving for daughters' weddings
 - Two categories of women: 1) Currently and actively saving for dowry, 2) Currently paying for educational expenses, but plan to save for dowry once educational expenses are done
 - Two instruments mainly used for wedding and dowry expenses: 1) ROSCAs, 2) Insurance
 - ROSCAs for dowry is done in secrecy, as the spending priorities of the husband might differ
 - There is a willingness to invest in mechanisms that allow for amounts to be invested, equivalent to ROSCA payments (e.g., 5 year short-term insurance plans), for those struggle with their dowry saving goals.
 - Women buy chests, crockery, blankets, electronics and other household items for their daughters' dowry
- Disruptions in savings: ROSCAs is a solution to all unplanned and planned expenditures. Social obligations and unplanned expenditures, in the form of illnesses, funerals, etc., end up disrupting the long-term savings plans
- In one case, saving for short pilgrimage was also seen as a priority

Privacy and permission in the long term

- Women, sometimes, hide their participation in ROSCAs, due to one of the two reasons: 1) Husband's disapproval of ROSCA participation, 2) Saving for daughter's dowry without husband's knowledge
- However, at the time of pot collection, women inform their husbands, as they need the husband to accompany them for collecting the huge amount of money

Flexible Saving Regimes

The flexibility in saving through ROSCAs was obvious by the fact that the number of ROSCAs women participated in ranged between one to seven ROSCAs, two being the average per person, with contributions towards individual ROSCAs ranging from PKR 500 to PKR 6,000, while the total monthly contributions towards ROSCAs ranged from PKR 500 to PKR 10,500.

We also see flexibility in the frequency of payments with some ROSCAs allowing daily contributions.

Sana* (widow) and her sons used ROSCAs regularly to save money, which they channeled towards her general store business. They had invested PKR 85,000 so far towards the shop business, which they saved through ROSCAs. Based upon her sons' suggestions, she would save PKR 200 - 300 daily from the shop business to contribute in one ROSCA. Her sons worked as daily wagers and had participated in



ROSCA card of a micro entrepreneur who used to organize ROSCAs and used this card for record keeping. She took the first two pots (organizer as organizer's usually take the first pot) to arrange funds

for her daughter's wedding.

Privacy in short term savings

During our interviews when questioned about hiding savings, most women negate hiding savings while emphasizing the high degree of trust and transparency between them and their husbands.

The cultural notions hinder women in saving with money guards as well. Women tend to request other women to act as money guards when they are trying to save small amounts of money, while hiding it from their husbands. We observe that while the general opinion is that money should not be hidden from husbands, the acceptability towards acting as money guard depends on the underlying reason for hiding money. The reasons including the husband being an addict, a gambler, or mistreatment of the wife.

Despite the popular notions around hiding money, from our discussions about hiding savings in mobile wallets, we observed that women gave the idea serious thought and shared the shortcomings of the current design. We inquired if being able to save in a mobile wallet would provide women with privacy to save:

- One respondent commented that although she does not hide, but even if she did save it privately, it was not possible to keep it private as she would eventually make a purchase revealing she had money.
- Another respondent shared that it would be good to have such a mechanism for saving, but she would be unable to visit a shop for cash-in/out unaccompanied by her spouse.

- Another one mentioned that it would be more disgraceful for women to visit a shop to cash in money they are hiding from their husbands, as everyone will find out that they are hiding money.

Permissions, Privacy and Dependencies in long term savings

Our research has revealed some interesting patterns in the long-term saving behavior of micro-entrepreneur women in Pakistan with respect to the role of privacy and husband's permissions in participation in saving groups, women hiding their savings from husbands and the purpose of saving where dowry of daughters and house building constitute the main motivation for saving.

Husband's permission and ROSCAs: Respondents had various reasons for hiding ROSCA participation from the husband:

- According to one respondent, her husband believed that housewife-led ROSCAs are more prone to disagreements, as compared to groups run by shopkeepers, therefore he advises her against partaking in it.

- Women want to prioritize and ensure creating a dowry for their daughters, which the husbands might not support or agree upon.

Safia's*husband had sold her gold earlier, and now that she is making gold jewelry for her daughters without her husband's knowledge, so that he will not be able to sell it. She...

“Because I used to tell everything. When he used to find out, he would say ‘oh forget this, let’s spend on this first’. Nothing would happen according to my wishes, so now I’ve participated in a committee to get something for my daughter. I just hand over the cash to the organizer so my husband doesn’t find out. I just got my daughter engaged, so now I’m preparing for her wedding. I just want to be able to finish the preparations for my daughter’s dowry.”

“I’ll tell him when I get the pot amount. I will take him with me to get the things, I’ll just tell him it’s my money, and I want to make things for my daughter and nothing else. When it’s my turn, I’ll only go with him to buy the stuff. Otherwise if I tell him beforehand, he would question why I joined another committee, already we have so many going on.”

- For micro-entrepreneur women whose husbands are engaged in seasonal occupations or have an instable income, hidden savings through ROSCAs become a necessity to meet their planned and unplanned expenditures.

With widows, separated, or micro-entrepreneurs with seasonal occupations, working children also contribute towards ROSCAs. A respondent who was separated from her husband was contributing PKR 2,200 every month towards two committees. When we asked her about privacy of these ROSCA savings, she said that her children knew everything because they are the ones who bring in the money that is paid towards ROSCAs.

Purposeful Long Term Savings

The Dowry Dynamics

Significance of Dowry for daughters

Preparing dowry for daughters is an active and serious concern among all women with whom we spoke. The value put on providing daughters with a dowry is so much that some women, who were unable to afford giving a dowry at the time of their daughter's wedding, are saving now to give their daughters dowry or supplement what they gave them, e.g., if they couldn't give daughters an LCD but had given a washing machine, they would try to gift an LCD now.

Need for Secrecy in dowry saving and accumulation

- Dowry savings are prioritized by women while the husbands' knowledge of these savings are counterproductive to women's savings. Women tend to save money secretly, then subsequently channel this money to buy items which cannot be liquidated to prevent it from being spent by their husbands, who have alternate spending priorities for instance constructing the upper portion of their house.
- Women rely on their maternal families to save money, purchase and store dowry items secretly for daughters (sometimes as young as 4 years old).

Composition of low-income household dowries

- We observe women buying chests, crockery, blankets and other household items for their daughters' dowry, as they are unable to save large amounts for longer

periods. Concerned that they will end up spending or be forced to spend what they have, they gather items which have no resale value.

- Gold is no longer a norm at weddings. Although some of our respondents have received gold (between 1.25 tolas to 6 tolas) on their own weddings, they attach more value to giving their daughters household goods as compared to gold, because gold is unaffordable and household goods such as electronics and non-durables are more likely to be of utility to them in an everyday basis.
- The current generation of micro-entrepreneurs is very less likely to have gold at their disposal to wither the first shocks to their households, and are more likely to start working early on in their lives.

Instruments used to save money for weddings and dowries

1) ROSCAs

Respondents who have married daughters or intend to marry daughters use their ROSCA savings to pay for the wedding and dowry expense. While some of these ROSCAs have been started with the explicit goal of collecting funds for the marriage, others have capitalized on the net borrowing aspect of ongoing ROSCA cycles to pay for their daughter's weddings. ROSCAs are the go to mechanism for wedding funds (including wedding food and dowry) because the rules of ROSCA dictate that a woman who is marrying her daughter will get preference for pot allocation.

2) Insurances

Although known to very few respondents, insurances are used as an investment mechanism to raise money for daughter's dowry. Two of our respondents bought insurances for their daughter's wedding and made timely payments. Both were introduced to insurances by company salesperson within their social circle. Funding for daughter's dowry and wedding expense is a very effective sales pitch in our society used both by insurance salesmen and ROSCA organizers to recruit members.

One of the micro entrepreneurs who had 12 years of education was unable to save for her daughters dowry because of her husband's ill health and spending on daughter's education (who recently finished 12th grade and aspires to become a doctor from a public university). This micro-entrepreneur has heard of wedding insurance plans and wants to purchase one but thinks she is 15 years too late since she is only aware of 20-year plans. She wants to prepare dowry for her daughter and willing to invest in a five year insurance plan with easy installments that she can afford like that of her current ROSCAs with monthly payments between 1,000 to 3,000 per month.

Social Obligations and disruptions in savings

ROSCAs are the answer to all questions for these micro entrepreneur women from planned expenditures requiring long-term savings such as dowry, house building, business investment to unplanned expenditures requiring risk protection like funerals, home repair during rains and illnesses. Additionally, these women are also bound by social obligations, which prove counterproductive to saving regimes like ROSCAs, as they end up being consumed in such expenditures. These social obligations include contributing towards weddings and funerals of close relatives, bearing childbirth

expenditures for their daughters and gifts at child birth in extended families.

House Building

House building essentially has two elements: 1) Acquisition of land, 2) Construction

- 1) **Land Acquisition:** Most of the respondents living in their own homes constructed their homes on either inherited land, or purchased the land from inheritance money coupled with ROSCA savings. Those without inheritance, saved up gradually by participating in multiple ROSCAs to accumulate the amount to purchase the land, and struggled all the while as they needed to reduce their consumption for this purpose.
- 2) **Construction:** Almost all of the respondents constructed their homes in phases over a number of years. They engaged in multiple ROSCAs for this purpose, and it took them a number of years for the completion of their homes.

“It took us 3 – 4 years, I put a committee with them, 2 committees. We did side by side, you can’t save in one go, when we get our committee amount, we get our house work done bit by bit.”

These women face immense difficulties in saving up and enough to meet their house building requirements. They often employ multiple methods to accumulate money for this endeavor.

Laiba* reports that both she and her husband had to work non-stop – her husband worked double shifts, and she employed multiple sources of income making gloves, providing beauty services, and stitching clothes. Even that was not enough, and they had to invest in ROSCAs and even take on informal loans. Through all this effort, they could only build their houses in phases – starting with grey structure, moving on to plastering once they had sufficient financial means to do so, then moving on to flooring gradually, and so on. She indicated that while this was immensely stressful, and they have the burden of informal loans, she still prefers it over paying rent, as **rent is money down the drain.**

Where possible, they try to reduce the burden of debt. One respondent explained how she uses the savings as collateral to rent a house and negotiate a lower monthly rent payment:

“I managed to save around Rupees 2 lac through ROSCAs. I used that money as a collateral to rent a house. The advantage of using money as collateral while renting a house is the landlord can use it to fulfil whatever immediate need they have, and our income remains safe. We can live in the house for a fixed period of time, and the rent is lesser than it would have been. Instead of paying Rupees 6000-7000, we only have to pay Rupees 1500-2000, and take the collateral money back when the contract ends.”

Investment Behaviors

Two of the micro-entrepreneurs invested in an insurance for their daughter's dowry. However, due to a lack of information about how insurances work, and the presence of middle men "mediating" the transaction, one of them was defrauded and lost her investment.

Another micro-entrepreneurs in our sample showed a high risk appetite by taking an unconventional approach both in selection of profession and financial behaviors. Through her case we demonstrate that there is a lack of information and options available to micro-entrepreneurs for investment, when they exhibit the capacity and risk appetite to undertake investments.

The case of a Micro-entrepreneur with a high Risk appetite:

Fatima (name changed for confidentiality) was registered as a Rickshaw driver with an MFI, but ran a tailoring business. Her journey to entrepreneurship started when she took rickshaw training held by MFI without informing her husband. She traveled with her son to attend the trainings when her husband would be away for work. She then applied for a rickshaw without asking him. When her husband and father found out, they did not approve of it and asked her to only drive the rickshaw for non-commercial purposes with family members. She therefore resorted to tailoring business utilizing a three years vocational training course on stitching she had taken before learning how to drive a rickshaw. This was the only instance where a micro-entrepreneur had opted for an unconventional (not associated with women) profession and because of this reason this was the only case where the micro-entrepreneur had not been allowed to pursue it.

This respondent is strong-headed and makes her decisions very independently, for instance she sold her jewelry on the advice of her mother in law without consulting her husband and took the rickshaw training without consulting him. She only paid the MFI three instalments because she figured out that they were getting the rickshaws from an FMCG as a donation and charging them for it through the instalment plan. Additionally, the borrowers were photographed and used for the marketing campaign because of which the MFI benefitted so she refused to pay instalments.

She has been defrauded multiple times, and her husband was very uncomfortable with us interviewing her. For this reason, we were unable to get a repeat interview with her as her husband was reluctant to connect us to her. She was contributing PKR 9,000 towards two ROSCAs every month. She was a victim of fraudulent ROSCA and lost PKR 200,000 in the bigger of the two committees. She participated in it through her brother-in-law's reference.

Borrowing Behaviors and Preferences

Our work highlighted certain behaviors and attitudes of female micro-entrepreneurs related to formal and informal borrowing:

Financial Control in formal borrowing

- Contrary to mainstream research in Pakistan⁹, almost all our respondents had borrowed from an MFI for the sake of their own businesses, and in some cases to help their children start their businesses
- Repayments were solely made by these women, unless the loans were for the children, in which case, the children were making the repayments.
- For seasonal businesses, the repayments of loans was supported by the children

Need for privacy

- Women express hiding not just ROSCAs, but informal loans from husbands as well, as these are seen as liabilities
- However, women successfully fulfil these commitments without the assistance of their husbands
- Women prefer to keep their loans, formal or informal, private, from their friends and relatives. However, the current formal loan application procedures do not allow for such privacy.

Preference for Interest-free instruments

- There is a strong preference for interest-free instruments, for both economic (extra installments) and religious reasons
- However, in the case of formal loans, when there is no other option, economic motivations tend to outweigh the religious motivations
- However, in the case of insurance, one respondent pulled out her investments once she discovered the interest-based nature. However, she lost their premium due to fraud by the middle-man

Concerns around loan repayment in interest-based loans

- Women shared their concerns about the interest rolling over and never ending repayments in interest based loans
- Strong perception that financial difficulties occur because of the interest-based loans
- There are gaps in understanding among micro-entrepreneur women around calculating the principal payments and interest accrued on such loans
- Women shared their satisfaction of loan repayment of interest free MFIs, which show flexibility in determining the principal amount based on the personal circumstances

Apprehensions around rigid payment regimes in formal lending

- Microentrepreneur women, who have never taken formal loans, shared concerns about their inability to meet the rigid loan repayment schedules of formal loans
- These women often have fluctuating or seasonal incomes, and they are afraid of what might transpire as a result of the non-repayment or untimely repayment of their loans

Affordances in Informal borrowing

- Informal borrowing allows for privacy in borrowing where the micro entrepreneur's husband do not allow them to take a loan
- It allows flexibility in repayment in terms of offering a grace period and leaving it up to the borrower on when she wants to repay
- Informal borrowing is quick and allows to capture opportunities in the near future whereas current MFI loan applications take certain time to be processed and are not effective for opportunities in near future

Perceptions about Formal borrowing

- Most of these women feel that the process of acquiring formal loans is tedious
- Those who have never taken a formal loan before feel that such organizations may be fraudulent

Need for Privacy in Borrowing

While privacy and secrecy in taking loans is important to these women, it is not possible to get an MFI loan without informing the family as MFIs insist on involving the male members of the family, or requiring documents which only the male members have, such as utility bills. We also see that the MFI processes for loan application require a lot of documentation in some cases such as utility bills, wedding registration documents etc. while husband and wife need to apply together in others. Either way, women are dependent on men to take out loans. One woman when asked why she had not borrowed from one such MFI said:

“For (name of MFI), you need three people in a group and the husband has to consent to repayment too on top of that. If the husband does not agree, there is nothing a woman can do by herself!”

One woman also mentions her husband taking care of the documents as she finds it too cumbersome. One MFI also mentions meeting the woman’s family first and then taking the woman’s picture around in the neighborhood and asking people about the applicant as part of their ‘social collateral’ based lending. Therefore, if a woman has applied for a loan or borrowed from an MFI, not just her family but her neighborhood knows about it as well.

It is interesting to note that a practice which started to protect women from just being conduits of loan, ensuring husband share responsibility of repayment by being part of the contract, has reversed in its spirit.

Preference for Interest Free Instruments

The reasons to avoid interest-based borrowing are both economical (extra installments compared to interest free loans) and religious. However, lack of options and economic reasons trump religious motivations. Lack of options can be due to their lack of awareness about any MFIs offering interest-free loans sometimes, as most women find out about MFIs from their neighbors and social circle. Hence many people in a certain neighborhood end up borrowing from the same MFI, regardless of the loan type.

The dislike for interest is also driven by the religious belief that there will be no ‘*barkat*’ or blessings in her business if she takes an interest based loan and she will consequently even lose the money that she has.

Interest is not just a problem on loans. One micro entrepreneur and her husband had purchased insurance for their daughter’s wedding, but after consulting a religious scholar discovered that it is also based on interest. They requested the insurance salesman to return them the premium that they had paid, without any interest, as they prioritized foregoing any returns on investment (that was the only investment option they were aware of) over taking interest. However, they were defrauded of the premium as well and lost major portion of it along with the return.

Concerns around loan repayment in interest based loans

The ability to repay loans is a serious concern among the micro entrepreneurs we studied. Therefore, they would choose loans responsibly, and try to avoid all terms and conditions which increase the risk of non-repayment, be it the principal amount or interest rate. One respondent, who was approached by the MFI, was presented with the option to borrow either PKR 50,000 or PKR 100,000. She carefully considered her everyday ability to save money, and hence her ability to repay every month. Thereafter, she decided to opt for the PKR 50,000 loan.

Following are a few other observations around interest-based loans:

- Micro-entrepreneurs share their satisfaction towards loan repayment of interest free MFIs which show flexibility. They are able to negotiate with the MFIs on the installment size based on their personal circumstances:

“They never tormented us to pay (our instalment). They used to call beforehand and ask us if we have the money to pay. If we did not have the complete amount, we used to tell them to wait, and they were fine with it.”

- The most common distinction between MFIs is those who take no extra installments vs those who take extra installments on loan repayments.
- Women, who have borrowed from interest-based MFIs initially, were seen to deliberately choose interest-free MFIs on subsequent loans owing to religious regions.

They also report the loan installment of interest free MFIs as being lower and more manageable.

- For interest-based MFIs, women reported paying two extra installments with interest, but a much faster processing time.

Apprehensions in formal lending

Respondents who have never taken formal loans cite concerns about their inability to meet the rigid loan repayment schedules of formal loans due to their fluctuating incomes and what might transpire as a result of the non-repayment or untimely repayment of their loans.

“They (field staff) come to me to ask me if I need a loan. I keep telling them that I don’t need it. This will result in problems for my house. I have heard instances where the loan staff comes to your house if you can’t pay any installments and take anything they like that has the same value as the loan amount. It scares me a lot.”

One of our respondents, who has never taken a loan from a microfinance institution says:

“These loans are good for people who have fixed incomes. They know that their salary will come on a set date in their account so they can pay the installment. It is not for people like us who have work for two days and no work for three days.”

Another respondent, who regularly takes informal loans, however has never taken a formal loan says:

Affordances in Informal borrowing

- Informal borrowing allows for privacy in borrowing where the micro entrepreneur's husband do not allow them to take a loan. One of our respondent takes loans from her brother and clients which she hides from her husband because her husband does not allow her to take loans.
- Informal borrowing is done as it allows flexibility in repayment in terms of offering a grace period, and leaving it up to the borrower on when she wants to repay. We saw micro entrepreneurs delaying repayments on informal loans to be able to shop for their children on Eid. Whereas, in formal loans we see entrepreneurs even cutting down on the food during the first ten days when repayments are due because of the rigid payment schedule followed by MFIs.
- Informal borrowing is quick and allows to capture opportunities in the near future. Whereas, current MFI loan applications take certain time to be processed and are not effective for opportunities in near future.
- However, we see that when borrowed from family or friends, the lender often wants the amount to be repaid together rather than in installments, which leaves the burden of the discipline to accumulate the amount with the borrower. Whereas, formal borrowers have to focus on making sure only the current month's amount.
- We also see women engaging in such quick borrowing and return cycles with various clients to be able to complete orders in absence of formal loans. They

prioritize their repayments to be able to borrow from

“No, we have asked for 5-6 months right now to repay them, because I know that Eid is about to come and I'll get more business at that time. Whenever I take a loan from someone, I make sure I repay them at the earliest, so if need be, s/he can lend me money again.”

them in the future too.

9. Business Acumen of Micro Entrepreneurs

The main motivation for the micro-entrepreneurs to work is to provide for their children's education and their family's needs. The motivation of MFIs is also to enable micro-entrepreneurs to get them out of poverty and empower them, provide opportunities to create and grow microenterprises and improve their living conditions. However, all this is not possible if the micro-entrepreneurs are unable to make effective choices and decisions in the running of their enterprises that take them towards profitability.

We came across many entrepreneurs, some having advanced business acumen with no relation to education, while others making decisions showing lack of awareness of concepts central to the running of any profit making endeavor. We found the latter to be financially struggling to various degrees, at times to even making ends meet, and being unable to fulfill their long term goals such as making dowry, house building or expanding business.

On the contrary, we met micro-entrepreneurs who possessed good business acumen, with no link to education, but a correlation to duration of business. These micro-entrepreneurs were better able to meet their financial goals they had for their families and businesses. Therefore, we conclude availability of capital alone is not sufficient. Understanding of various financial concepts is important for the micro-entrepreneurs to improve their financial conditions.

We use various examples to show the lack of understanding among micro-entrepreneurs of business concepts.

1) Opportunity Costs and Inflation

Micro-entrepreneurs often engage in more than one businesses because of seasonality and sometimes because of lack of customer base. However, they are not aware of the concept of

Hajira is a micro-entrepreneur in a peri-urban area. During our first interview she was running a parlor. But when we visited her again after three months, she had put aside her parlor work because of low demand in summers and was stitching clothes. Training young girls is a common revenue line for micro-entrepreneurs running parlor and stitching businesses. We observed five young girls (8th grade students on summer vacation) sitting in Hajra's shop with machines and clothes that they had brought from home for practicing stitching. Upon inquiring we found out that Hajra's daily output under normal circumstances was stitching 5 to 7 suits for PKR 350 each. Yet Hajra had chosen to start training five young girls for PKR 500/- per month. These girls were in training and therefore Hajra could not delegate any client's work to them as it would not be of acceptable quality. Training the girls was a time consuming job and therefore Hajra's total productivity had come down to 3 to 5 suits, which meant she was foregoing income of PKR 700 to 1400 daily in favor of PKR 2500 a month. Curious, we inquired Hajra if the demand for tailoring fluctuated (which might have forced her to seek the more stable revenue line), upon which she confirmed that she always has enough work and is never idle. We, therefore, concluded that she simply did not realize the difference between two activities in terms of revenue potential.

opportunity costs when choosing between multiple activities, and sometimes would forego one activity in favor of a less profitable one, keeping time constant, or keep themselves busy in activities that would hardly be profitable, as they equate work with more money but it is not always the case:

Ameera is a micro entrepreneur in an urban area who engages in three different types of activities to make both ends meet. She does not have a location of business as she lives in a joint family and cannot afford to set up a business. Her financial situation is very constrained because of her husband being out of work and she has to provide for the groceries, utility bills and children's education. When we met her for repeat interview she had only paid half of her electricity bill, had not been able to get her child the tests and medicines doctor prescribed for his fever (by a private doctor which she can no longer afford and was referred to a charity hospital by an acquaintance) and had no idea where her daughter's college fee would be paid.

She has a small customer base to whom she provides salon services at home, cooks and delivers frozen snacks and does small tasks such as matching clothes for stitching for small tips (PKR 50).

When the prices for ingredients go up she does not increase prices of her snacks which eat up her margin because the customers complain of higher prices. The delivery is made by her and her husband on his bike. The customers sometimes pay her a tip which covers the delivery cost but she does not charge delivery fee for her frozen snacks to her customers and she does not realize this. She has the skill but her problem is lack of customers and engaging in low margin activities for most of her time. She therefore prefers retaining the few customers she has over earning a profit. We suggested that she start charging delivery fee for her snack business but she fears losing clients if she does so. She makes more money on salon work for a limited number of customers which supports most of her expenditures.

She skips all social events and they have no family outings because they cannot afford it. She also believes that social contacts require money, only people who have money can afford to keep them, and people only care for those who have money.

We observe entrepreneurs making investments in a business, without assessing the demand for it or the time it would take them to break even. One common example was of beauty salons. Beauty salons owners report the most seasonality in their profession as well as low demand. Since these respondents have salons setup at home and live/work in low income areas, their clientele asks for limited services and the frequency of services is fairly limited. The majority of our respondents who own beauty salons engage in more than one profession to cushion the impact of seasonality and low frequency of purchase of services. These alternate professions include stitching, embellishment work and cooking/ frozen food business.

Fiza has a parlor in her home in a rural area. Fiza started the parlor because her husband suggested it. Now she is experiencing the problem of lack of demand as the women in her neighborhood can't afford many of the higher priced services. She spent PKR 60,000/- to buy some equipment for her parlor but later found out that there was no demand for some of it in her area. She is now considering starting a garments business alongside the parlor without any idea if her potential clients will like to purchase.

Hira is a 52 year old micro entrepreneur who has invested in a cotton spinning machine after taking loans from two MFIs. The cotton spinning business is highly seasonal and it will take Hira 3 years just to recover the cost of the spinning machine. She started this business because her sister was also in the same business in another village and suggested it. If it was not for her three sons working at looms, she would not have been able to repay her MFI loans. They are a family of 4 adults and one kid living in a one-room home. Their immediate need is building another room.

3) Allocating Fixed Costs

Majority of the micro-entrepreneurs in our sample had set up businesses from home. The expenses are split such that the husbands pay for grocery and utility bills, whereas the women pay for children's school fees, books, shoes and clothes apart from their enterprise loan repayments and inventory. Unless the businesses are run from locations outside of home, these women do not account for the fixed costs of utilities in their businesses.

The majority of our respondents do not calculate their daily/ weekly/ monthly profit. They do not factor in fixed costs such as electricity because they are working from home. Only one of our respondents, who is a tailor in an urban area adds PKR 100 to every suit for electricity charges (her education is under matric, however she has received extensive training in stitching and is very aware of how the financials of microfinance institutions work). They do not carry out sophisticated calculations where products are purchased in bulk, and either rely on experience or advice to calculate the cost price of an individual unit/ unit of service. Additionally, their incomes fluctuate due to seasonality or varying demand or doing multiple trades at one time, making it difficult for them to place dollar values on expenditures.

10. Financial Protection: Dealing with illness and disability

Financial strains created by healthcare situations are two folds:

- 1) The foregone earnings as the micro entrepreneurs tend to the ill family members
- 2) The direct cost of healthcare.

If the micro entrepreneur or an earning member of the family is ill, it further affects the household income. We see our micro-entrepreneurs relying on public or charity hospitals for treatment, mostly as they cannot afford private consultation and treatment.

The micro entrepreneurs need products which can protect them in case if a family members or the micro entrepreneur herself falls ill. While it is possible in some circumstances to get treated at low cost, protection should be provided against lost income of micro entrepreneurs as they become less likely to meet their loan payment requirements. Insurance cover may also be provided for family members to cover the cost of treatment.

One woman, who was struggling to make ends meet, consulted a private doctor for her son's fever. The doctor charged PKR 500 for consultation and prescribed medicines worth PKR 1800 along with some tests which she could not afford. So she decided to self-medicate and bought a syrup for fever and sore throat as she thought this is what is causing the fever. She had to skip on the tests which she could not afford. So the real

reason for fever is not known to her or the doctor. One of her acquaintances therefore suggested her to go to a private charity hospital in future.

In another case, a micro entrepreneur's husband is a heart patient for last 3 years. He has suffered heart attack twice over last 3 years for which they sought treatment in a public hospital. She had to stay with her husband at the hospital and also nurse him at home and her work has suffered over years because of this. Her parlor has reduced from two shops to one and her income has reduced from a high of PKR 60,000 per month to PKR 25,000 per month. If she has any students, she is able to keep the parlor open. But if she has no students, she has to shut it down completely for long periods if her husband is admitted in the hospital. So her parlor business suffers. When we met her for repeat interview, she was suffering from hypertension indicating health concerns in future.

Another micro-entrepreneur (close to poverty) shared that she had paid for her daughter's delivery using her BISP payment as her daughter's husband or in-laws don't pay for it. She receives PKR 4,500 from BISP every quarter of which she used 4000 to pay for her daughter. She also shared that her infant grandson had diarrhea, for which they had to pay PKR 800 for medicines over 10 days which was paid for by her son.

Fluid finances

One thing which was common among our respondents and also obvious by repeated visits was the fluidity of their finances. During the four month gap between the first and the second round of interviews, the condition of their households changed. Below we cite some examples to indicate the fluidity of their

circumstances and the need to take this fluidity into account when building products and services.

- 1) One micro entrepreneur who was running a beauty salon upon first visit was running a tailoring and training business upon second visit as the salon work had negligible demand during summers.
- 2) One micro entrepreneur who was living in the upper portion of her sister's home and paying no rent had to shift to a rented house costing her PKR 13,000 per month as her sister needed the house for his newly wedded son and his bride to live in. This micro entrepreneur was now in immediate need to build her own house and demanding her husband's share in inheritance.
- 3) One micro entrepreneur's husband had chronic fever for a month and was working intermittently, resulting in reduced household income with six children were studying. When we contacted her for second interview, the respondent shared that her husband had been taken

seriously ill and she could not take time out for an interview. We assume added medical expenditure and loss of work for the micro entrepreneur herself as she might need to take care of her husband.

- 4) One of the two sisters who were stitching gloves on piece rate was now getting married when we visited for second interview. While each of them previously earned PKR 5,200 for the household, totaling up to PKR 10,400 and supporting the entire house, their total income was now going to drop to PKR 5,200. When asked how the family will manage, the immediate response was loans. The family had sold the second machine for one time income as none of the other children was old enough to stitch. They were participating in ROSCA with PKR 4,000 monthly payments for the wedding which was now to be covered from PKR 5,200 income and seemed very unlikely to be completed. We left their house puzzled with no means in sight for making ends meet except loans from friends and family. The ROSCA and MFI loan payments seemed highly unlikely.

11. Recommendations

We have identified the following design opportunities and challenges in designing for female micro-entrepreneurs:

DFS Technological Design Guidelines



- Designing For Privacy: Shared Access Phone
- Designing For The Next Generation Of Micro-entrepreneurs
- Designing For Usability And Utility
- Replicating Cash Management Behavior: Visualizing Cash In Money Boxes

DFS Financial Product Design Guidelines



- Women determined Digital Saving Products
- Micro-entrepreneur Money Guards As Cash-in And Cash-out Agents
- Providing An Alternate Platform For Savings And Insurance: Wedding Products And Housebuilding Products
- Redesigning Credit Ratings For Loans
- Building An Eco-system For Sustainability
- Allowing A Women- Determined Flexible Schedule of Loan Payments
- Providing Durable And Electronic Goods On Instalments
- Improving Business Acumen For Improved Business Performance

DFS Technological Design Guidelines

1) Designing for shared access phones in a patriarchal society while maintaining privacy

Not all our respondents have access to individual mobile phones and often share mobile phones with other family members, regardless of phone ownership status.

The design of Digital Financial Services assumes or requires that every individual will have their own personal phone and a SIM registered to their name. However, in the context of the patriarchal Pakistani society, where gender gap in phone ownership (41%)⁶ is larger than African countries like Kenya, Nigeria, Tanzania and South Asian countries like India and Bangladesh, the design or pre-requisite of an individual phone and SIM do not cater to all women in Pakistan and hinders inclusion through DFS.

Such social dynamics have implications for DFS design as women need privacy in financial matters. The DFS design, therefore, must account for maintaining secrecy of financial transactions for women who use shared phones (while 39% women have their own phones, 71% women have access to a phone)⁷, and do not want their financial transactions or savings to be visible to family members. Pin codes or passwords may be insufficient as they may attract more attention and can be obtained through physical coercion. However, one way to address the challenge of privacy on shared phone usage is to create an innocuous looking application, in which the interface changes depending on the passcode entered⁸. Women can

maintain different passwords for themselves and their family members and thus have access to different interfaces.

Designing for shared phones is also important to create access to DFS. Therefore, another aspect of designing for shared phones can include the creation of technology (e.g. an app-based mobile money account with features like remote authentication to ensure individual KYC) enabling multiple mobile money accounts on a shared phone, thus, requiring a CNIC as the only pre-requisite for DFS uptake for women who do not have their own phones and SIM cards.

2) Designing for the Next Generation of Micro Entrepreneurs: Tech Savvy, Educated and no sellable assets

Our research indicates that the potential future generation of micro entrepreneurs is particularly well suited for technological interventions. Although half of our respondents did not have any education, we observe high emphasis on not only educating their children but on quality education by investing in private school education where possible. The trends in education and micro entrepreneurs investing in the vocational training of their daughters before marriage indicates an increased likelihood of their daughters also engaging in micro entrepreneurship. We see that women are unable to buy gold for dowry for their daughters and therefore, the daughters are likely to not have any sellable assets for their husband's attempt at business and are likely to start working sooner and in need of financing. The future generation is also more tech

⁶ FII Wave 5 Data

⁷ ibid

⁸ Sambasivan, N. (2018). "Privacy is not for me, it's for those rich women": Performative Privacy Practices on Mobile Phones by Women in South Asia

savvy than their mothers and is seen helping them with the use of smartphones.

3) Designing for Usability, Utility and Future

We observed that lack of smartphone ownership among the micro entrepreneur women who can afford them, is driven by the lack of perceived utility to invest in a smartphone. When there is a utility built into their lives, women do invest in phones. However, when they do not see any important need being fulfilled, they considered smartphones a waste of money. With regards to DFS, utility needs to be created for women to invest and use DFS over smartphones. While the utility will come from designing need based financial products and features (we share suggestions in section on financial products), facilitated by DFS, the required usability and technological interventions can only be provided over smartphones.

Smartphones present the flexibility to control the interface and design for usability of low literacy users. Half of our sample was uneducated and the modes of input and output on feature phones are either not suited for low literate users (USSD and SMS used for input on feature phones cannot be used if there is no literacy) or very expensive when implemented on feature phones (IVR systems are frequently suggested for low literate users but are expensive to operate). Smartphones on the other hand allow for designing using the guidelines for low literate users: Graphical UIs (Mehdi et al, 2011), audio help, Interactive Voice Response, making applications learnable to reduce need for in-person trainings (Ibtisam et al, 2017) etc.

Increasing adoption by reducing costs through tailored technology: WhatsApp/ Imo as a Case Study

Our respondents connect to WhatsApp over data bundles to connect with family members.

It is imperative to identify elements of the interface and the value proposition which make WhatsApp and Imo attractive

for these women, and derive relevancy from them and incorporate into the digital financial services platform.

The usability of simple interfaces like WhatsApp for low income, low literate population can be replicated for ease of use. One such feature that we have identified through our research is the option to use WhatsApp as a feature added to data packages/ bundles, that makes using the product cost-effective for low income populations. The option to use this digital financial intervention as a part of data bundles that provide airtime and text messaging will make its use cost effective for the target demographic. The option to send voice notes makes the application convenient for individuals who cannot type messages.

4) Visualizing Cash in Money boxes

Our respondents attach value to the tangibility and accessibility of cash.

Since financial transactions are involved, it is essential to explore mechanisms which enable low income and low literate women to trust non-cash savings. The application must allow women to visually see their savings accumulating, and their expenditures diminishing when they deposit cash and vice versa, to virtually allow them to feel that tangibility and accessibility of cash.

The physical presence of cash in boxes has to be replicated: when a deposit is made, a visual representation should be available which allows the user to see the savings box filling up. Similarly, if a loan instalment is paid, the savings in the saving box should be proportionately be reduced, and the box that indicates the amount of loan left should also show a decrease (See Figure 4).

We also recommend creating various buckets/boxes/jars shown on the mobile interface within the mobile wallets which depict the money segregation in boxes with labels depicting these boxes. They should be able to manage money within and between boxes as they would do in an offline setting.

Tangibility of Cash

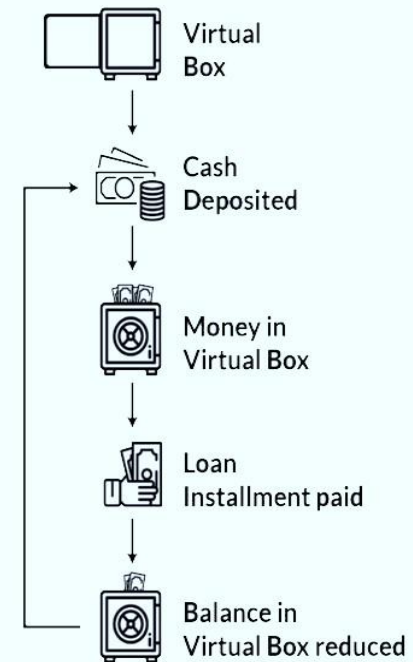


Figure 4 Depicting Financial tangibility

DFS Financial Product Design Guidelines

Below we recommend design guidelines for DFS providers

1) Women-determined Digital Saving Products

The informal saving mechanisms currently used by women are preferred by them as they allow them the flexibility and control over their savings, while adjusting for their personal circumstances. Women can choose when to start and end saving, the size of the contribution and how frequently they can make a contribution. They can even choose to divide their savings over multiple saving instruments of varying ticket sizes (between PKR 500 to PKR 3000 per month) and maturity dates (e.g. one year ROSCAs) depending on their disposable income at any time of the year (seasonality) and ability to withdraw in situations like death or wedding. The micro-entrepreneurs, therefore, need flexibility in choosing the amount to be saved, frequency and duration of saving contributions rather than having predefined, one-size-fits-all saving products which require all customers to select from a set of pre-determined saving contribution and duration options even if they get to choose the frequency. Flexibility is particularly important for women running seasonal businesses.

All of the above mentioned metrics for flexibility can be afforded and offered through the design of digital saving products where selecting each of these terms (duration, start and end date, amount, ticket size) is as easy as picking options from a menu on an appropriately designed interface.

2) Micro entrepreneur Money Guards as Cash-In and Cash-Out Agents for Privacy

The current cash-in and cash-out model of mobile money at retail shops in the neighborhood where many people might be present is counter-intuitive to women's need to hide their savings, either in small amounts with money guards or in large amounts in committees. Here, the question is not of mobility but of privacy. Women are not comfortable taking the money to shops as it essentially eliminates the element of privacy, which they are able to maintain with micro entrepreneur women, acting as money guards. They recognized that the liquidity necessary for a money guard is available with micro-entrepreneurs, and therefore save money with them as they are more likely to have the cash to return it when needed. The same micro entrepreneur can cash-in that money for these women into a mobile wallet and rather saving in cash, they can save into wallets.

3) Providing an alternate platform for Savings and Insurance

Our respondents need to save for long-term goals such as building a house or preparing dowry. Current products are neither targeted to nor are relevant for the micro-entrepreneur women.

Providing women with a platform for digital insurance and long term savings will allow them to save for long periods of time for needs such as dowry and building a house without being subjected to cash demands from family members and being tempted to use cash for alternate means. DFS can enable such a platform that would provide safety of funds and privacy to these women.

Wedding Products

Women have a high preference and priority for creating dowry for their daughters. Therefore, they are willing to try out products and services which help them reach these goals. Purchase of insurance policy by two respondents for dowry and one being defrauded is one such example indicating not only the willingness and capability (of some), but also the lack of options and information available to micro entrepreneur women. We propose providing women with DFS products where they can save and invest in their daughter's dowries.

Women capable of undertaking longer duration of saving but prioritizing education showed interest in wedding products which have time span of 5 rather than 20 years.

Some specific recommendations on the design of wedding products include:

- Develop for two types of customers for wedding products:
 - i) Those saving from an early age for long durations like 20 year plan
 - ii) Those saving after a daughter's education is complete and needing a 5 year plan

Existing loan products require applicants to fulfill certain conditions of monthly income (minimum PKR 40,000) and provide sufficient documentation (salary slips or incomes statement, account statements and NTN in case of self-employed etc.) to prove it.⁹

⁹ "personal loans for wedding" <https://www.mawazna.com/>

¹⁰ <http://akbl.com.pk/services/bancassurance/askari-education-and-marriage-plan/>

- With respect to payments, we suggest keeping in consideration the paying capacity of these women where the typical monthly contributions are in the same range as their typical ROSCA contributions.
- Women mostly engage in the purchase of household items for their daughters over years, and hence do not require one lump sum amount. The product should allow women to create small savings targets in order to purchase the respective household items, while keeping them private from husbands.
- (Consider the fluidity of their circumstances and) Build for flexibility in frequency and amount of contributions while allowing women to choose the amount they can commit to, allowing to increase or decrease their contributions as their circumstances allow. Existing insurance plans for wedding on the other hand require contributions for up to 10 years minimum^{10 11}.
- Develop for privacy as women save for their daughters privately
- Provide women with information about reliable service providers through comparison applications to protect women from frauds and enable them to identify the reliable service providers from fraudulent ones and ensure their trust in formal products
- Keep the onboarding processes simple and ensure privacy

¹¹ <https://www.bankalfalah.com/personal-banking/bancassurance/rida-marriage-plan/>

- Allow purchase of most commonly sought durables in packages through retailers
- Develop components for sponsoring the wedding party as well as dowry
- Allow for staggered payouts for one long-term investment to be used for financing weddings of multiple daughters

While we provide these general guidelines for wedding product design for our target population, relevant laws and policies also need to be taken into account for designing such products¹².

House-Building Products

House building is also one of the main concerns and motivations of working for micro entrepreneur women. However, the house building patterns of these women and their families is different from high income households with the long-term saving both in terms of duration and fund acquisition. Their funds often come from ROSCA participations and loans from friends and family, and sometimes both create financial stress. The construction of households also takes place room by room, divided into grey structure, paint and doors being installed later. Most of the times, the houses are built after land has been bought utilizing inheritance share, but sometimes purchase of land is also required. Some design guidelines are:

- Use ROSCA credit history to evaluate customers
- Provide financing for phase-wise goals, as a product covering the entire house might not be affordable. For

instance, purchasing land, building grey structure, room by room, finishing

- Provide house repair products which are available immediately

4) Redesigning credit ratings for loans

The credit rating of our respondents can be assessed through means other than asset based and social collateral; the ability to make fixed payments during the month such as school fee, ROSCA payments, rent etc.

It is imperative to redesign credit risk assessment for low income women by attaching value to their ability to pay make repeat fixed payments on a monthly/weekly basis and thus, redefine what a good credit risk is. Digitizing cash flows and transactions of female micro-entrepreneurs is likely to enable alternate credit rating. Using their existing transaction log, particularly ROSCAs, school fees, supplier payments etc., as substitute to collateral, will allow micro-entrepreneurs to apply for small loans, eradicating the need to borrow small amounts of money from family and friends.

5) Building an Eco-system for Sustainability

Women make repeated purchases from the same suppliers/order takers, and often make repetitive transactions for instance for children's tuition fee, instalments for microloans, rent, utility bills etc.

¹² The Dowry and Bridal Gifts (Restriction) Act 1976 defines dowry as a gift, before, at, or after the marriage, either directly or indirectly, to the bride by her parents in connection with the marriage. The Act defines the limits for dowry and wedding expenses. However, these limits are

practically not enforced, and will need to be addressed and revisited for practical purposes at the policy level. Retrieved from: http://www.na.gov.pk/uploads/documents/1493183292_845.pdf

It is imperative to create an ecosystem and ensure that digital payments are accepted where women frequently make payments, for instance shifting microfinance institutions, schools and suppliers/ order takers in the case of general stores to a digital financial system, to enable women to conduct quick, hassle-free routine transactions.

6) Allowing women-determined flexible schedule of loan payments

The personal and entrepreneurial lives of our respondents are linked, therefore, the system must account for unforeseen circumstances in the personal lives of the micro-entrepreneurs. The interface designed should enable women themselves to select, from a drop down menu, how often they would pay in a month, when the loan will start, when will it end and how much will they pay.

The digital financial system must be situated in the personal and entrepreneurial life-cycle of women. Currently, these women pay a loan instalment every month, without any room for flexibility in terms of delayed payments or partially delayed payments due to unforeseen expenses or fluctuating income. For some of our low-income borrowers, the rigid payment schedules become difficult, and they report to decrease their food intake when the loan instalment is due.

Flexibility in lending products could offer them the potential to improve their daily money management by allowing them to spread their payments and prevent situations in which too many payments such as rent, loan instalment and ROSCA instalment are due within the first or last week of the month.

¹³ Karlan D, Mullainathan S. (2009). Is Microfinance too rigid. Qfinance forthcoming

Likewise, flexible savings products for our respondents would provide them a way to save whenever feasible and without penalties for either insufficient cash-in flows or early withdrawal. Frequency, number of months, insurance package, etc. Following types of products have been developed and tested in the developing world, however, the effectiveness of each varies depending on local context:

- Flexible payments on expected cash-flows, with rigid terms in deviation¹³: Such products will offer individuals the flexibility to repay loans based on their expected cash-flows, while the saving products offered plans with flexibility in choosing deposit amount, frequency, and maturity.
- Flexible payments on actual cash flows: Flexibility is provided in future transactions based on actual cash flows in case of shocks and emergencies. While payment schedule is predetermined, it offers flexibility in case of an unforeseen event, according to the client's new repayment capabilities.
- Repayment with a grace period: Repayment begins after a two month grace period, and this mechanism has positive effects on business creation by allowing these women to diversify their inventory and are more likely to buy durable assets, with the result of higher profits¹⁴.

7) Providing durable and electronic goods on instalments (Islamic financing mode)

¹⁴ Field E, Pande R, Pappa J, Park Y.J. (2012) Repayment Flexibility Can Reduce Financial Stress: A Randomized Control Trial with Microfinance Clients in India

Our respondents purchase goods such as refrigerators, stitching machines and smartphones on instalments

By allowing women to make small, remote and flexible payments, access to durable goods such as electronics can be increased, consequently improving their quality of life. This also works well for women who have a high preference for Islamic modes of financing. By developing credit rating of these women as suggested above and partnering with retailers, they can be offered plans for the purchase of durables and electronics for their homes, businesses and personal use.

8) Improving Business Acumen for improved Business Performance

Respondents with better business acumen tend to adequately perform in their businesses, and are more likely to generate profits, as compared to those with low business acumen

Two types of interventions can be implemented to improve business acumen of micro-entrepreneur women, and MFIs are prime for the execution of such interventions:

- Training through role models: Micro-entrepreneurs participating in a training program can be exposed to a role model, or given personalized consultations. Both these types of trainings have different impacts: role models helped those entrepreneurs with less experience, while consulting benefited experienced and educated entrepreneurs¹⁵.

¹⁵ Lafortune J, Riutort J, Tessada J. (2017). Are micro-entrepreneurs constrained by their lack of knowledge or motivation? Lessons from a randomized experiment in Chile

- Targeted and tailored training sessions with peers: In India¹⁶, a two-day business counseling program was created for women ages 18 to 50, who were active borrowers of a bank. The program, led by bank staff, taught women basic financial literacy and business skills, and showed them a film showcasing successful role models in their community. They were also paired them with a trainer, to help them set a medium-term financial goal and identify steps to achieve it. The two-day classes had 10-12 participants, who owned small businesses (vegetable vendors, tailors, etc.) or were engaged in home-based work (e.g., embroidery, tailoring, etc.). Women were either invited with a friend, or invited alone to attend the session. Four months after the training, it was found that the women who trained with a friend, were more likely to have taken out a business loan, set more ambitious business goals, and experienced sizeable increase in their incomes, as compared to the women invited alone and those not invited at all. Having a friend generated an enduring sense of support, giving women more confidence. Furthermore, it may have also provided a resource for financial assistance and recalling information.

¹⁶ Field E, Jayachandran S, Pande R, Rigol N. (2015). Friendship at Work: Can Peer Effects Catalyze Female Entrepreneurship?

Appendix: Demographics

#	Age	Marital Status	Education	Occupation	City	Average Income per month
1	35	Married	Matric	Parlor/ Frozen foods	Lahore	Never calculates/has no estimate
2	41	Married	Under Matric	Rikshaw/ Tailoring	Lahore	Before: PKR 19,000 – 24,000 After back problems: PKR 2,000 – 3,000
3	37	Married	Not educated	Garments (intermediary)	Gujranwala	Calculates profit after all expenses: PKR 7,000-8,000
4	40	Widow	Primary	General Store	Gujranwala	Unknown
5	35	Married	Not educated	Beauty Parlor	Gujranwala	In season: PKR 4,000 – 5,000 Off season: PKR 500 – 1000
6	35	Widow	Intermediate	General Store	Gujranwala	Unknown
7	35	Married	Intermediate	Beauty Parlor	Lahore	PKR 30,000 – 40,000 (fluctuating)
8	30	Married	Under Matric	Beauty Parlor	Lahore	Never calculates/ has no estimate
9	28	Married	B.A	School/ weaving	Gujranwala	Profit: PKR 22,000 – 26,000
10	45	Married	Not educated	General Store	Lahore	PKR 15,000- 20,000 (fluctuating)

11	28	Married	Primary	Beauty Parlor	Gujranwala	Variable Income: Over PKR 4,000
12	38	Married	Not educated	Stitching gloves	Faisalabad	PKR 9,000 – 10,000
13	40	Married	Not educated	Stitching gloves	Faisalabad	Before: PKR 9,000- 11,000 After: PKR 5,000
14	52	Separated	Not educated	Spinning cotton for blankets	Faisalabad	In season: PKR 20,000 – 25,000, PKR 4,500 every quarter(BISP)
15	27	Married	Not educated	Stitching gloves	Faisalabad	PKR 11,000 – 12,000
16	35	Married	Matric	Boutique	Lahore	Profit: PKR 500 per dress (total not estimated)
17	34	Married	Primary	Tailor	Lahore	Unknown
18	28	Married	Primary	Dairy	Gujranwala	PKR 15000 - 16000
19	40	Married	Not educated	Tailoring	Faisalabad	PKR 10,000 – 12,000
20	36	Married	Primary	Beauty Salon	Faisalabad	In season: PKR 6000 –7000 Off season: PKR 2000 – 3000