Empowering Female Domestic Workers Through Digital Finance*

Bansi Malde, Maliha Rahanaz, Zaki Wahhaj

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Abstract

We examine the impact of an intervention that combines digital finance and general financial literacy training targeted at women employed in the domestic work sector in Bangladesh. Study participants were randomly assigned to receive offers of two-day training at a hub operated by a digital gig work platform. We find substantial effects on savings behaviour and labour market outcomes 12 months after the intervention. We find no effects on awareness of, or trust in, mobile money transactions, intra-household transfers or spousal pressure to share resources. Our findings suggest that the intervention encouraged the use of mobile money accounts among domestic workers to retain personal control of earnings which, in turn, led to an increase in paid work that involved wages being paid directly into these accounts.

Keywords: financial literacy; digital finance; digital gig work; domestic work; mobile money; Bangladesh

JEL Classification: G53, J16, O16, O33

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1 Introduction

In recent years, there has been a rapid increase in the use of digital financial services (DFS), such as mobile money, in developing countries, particularly among the poor and marginalised who have traditionally had limited access to formal financial services (Demirguc-Kunt et al., 2018; Demirgüç-Kunt et al., 2022). In particular, DFS is often seen as a means of improving financial inclusion and economic empowerment among poor women in developing markets (Suri and Jack, 2016), by providing a secure and convenient way to access formal financial channels for savings and credit; safeguarding their money from external family demands; and reducing time spent on tasks like depositing or withdrawing cash (Duflo, 2012; Aker et al., 2016; Field et al., 2021; Riley, 2024).

However, contrary to this narrative, there is a large and persistent gender gap in the use of mobile money accounts, the primary method for accessing DFS (Demirguc-Kunt et al., 2018; Demirgüç-Kunt et al., 2022). Globally, women are 32% more likely to have an inactive mobile money account than men (Demirgüç-Kunt et al., 2022). In emerging markets - Bangladesh, India, Indonesia, Nigeria, and Pakistan - they are also less likely to use, or have awareness of, mobile money services than men (Reynolds et al., 2023). In Bangladesh, one of the fastest growing mobile money markets, only 17% of women had sent a digital payment compared to 43% of men between 2016 and 2017 (Lee et al., 2022).

For a variety of reasons, women may face higher barriers to DFS adoption in low-income settings. They often lack the identification documents necessary to open mobile money accounts (Shrader, 2015; Scharwatt and Minischetti, 2014), have limited financial independence and autonomy (Riley, 2024; Field et al., 2021) and tend to be less aware of the services available through mobile money accounts (GSMA, 2023). Housework and childcare responsibilities can leave women less time to interact with mobile money agents, set up an account, or perform transactions (Reynolds et al., 2023). Women may also have a lower demand for mobile money services if they do not have a regular income from employment (Onyia and Tagg, 2011).

Recent literature has shown that digital finance training, particularly when coupled with the disbursement of funds into an associated account, can improve economic outcomes across multiple dimensions. For example, Lee et al. (2021) found that providing digital finance training among remittance-receiving rural households and urban migrants in Bangladesh led to large increases in the use of mobile money accounts, remittances sent by migrants and consumption among rural remittance recipients. And Field et al. (2021) showed, for rural women in India employed in a government workfare programme, that opening individual bank accounts for women in which their earnings from the programme were deposited, coupled with a short training to use local bank kiosks, increased their labour supply in both the public sector and the private sector.[1]

1. Other studies that fit into this broad category include Breza et al. (2020) that investigates the effects of introducing bank/mobile payroll accounts for wage payments of workers employed in the readymade garments sector in Bangladesh, coupled with training to familiarise workers with the features and functionality of these accounts; and Riley (2024) examines the

The interventions in the existing studies provided training on accessing a specific financial service (e.g. mobile money account, payroll account, bank kiosk) but did not include general financial literacy training. The existing literature on financial literacy shows that adults in South Asian countries have among the worst financial literacy levels worldwide (Klapper and Lusardi, 2020), and that women are less likely to be financially literate than men (Demirguc-Kunt et al., 2018). Lack of financial agency within the home and consequent inexperience in managing personal finances – typical of women in these settings - can exacerbate financial illiteracy. Therefore, it is important to understand whether financial illiteracy constrains the potential socio-economic effect of access to – and training on – digital financial services for women; and whether incorporating financial literacy in digital finance training can improve digital connectivity.

In this paper, we examine the impact of an intervention that combines DFS training with financial literacy training targeted at women employed in the domestic work sector in Bangladesh. The study participants consisted of 563 women who had registered with a digital gig work platform and received their earnings from the platform into a mobile money account. Focus-group discussions with platform workers prior to the intervention revealed an unmet need for tailored training on mobile money services.[2] Three-fifths of the study participants were randomly assigned to receive offers of two-day training on DFS and financial literacy at a hub operated by the digital gig work platform. Those who failed to attend the training were subsequently given the opportunity to participate in a day-long intensive training session in their own homes or the home of a neighbour. Half of the participants assigned to treatment were additionally given the option to receive their wages via an alternative MFS provider with an expanded range of services compared to the one normally used by the gig work platform. The remaining two-fifths of study participants did not receive any offer of training or option to switch their mode of payment.

We find substantial effects on savings behaviour and labour market outcomes 12 months after the intervention for study participants offered both training and the option of an alternative MFS provider for wage payments: about 32% more likely to have saved in a formal account, and two-and-half times as likely to have saved in a mobile money account in the previous 12 months compared to control group participants; and an additional 3 hours of work on the digital gig work platform and 1.5 times the wage earnings in a mobile money account in the previous 30 days compared to the control group. The pattern of savings and labour market behaviour on study participants offered training but not the option of an alternative MFS provider are broadly similar, with no significant differences in estimated effects between the two treatment arms.

We find no effects on awareness of, or trust in, mobile money transactions, intra-household transfers or spousal pressure to share resources among study participants assigned to either treatment arm. On

effects of loan disbursement into a mobile money accounts, and training to use the accounts, for female microentrepreneurs in Uganda.

2. Participants in the focus group discussions were not included in the study.

the other hand, we find limited effects on knowledge related to digital finance and financial literacy.

Taken together, our findings suggest that the intervention encouraged the use of mobile money accounts among domestic workers to retain personal control of earnings which, in turn, led to an increase in paid work that involved wages being paid directly into these accounts. The encouragement to use mobile money accounts arose not from improved trust in, or awareness of, mobile money accounts but, potentially, from improved financial literacy and knowledge about digital finance.

Our finding of an effect from digital financial training on labour supply echoes Field et al. (2021)'s finding that providing personal bank accounts for depositing earnings to women employed in a public works programme in India, along with training on how to use them, led to increased labour supply. However, unlike Field et al. (2021), our intervention did not involve a change in payment mode (except for the offer to switch to a different MFS provider in one treatment arm); rather it focused on digital financial training coupled with financial literacy training.

The remainder of the paper is organised as follows. Section 2 provides a discussion of the related literature. In Section 3, we provide an overview of the study sample and the digital gig work platform from which study participants were recruited. In Sections 4 and 5 we present the empirical strategy and data, respectively. In Section 6, we discuss the results followed by a discussion of the findings in Section 7. Finally, Section 9 concludes.

2 Related Literature

The causal effects of mobile money have been pivotal in enhancing economic opportunities for women. For instance, in the case of public transfers, Aker et al. (2016) find that female-headed households in Niger receiving payments in mobile money accounts (Zap group) used their transfers to improve diet diversity of the household. They find that mobile money transfers enable women to save time by travelling shorter distance to agent points to withdraw their transfers as compared to collecting cash. This time savings enabled women to engage in productive activities, including cultivating marginal cash crops typically grown by women. The study also provides suggestive evidence that mobile money transfers improved women's decision-making power - particularly as digital transfers enabled women to conceal the arrival of the transfer and giving them greater discretion over spending. While mobile money delivered the transfers, it did not alter how they engaged with mobile money that could result in improving financial inclusion or generate longer-term benefits. For example, almost all women in the Zap group withdrew the entire transfer at one go and did not use mobile money beyond the last transfers they received.

Field et al. (2022) argue that women with fewer financial resources, less mobile and less education incur high cost of acquiring information and have limited visibility into their account activity. For example, the study finds that providing information about account balances, through voice notification

calls, on existing bank accounts opened by the government of India to send the G2P payments, helped to reduce information frictions and improve trust in banking system among economically marginalised women. The delivery of timely information that was easily understood by women with limited literacy allowed for improved timing of withdrawals reducing repeated, uncertain, non-transactional visits which are costly in time and effort. The intervention also reduced dependence on kiosk agents for account balance information. Women were 7-8 percentage points less likely to get information the kiosk and 16 percentage points more likely to say they used the voice notification call instead. At baseline, women had reported significant dissatisfaction and distrust in agents. However, intervention has no impact on average account balances, or other measures of account use and the treatment effects dissipate immediately after the voice notification service was no longer active.

In another study, Riley (2024) finds that female borrowers in Uganda who received loans in mobile money accounts helped them resist the pressure to share and reduce temptation spending. Given the loan deposited in the mobile money account is digital and protected, it is less likely to be demanded or observed by others, thereby increasing business capital and profits for women's micro-enterprises. The use of mobile money accounts, however, remained limited and was mostly to access the loan. Despite the account being labelled for business, it was not used for taking payments or as a savings tool. Moreover, the average balance in the first week after receiving the loan was 25% of the loan value and by the end of the month it was 12% of the loan. In the other treatment group, where women were only given the mobile money account while loan was disbursed by cash made no effort to engage with these accounts and continued to prefer cash due to procrastination and small costs of depositing the loan personally into the accounts. Moreover, at the end of the study, initial difference in usage disappeared after about 6-8 months meaning women withdrew funds and did not keep using the account for other purposes. Although defaulting the loan into the account protected funds passively, engagement with the account for savings, business transactions or remittances demand additional behavioural nudges to be reinforced over time.

While some studies have predominantly examined broader effects of mobile money on financial inclusion and economic activity (Jack and Suri, 2014; Batista and Vicente, 2023; Lee et al., 2021) through mechanism such as reduction in transactions leading to high inflows of remittances that enable poor households to reduce their vulnerability to shocks and episodes of hunger. Few, however, have investigated how targeted interventions affect gender-specific economic outcomes, with the exception of the study by Field et al. (2021). In this study, Field et al. (2021) find that providing women employed in a public works programme in India with their own bank accounts, along with training on how to use them, and depositing their earnings into these accounts (rather than into accounts controlled by male household members), led to increased labour supply and greater economic empowerment. The training, coupled with direct deposit of wages, strengthened the ability and confidence of women in using their

bank accounts – reinforcing their control over their earnings and leading to improved participation in the labour market.[3]

We contribute to the literature by evaluating the effects of combining financial literacy training with training on the use of mobile money accounts. To the best of our knowledge, this is a design that has not been evaluated in the existing literature. Moreover, studies discussed above (Aker et al., 2016; Riley, 2024; Field et al., 2021) targeted interventions that largely focus on facilitating access a specific financial channel (e.g. mobile money account, payroll account, or bank kiosk) that may induce the use of accounts by default (e.g when a transfer or a loan arrives) but not necessarily proactively (e.g using accounts to save). Our research builds upon these studies to understand and test interventions that have the potential to improve use of mobile money accounts at the intensive margin and its potential effect on women's labour force participation. Another key contribution of this study is that it focuses on low-income urban women working as domestic workers in developing countries – an economically significant but under-studied group. This sets our study apart from the broader literature which has largely concentrated on rural populations, formal-sector workers, and microfinance clients (Lee et al., 2021; Breza et al., 2020; Field et al., 2021; Field et al., 2022; Riley, 2024).

3 Context

Our study context is Dhaka, a rapidly urbanising mega-city in Bangladesh with a population of over 18.2 million people (Hossain and Wadood, 2020) of whom 33% are slum dwellers (UNDP, 2019). Dhaka is the capital city of Bangladesh and a core for economic activity in Bangladesh. This makes it an attractive location for internal migrants who relocate with expectations of better wage earning opportunities, despite deficiencies in infrastructure and a limited government service provision.

As of 2022, Bangladesh's female labour force participation rate was 43.4% (Bangladesh Bureau of Statistics). The informal sector accounts for a significant share of workers in Dhaka.

3.1 Female Domestic Workers in Bangladesh

According to the 2017 Bangladesh Labor Force Survey, there were around 1.3 million domestic workers in Bangladesh, 80% of whom were female (Seery, Emma, 2020). These workers are tasked with undertaking household chores including cooking, cleaning, laundry, purchasing food, caring for children and elderly family members, among others. The demand for domestic workers has been rising in countries such as Bangladesh due to a rise in women in the formal workforce, increases in work intensity and strong social norms. Given its flexibility and low entry barriers, domestic work is seen as the most accessible form

3. The training was group-based, conducted after account opening and included: how to deposit and withdraw at the banking kiosk, the uses of account (for e.g saving, receiving benefit transfers), why banks kiosk deposits are safe, and the time and cost savings of using the bank kiosks

of informal employment in Dhaka, particularly among women with limited or no formal education and training (Ghosh, 2021). Domestic workers are employed either on a part-time or live-in basis. However, they would typically not have formal employment contract. They work an average of 10.2 hours a day, and over 85% earn less than BDT 5000 or USD 64 per month (Bangladesh Institute of Labour Studies (BILS) and Oxfam, 2015).[4]

Domestic workers are excluded from the coverage of legal frameworks and standard minimum wage requirements. Domestic work tends to be undervalued and poorly regulated with substandard working conditions. Moreover, the lack of formal employment contracts, issues of non-payment and irregular payments, and no fixed minimum wage structure or social protection schemes increase the vulnerability of domestic workers and reduce their bargaining power in the societies they belong to (Ghosh, 2021). Moreover, job search frictions may mean that employers hold significant monopsony powers.

Although domestic workers are connected to the cash economy through their wage earnings, very few have access to formal financial services or a bank account. A lack of identity documents such as national identity cards, birth certificates, and passport photos means that these workers are often unable to open mobile money accounts (Shrader (2015)), even though over 90% own or have access to a personal phone (Ashraf et al., 2019). Furthermore, irregular payment streams, and unfamiliarity with available services restrict their use of mobile money accounts.

3.2 HelloTask: Digitising the Domestic Worker Sector in Bangladesh

In this context, we partnered with HelloTask, a start-up firm which aims to digitise, up-skill, and formalise the domestic work sector in Bangladesh. It operates a mobile application matching female domestic workers to work opportunities across major slum areas in Dhaka city. It recruits domestic workers through recruitment teams operating in slums across Dhaka City. These teams work with designated HelloTask hubs spread out across five major slum areas: Bashundhara, Dhanmondi-Mohammadpur, Malibag-Khilgaon, Mirpur, and Uttara. Workers are recruited to work on the platform is they are willing to work as a domestic worker, have a valid national ID card and a phone – either a feature phone or a smart phone.

HelloTask registers the recruited domestic workers are registered with a specific Mobile Financial Services (MFS) provider, which we will refer to as the 'HelloTask Payment Platform' or HPP henceforth, to make payments to domestic workers.

Figure 1 outlines the process through which the HelloTask platform works. Clients seeking a domestic worker need to download the HelloTask application on which they can then request a trained domestic worker available to work in the next two hours. Clients can indicate their service preferences and select a part-time or full-time worker when making their request. At the check-out, the application displays

4. As a comparison, the minimum wage in the ready-made garments sector, in which women account for a large share of employees is 12,500 BDT.

the approximate wait time and the amount to be paid. HelloTask offered two options to clients, either (a) an instant cart, or (b) a monthly subscription. In (a) the domestic worker works for 2 hours/day for a set hourly rate (150 BDT an hour during our study period), while in (b) the domestic worker works at least 2 hours/day for 30 days for a small discount to the client (3500 BDT at the time of our study).

The HelloTask platform then sends work requests to domestic workers closest to the client's location through an Interactive Voice Response (IVR) system developed by HelloTask called "Computer APA".[5] During this call, HelloTask relays the client's service request, including the location and payment amount that the domestic worker will receive after the work is completed. The worker can accept the request via Computer APA. Next, the client pays HelloTask using a mobile money account. Once the work request has been completed, HelloTask pays the domestic worker through the HPP. HelloTask charged clients 150 BDT per hour during our study period and offered 85% of the payment collected from clients to domestic workers.

In focus group discussions (FGDs) with female domestic workers registered with the HelloTask platform[6], participants referred to the HPP primarily as an intermediary step to cash out their earnings. Although they had heard of mobile financial services from spouses or other male members of the household, they mentioned that they would not be able to perform these transactions on a mobile money account on their own. Additionally, they expressed a lack of trust in mobile money due to the risk of fraud by mobile money agents with whom they have shared their PINs. During the FGDs, participants also mentioned that it would have been beneficial if there were opportunities for women to learn about mobile money accounts and how to use them to expand their economic opportunities.

3.3 Mobile Financial Services

3.4 Interventions

In this context, we implemented two interventions with domestic workers registered with HelloTask. The first intervention was on digital financial services training, while the second intervention offered wage payments through an alternative MFS provider, bKash.

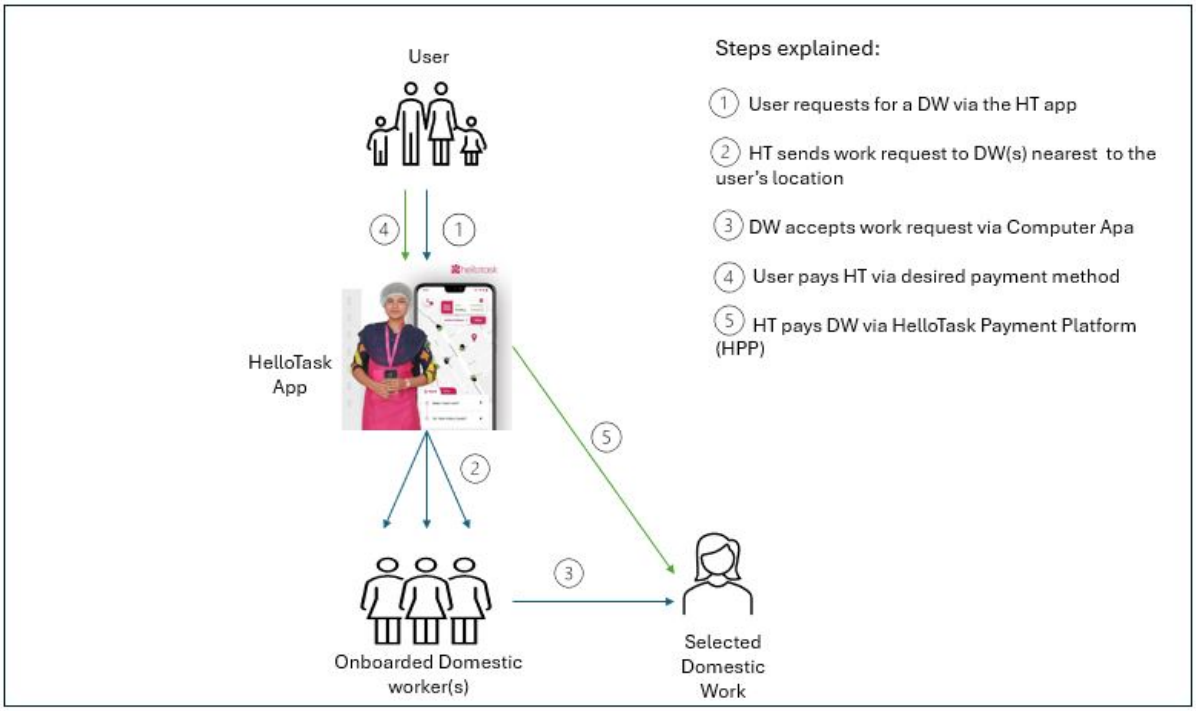
3.4.1 Digital Financial Services Training

We developed the DFS training programme by adapting the HERFinance Digital Wages Curriculum developed by the HERFinance Digital Wages Program, and originally targeted to ready-made garment factory workers, to the context of female domestic workers in Bangladesh.[7]

5. APA is short for Any Phone Automation. However, in Bangla, the term can also be translated as "Computer Sister".

6. The FGDs were conducted in September 2022 prior to the baseline survey and intervention and excluded domestic workers who were subsequently included in the baseline sample.

7. The HERFinance Digital Wages Program supports employers in digitising wage payments for low-income female workers in global supply chains in Bangladesh, Egypt, and Cambodia. Through this program, 64 factories, by December 2019, had adopted digital wages, and more than 100400 workers were being paid via the mobile money account, bKash, or the Dutch Bangla Bank, Rocket, payroll account.



Notes: DW refers to Domestic Worker.

Figure 1: HelloTask Explained

The DFS training programme includes 6 different modules: (1) Introduction to Mobile Financial Services, (2) Using Mobile Financial Services, (3) Financial Planning and Managing Money, (4) Budgeting, (5) Savings, and (6) Talking About Finances With Family. The modules were adapted based on discussions with HelloTask Brand Promoters (BP) - who live and work in the slums and provide information and create awareness of employment opportunities at HelloTask - and from focus group discussions with domestic workers. In particular, the modules were adapted to reflect the fact that domestic workers usually receive irregular incomes from different employers. Thus, the training emphasised strategies for managing variable income, planning for small, frequent savings, budgeting for remittances, and ensuring timely wage payments. In addition, the training materials were adapted to include up-to-date information about the MFS providers available in Bangladesh at the time of the study and information on charges/fees and features offered. Participants were provided with leaflets with this information during the training sessions, which they could take home. Finally, role-plays in the training were adapted to the domestic worker context.

The training was delivered through a two-day training session at HelloTask hubs located in slums across Dhaka in September 2022. Modules 1 through 3 were completed on Day 1 and Modules 4 through 6 were completed on Day 2. Creche services were available for participants so that they could concentrate during the training sessions, and participants were compensated for time, transportation and lunch and snacks were provided on both days.

Treated workers were called and invited to the training 1 week prior to the training. A dedicated

team at HelloTask continued to make reminder calls 24 hours before the scheduled training and then again on the day of the training as another gentle reminder.

By December 2022 we had provided training to 156 domestic workers. To reach more participants, we worked with HelloTask to initiate door-to-door training. These door-to-door trainings were conducted by the BPs in the domestic workers' home. Following our calling protocol, BPs sent reminder calls to domestic workers about the door-to-door training. On the day of the training, BPs with HelloTask coordinated a location that was convenient for the domestic workers to meet. As in the hubs, the training was provided in homogeneous group sessions, ensuring that all women attending a specific training session and belong to the same treatment arm(s).

By January 2023, we provided training to another 116 domestic workers via door-to-door training, reaching 272 of the 337 treated domestic workers. This indicates that 81% of domestic workers in T1 and T2 completed the training. Table A3 in the Appendix, we provide a summary of the DFS training by treatment/control arm.

To continue the DFS training over the period of the study and to reach the participants (71) who did not attend the training, we worked with HelloTask to design "DFS Training Reminders" using Interactive Voice Response (IVR). These delivered consolidated versions of the 6 training modules. To test participants' knowledge and understanding of the modules, we also prepared a "DFS Quiz" with two multiple choice questions (MCQ) for each module. The calls were administered to all treated workers between May 2023 to September 2023.

3.4.2 bKash Mobile Money

The second intervention involved offering wage payments through a new mobile money service - bKash which offered a wider range of services compared to the existing provider, had a larger agent network and offered assistance to clients through several different modes. These differences between services across different MFS providers is shown in Table 1. If participants opted to be paid via the new service (bKash), we asked for the number associated with that mobile money account and recorded it. 27% in T1 (among those contacted 110/170), opted to switch to wage payments via bKash.[8]

4 Conceptual Framework

Our study focuses on outcomes related to knowledge, trust, savings, remittances, labour supply and intra-household transfers. The DFS training could affect these through (i) alleviating information frictions and knowledge barriers; (ii) improving trust in the technology, and (iii) increasing control over earnings.

The domestic workers receive their wages in mobile money accounts from HelloTask – that we call

8. If they did not have bKash, we offered guidance on how to open an account. This was followed by a call to ensure that these accounts were opened, and if so, the associated number was recorded.

Table 1: Summary of Services Offered by Different MFS Providers in Bangladesh

	HPP	bKash	Other MFS Providers
Panel A: Types of Basic Services			
Send Money	Yes	Yes	Yes
Receive Money	Yes	Yes	Yes
Cash-Out	Yes	Yes	Yes
Mobile Recharge	Yes	Yes	No
Add/Deposit Money	Yes	Yes	Yes
Panel B: Types of Advanced Services			
Merchant Payment	Yes	Yes	No
Pay Bill	Yes	Yes	No
EMI Payment	Yes	No	No
Savings	Yes	Yes	No
Loan	No	Yes	No
Request Money	No	Yes	No
Receive Remittance	Yes	Yes	Yes
Microfinance	No	Yes	No
MMA to Bank	Yes	Yes	No
MMA to Card	Yes	Yes	No
Education Fee	No	Yes	No
Donation	Yes	Yes	No
Insurance	No	Yes	No
Student Account	No	Yes	No
Deposit Plus Scheme (DPS)	No	Yes	No
Panel C: Available Help Regarding Account			
Live Chat	No	Yes	No
Help Line	Yes	Yes	Yes
E-Appointment	No	Yes	No
Panel D: Savings Rate Ranges (BDT)			
0 – 4,999.99	0%	0%	NA
5,000.00 - 50,000.99	1.50%	0.50%	NA
50,000 – 99,999.99	2.50%	-	NA
50,001.00 - 150,000.99	-	1.00%	NA
100,000 – 199,999.99	3.50%	-	NA
150,001.00 - 250,000.99	-	2.00%	NA
200,000 and above*	7.50%	-	NA
250,000.99 +	-	3.00%	NA
Panel E: Fees for BDT 1000			
Send Money (Agent)	BDT 5	BDT 5	BDT 10
Send Money (App)	BDT 5	BDT 5	NA
Cash-Out (Agent)	BDT 15	BDT 18.5	BDT 18.50
Cash-Out (App)	12.5	BDT 18.5	NA
Panel F: Agent Network			
Number of mobile money agents	272,000+	240,000+	264,000+

Notes: The table presents the differences between different types of MFS providers in Bangladesh in 2020. Under "Other MFS Providers", this includes ROCKET and U-PAY. All amounts shown in Bangladeshi Taka (BDT). The information presented here has been taken from each MFS provider's website in 2022.

HelloTask Payment Platform (HPP). However, despite being paid digitally, workers withdraw their earnings immediately, reflecting limited understanding of how to use mobile money beyond cash-out. The DFS training is designed to address this gap by offering step-by-step instructions on key features of mobile money accounts, including how to check balances, send and receive money, interpret and manage transaction fees, and review transaction history. It also introduces domestic workers to a broader set of mobile money features, such as making payments for services (e.g. utility bills, mobile top-ups) and receiving digital government-to-persons (G2P) payments. Hence, we hypothesize that by alleviating information frictions and knowledge barriers, the training will improve confidence and lead to greater engagement mobile money accounts. This hypothesis is supported by Breza et al. (2020), who find that repeated engagement with mobile payroll accounts enabled garment workers in Bangladesh to learn key account features and perform transactions without assistance.

During the focus group discussions, some women discussed the need to learn how to safeguard the Personal Identification Numbers (PIN) of their mobile money accounts and to understand the transaction fees for different services. This lack of knowledge often leads them to share their PINs with mobile money agents or to accept unclear charges, leaving them vulnerable to being overcharged. This has reduced their sense of security and weakened their trust in using mobile money to store their earnings. The DFS training addresses these concerns by providing guidance on how to keep PINs confidential and avoid excessive charges. For example, by showing participants how to check transaction fees before confirming a payment. Hence, we hypothesise that by learning how to protect PINs and identifying legitimate transaction fees, the DFS training will improve trust in the technology and lead to more regular use. This hypothesis is supported by Breza et al. (2020) who find that as workers with mobile payroll accounts learned to use the technology independently, they were better able to avoid illicit fees and developed greater trust in using the accounts to manage their earnings.

We further hypothesise that DFS training — by addressing knowledge gaps and improving trust — will increase use of mobile money accounts for the purpose of savings and remittances. The training explains the advantages of different saving channels by introducing formal sources available through mobile money and banks, and highlighting why informal methods (such as keeping cash at home or with neighbours) may be unreliable and insecure. It further teaches them how to retain balances, understand saving features (for e.g: how much they need to save to earn a given amount of interest) and monitor deposits over time. This helps to build trust in mobile money accounts and may encourage a shift towards formal savings. This hypothesis is supported by Breza et al. (2020) who find that receiving wage payments into mobile money accounts increased the likelihood of saving, raised average account balances, and encouraged a shift from informal to formal saving channels.

Similarly, the training familiarises domestic workers with how to send money safely and directly using their own accounts. They are shown how to complete transfers independently, review and compare

transactions fees. The training also builds confidence in receiving remittances by showing them how to verify incoming payments and access funds without relying on agents. By improving knowledge and reducing fear of making mistakes, the training helps to build trust in using mobile money for remittances. This is empirically supported by Lee et al. (2021) who show that training on mobile financial services to both rural households and urban migrants in Bangladesh led to a substantial increase in urban-to-rural remittances.

Furthermore, the DFS training focuses on enhancing women's privacy and confidence in using mobile money accounts, reducing the risk of income being diverted to others in the household. By increasing control over how earnings are accessed and used, the training may affect domestic workers' labour supply and earnings. This greater control can incentivise women to work longer hours or seek better-paid opportunities including outside the HelloTask platform. This is supported by Field et al. (2021)who finds evidence that offering to open bank accounts and making direct wage deposits into these accounts increased labour supply of women employed in the Indian NREGA scheme, and Lee et al. (2021), that find that female migrants working in garment factories increased their labour supply by 14% relative to the control group after being encouraged to use mobile money accounts.

Lastly, we hypothesise that DFS training may influence intra-household transfers, particularly to spouses, by changing women's control over and visibility of their earnings. By improving women's ability to use mobile money securely and independently, the training may enable them to set aside income more privately, supporting personal or child-related savings goals. This greater control over earnings may reduce transfers to their spouses. Alternatively, the use of mobile money introduces greater transparency and traceability in financial transactions, reducing uncertainty around earnings and transfers.

However, this visibility may also expose women's income flows—particularly any increase in earnings—to other household members, including spouses. As a result, women may face increased pressure to transfer more if their spouse becomes aware of higher or previously concealed earnings. Evidence provided by Riley (2024)showed that female borrowers in Uganda who received loans via mobile money accounts reduced net transfers to their spouses, while Schaner (2017) found that issuing ATM cards to women in Kenya led to lower control over their savings, as the cards made it easier for spouses to access funds.

DFS training + offer of wage payment through bKash

We introduce another intervention that combines DFS training with the offer to receive wages through a bKash mobile money account - a more functional and widely accepted DFS platform than HPP. We hypothesise that this combined intervention may lead to stronger effects for the outcomes of interest by removing small frictions in switching accounts and leveraging default effects. This is supported by Field et al. (2021) that find direct wage deposits into women's own bank accounts, combined with training, led to increased female labour supply and agency in rural India—effects that were not observed when

only accounts were offered without direct deposit.

Similarly, Riley (2024) demonstrates that women offered mobile disbursement of microfinance loans increased business investment and profits, while those offered accounts without automatic disbursement did not. This was not due to a lack of access or knowledge – most women already had mobile money accounts – but rather because small switching costs and procrastination discouraged uptake since an action was required.

In our context, wage disbursement into bKash shifts the default, allowing domestic workers to bypass the frictions of manual switching and procrastination. When paired with DFS training, this default shift may strengthen women's financial control, promote more active and independent account use, and may further lead to improvements in savings, remittances, and labour market outcomes.

5 Experimental Design, Data and Empirical Model

5.1 Experimental Design

Our study population consists of female domestic workers employed via HelloTask residing in 5 major slums across Dhaka city: Bashundhara, Dhanmondi-Mohammadpur, Malibag-Khilgaon, Mirpur and Uttara. We draw the experimental sample from a list of 780 domestic workers from HelloTask who met the following criteria: (i) the domestic worker was living in one of these 5 major slum areas, and (ii) they were actively engaging with HelloTask (i.e. responding to calls from HelloTask and expressing an interest in future work via the platform) at the time of the survey in 2022. HelloTask was the only gig platform for domestic workers in Dhaka at the time of the survey. The study slums are typical of large slum areas in Dhaka city.

563 of the 780 domestic workers provided consent to participate in the study. We randomly assigned, these 563 domestic workers to one of three experimental arms, stratified by slum area, following a ratio of 3/10 in treatment arms 1 and 2 respectively, and a ratio of 2/5 in control. Therefore, we randomly selected 170 domestic workers in treatment arm 1 (T1), 167 domestic workers in treatment arm 2 (T2), and 226 domestic workers in the control arm (C). Figure 2 provides an illustration of the research design and the timeline of the research activities.

5.2 Data

Our analysis draws on two data sources: (i) a baseline survey conducted with the 563 study workers between July 2022 and August 2022; and (ii) an endline survey conducted between November 2023 and January 2024, approximately 12 months after treated domestic workers received DFS training.[9] The

9. In addition, a week after the baseline survey, we conducted focus group discussions with a sample of 30 women from three different HelloTask service zones (Bashundhara, Dhanmondi-Mohammadpur and Malibag-Khilgaon) to better understand their needs and to gather feedback to tailor the training modules for the context. These discussions also

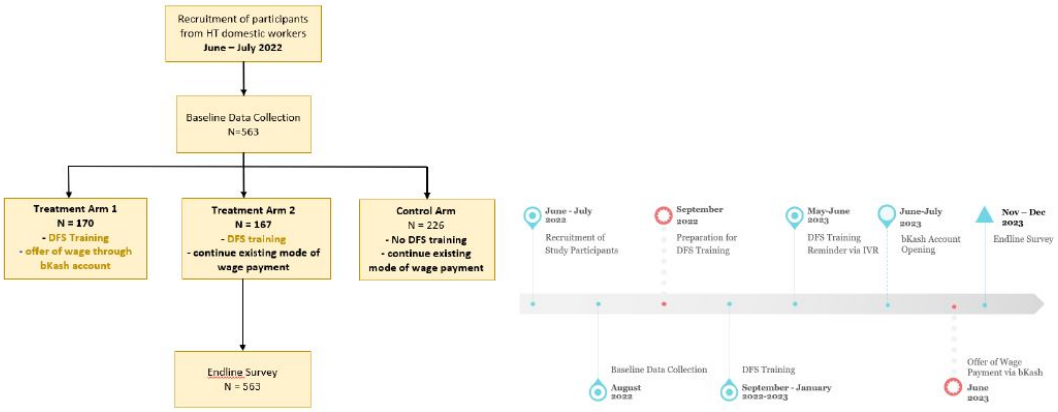


Figure 2: Research Design and Timeline

surveys were conducted face-to-face with female enumerators. HelloTask and the survey team maintained up-to-date contact information of the study participants.

5.2.1 Summary Statistics and Balance Checks

Table 2 provides summary statistics on the study participants. The typical female domestic worker in our sample is in her mid-thirties and lives with her husband and one child in a nuclear family. About 35% of the households are female-headed. More than 65% of the women are married. About 44% of these women have completed primary education (i.e. completed class 1 to class 5) and less than 20% have completed secondary education level (i.e. completed class 6 to class 12). About 17% of these women were the primary earner in the household. The weekly per capita consumption is BDT 224.

To understand the prevalence of DFS, we asked various questions related to awareness, usage and knowledge regarding mobile money. We find that about 83% of women in our sample have used a mobile money account at some point in their lives. Although the majority of these women are familiar with the basic services available through a mobile money account (such deposits, withdrawals, send money), their usage of these services remains low. First, despite high awareness regarding mobile money, less than 5% have ever deposited money into their mobile money account. Second, while half of these women have performed a 'send money' transaction, 22%(27%) respectively reported that someone else (a mobile money agent) performed the transaction on their behalf. More than one-third of these women have sent and/or received remittances in the last 6 months. Among these, more than one-third used a mobile money account to send money while less than one-third used a mobile money account to receive money. The low usage of mobile money accounts to receive money appears to be related to limited knowledge: at baseline, 31% were aware that they can receive their wages from HelloTask on their mobile money

provided insights into the women's use of mobile money, challenges faced in using mobile money and the costs and benefits of using mobile money.

Table 2: Summary Statistics

	Mean	SD	Min	Max	Count
A. Individual Characteristics					
Age	34.77	8.08	15	80	563
Respondent is married	0.68	0.47	0	1	563
Age at marriage	15.18	2.68	10	26	563
Relationship to household head: household head	0.35	0.48	0	1	563
Relationship to household head: spouse	0.60	0.49	0	1	563
Completed primary education	0.44	0.50	0	1	563
Completed secondary education	0.19	0.39	0	1	563
Has access to personal phone	0.95	0.22	0	1	563
B. Knowledge of Mobile Money					
Ever used mobile money account	0.83	0.37	0	1	563
Has a bKash mobile money account	0.48	0.50	0	1	563
Has others (Nagad/ROCKET) mobile money account	0.63	0.48	0	1	563
Knows basic services of mobile money account: deposit, withdrawal, send money	0.95	0.22	0	1	563
Knows can receive wages from HelloTask on mobile money account	0.31	0.46	0	1	563
Knows can receive wages from other employers/sources on mobile money account	0.06	0.24	0	1	563
Knows can save money in mobile money account	0.05	0.21	0	1	563
C. Usage of Mobile Money					
Deposits money in mobile money account	0.03	0.18	0	1	563
Sends money using mobile money account	0.55	0.50	0	1	563
Someone else performs the send money transaction for the respondent	0.22	0.41	0	1	563
Mobile money agent performs the send money transaction for the respondent	0.27	0.44	0	1	563
D. Remittance Received and Sent					
Received remittance in the last 6 months	0.39	0.49	0	1	563
Log of remittance received in the last 6 months	0.86	1.08	0	2	563
Received remittance using mobile money account	0.23	0.42	0	1	563
Sent remittance in the last 6 months	0.48	0.50	0	1	563
Log of remittance sent in the last 6 months	1.07	1.13	0	3	563
Sent remittance using mobile money account	0.34	0.47	0	1	563
E. Savings					
Has any savings in the last 12 months	0.70	0.46	0	1	563
Log of monthly savings from all sources: informal, formal, mobile money, others	0.82	0.81	0	2	563
Has any savings in formal sources	0.42	0.49	0	1	563
Has any savings in informal sources	0.13	0.33	0	1	563
Has any savings in mobile money account	0.01	0.09	0	1	563
F. Household Characteristics					
Age of the household head	40.16	11.05	0	90	563
Household size	3.58	1.57	0	13	563
Number of children in the household	1.52	1.18	0	7	563
Domestic worker is the primary earner in the household	0.17	0.37	0	1	563
Weekly per capita consumption (BDT)	224.22	260.22	6	3750	563

accounts but fewer than 10% knew that they could receive transfers from other sources. More than two-thirds of the women reported having any savings in the last 12 months. Among these, approximately 42% regularly saved with formal sources, such as banks, and about 13% saved using informal methods, such as keeping money under the mattress, in a cupboard, etc. Fewer than 1% reported saving in a mobile money account. The major reason reported for not saving in mobile money accounts is the need to immediately cash-out money, which suggests that these women viewed mobile money accounts as an intermediate step to accessing cash rather than as a device to store money for future use and/or to earn interest.

Appendix Table A1 shows that the sample is balanced across the treatment/control arms at baseline, with differences in means across arms being statistically insignificant for most of the baseline characteristics. The normalised differences in mean values (Appendix Table A2) are also all below the threshold of 0.30 recommended by Imbens and Rubin (2015), suggesting good balance.

5.2.2 Attrition

In the endline survey, we successfully surveyed 464 of the 563 domestic workers surveyed at baseline.[10] Attrition was primarily due to migration of domestic workers away from Dhaka. The survey team attempted to contact the domestic workers who had migrated using the mobile phone numbers collected at baseline but 62 of them (11% of the original sample) were still unreachable. A further 37 (6.6% of the original sample) declined to be interviewed at endline. This gives us an attrition rate of 18%.

Reassuringly, the attrition rate is similar across the experimental arms (Appendix Table A4) and there are no significant imbalances in baseline characteristics among the endline sample (Appendix Table A5), aside from small imbalances on whether the worker has any savings in the last 12 months and number of children in the household. The normalized differences in mean values of these variables are all below the threshold of 0.30 recommended by Imbens and Rubin, 2015, suggesting good balance (Table A6).

5.3 Empirical Model

To measure intervention impacts, we estimate intent-to-treat (ITT) effects using an Analysis of Covariance (ANCOVA) specification of the following form, as suggested by McKenzie (2012):

$$Y_{i,t+1} = \beta_0 + \beta_1 T_{1i} + \beta_2 T_{2i} + \beta_3 \gamma_{i,t} + \beta_4 X_{i,t} + \epsilon_{i,t+1} \tag{1}$$

where Y_i is the outcome variable for individual i; T_{1i} and T_{2i} are indicator variables for assignment to each of the treatment groups, $\gamma_{i,t}$ is the baseline value of the outcome of interest (when measured at baseline, otherwise excluded), $X_{i,t}$ is a vector of baseline controls which include strata dummies for the 5

10. The original power calculations were based on a sample size of 500 workers and attrition rate of 7% which would have left us with an endline sample of 465.

slum areas in Dhaka city, baseline individual and household characteristics, demographic variables, and any unbalanced covariate at baseline. ϵ_i is the error term and periods t and $t+1$ refer to the baseline and endline, respectively. The coefficient of interests are β_1 and β_2 which estimate the intent-to-treat effect of $T1$ and $T2$ respectively. In addition, we test whether the effects of $T1$ and $T2$ are different from one another. This captures the additional effect of being offered the bKash payment platform in addition to the DFS training.

Our analysis focuses on 7 sets of outcomes: Knowledge of mobile money, financial literacy, trust in mobile money accounts, personal savings, remittances (sent and received), labour supply and transfers between the domestic worker and her spouse.

6 Results

In this section, we discuss the main findings of the ITT estimates using the survey data. We report the results for outcome variables related to knowledge, usage, personal savings, remittances sent and received, labour supply, and transfers sent and received between women married at baseline and the spouse.

6.1 Impacts on Knowledge

To understand whether the domestic workers in T1 and T2 retained the key learning outcomes from the training, we introduced a series of 6 questions to the endline questionnaire that captures knowledge regarding mobile money from each of the 6 modules from the HERFinance Digital Wages Curriculum. These questions and the correct answers are re-produced in Appendix B.1. We present the impacts on each question, and also on a variable aggregating the responses for all 6 questions.

Table 3 presents the impacts. The coefficients presented in Columns [1] to [6] are mostly positive (except for one coefficient), suggesting that the two interventions improved knowledge of each of the questions. However, the standard errors are also relatively large, such that none of the coefficients is individually statistically significant. Aggregating the correct responses across all 6 questions, we see that the DFS training had a positive and statistically significant effect on knowledge relating to the DFS curriculum for T1. In particular, the number of correct responses increased from 4.424 out of 6 for the control group to 4.728 out of 6. The coefficient for T2 is positive, but small and statistically insignificant. We also cannot reject the null that the treatment effects are equal between the two groups (p-value 0.231).

Thus, the results show that the training did improve knowledge 12 months post-intervention, especially when combined with the offer of wage payment via the bKash platform.

Next, we study impacts of the interventions on domestic workers' awareness of the range of services

Table 3: Testing knowledge of DFS training

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Cor_Q1	Num_Q2	Num_Q3	Num_Q4	Cor_Q5	Num_Q6	# of Correct Answers
T1: DFS Training + bKash offer	0.0552	0.0482	0.0169	0.120	0.00856	0.0641	0.304**
	(0.0383)	(0.0419)	(0.0488)	(0.0782)	(0.0139)	(0.0712)	(0.139)
T2: DFS Training	0.0160	0.00534	0.0367	-0.0314	0.0193	0.00815	0.0349
	(0.0389)	(0.0425)	(0.0495)	(0.0794)	(0.0141)	(0.0723)	(0.141)
R^2	0.100	0.081	0.119	0.051	0.042	0.073	0.121
Endline Mean	0.86	0.17	0.276	1.797	.985	1.384	4.487
Endline Mean (Con)	0.837	.163	.272	1.771	.978	1.380	4.424
Test: T1 = T2	0.368	0.638	0.288	0.0850	0.563	0.576	0.231
Observations	464	464	464	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the domestic worker has any child below the age of 5 years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

available in a mobile money account, which we measure using the number and types (basic and advanced) of transactions related to mobile money accounts that domestic workers can name (unprompted). Between out baseline and endline surveys, knowledge of these types of transactions does not change much for the control group workers. The coefficients on the treatment indicators are positive but statistically insignificant for basic transactions (column [1]), and have mixed signs (though still statistically insignificant) for advanced transactions.

6.2 Impact on Trust

To evaluate domestic workers' trust in mobile money account (MMA) for saving, respondents were asked if they would be comfortable keeping BDT 1000 (14% of their average monthly income of 7375 BDT) and BDT 5000 (68% of average monthly income) for 30 days in their mobile money accounts, respectively. The sum of BDT 1000 constitutes 14% of their mean monthly income (BDT 7375). Finally, we also capture whether the treatments affected their reasons for not trusting mobile money accounts as a saving method.

Table 5 reports the treatment impacts on these variables. In general, we find positive, but statistically insignificant, effects of the treatments on the indicators for whether a worker feels comfortable keeping significant sums of money in their mobile money account for 30 days. The coefficient magnitudes of around 4-5 percentage points (except for T2 in column 2) are non-negligible compared to the endline control mean (26.6% and 20.1% respectively); however they are imprecisely estimated. Column (3) indicates that only 5% of women in the control group report avoiding saving in MMA due to a lack of

Table 4: Impact on Knowledge Regarding Mobile Money Account

	(1)	(2)
	# of basic transactions DW can name	# of advanced transactions DW can name
T1: DFS Training + bKash offer	0.136	-0.0170
	(0.0855)	(0.0397)
T2: DFS Training	0.0873	0.0635
	(0.0869)	(0.0402)
R^2	0.093	0.136
Baseline Mean	1.297	0.129
Endline Mean Control	1.179	0.141
Test: T1 = T2	0.540	0.0571
Observations	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the Domestic Worker has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Mobile Money transactions are grouped into basic and advanced transactions. Basic transactions include: deposit, send money, withdrawals, receiving money from friends, relatives and family. Advanced transactions include: saving in MMA, flexiload via MMA, merchant pay, others (such as paying utility bills, receiving education/social safety stipend from the govt). Dependent variable in (1) is the number of basic transactions the respondent can name. Dependent variable in (2) is the number of advanced transactions the respondent can name. DW stands for Domestic Worker. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

trust. The interventions have no impacts on this, with extremely small and statistically insignificant coefficients.

6.3 Impact on Personal Savings

Interestingly, we observe that the interventions had substantial impacts on domestic workers' savings behaviour. We measure effects on the extensive margin of whether the workers saves or not, and the modes of saving used. In particular, we distinguish between saving in a formal account (aside from mobile money accounts) such as banks, microfinance institutions, micro-credit accounts and local post officer accounts, informal instruments such as various places at home, and saving in a mobile money account.

At baseline, just over 70% of the workers reported any saving in the past year, a proportion which dropped to 56% among control group workers by the endline. The two treatments had positive, but statistically insignificant effects on this margin. However, we observe substantial impacts on the saving mode used. In particular, workers in T1 were 9.66 percentage points more likely, and those in T2 were 12.4 percentage points more likely to report saving in a formal account at endline. This represents an increase of 31.8% - 40.8% over the proportion using formal means among the control group at endline (30%). The treatments also led to an increase in workers using mobile money accounts for saving by approximately 4 percentage points. This effect is only statistically significant (at the 10% level) for

Table 5: Trust in Mobile Money Account

	(1)	(2)	(3)
	Comfortable keep BDT 1000 in MMA for 30 days	Comfortable keep BDT 5000 in MMA for 30 days	Avoids saving in MMA due to lack of trust
T1: DFS Training + bKash offer	0.0382	0.0441	0.000344
	(0.0514)	(0.0451)	(0.0255)
T2: DFS Training	0.0478	0.00428	-0.000259
	(0.0521)	(0.0459)	(0.0256)
R^2	0.064	0.102	0.066
Baseline Mean	.041	.067	.05
Endline Control Mean	0.266	0.201	0.0500
Test: T1 = T2	0.700	0.146	0.387
Observations	464	464	440

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the DW has any child below the age of 5 years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Mobile Money transactions are grouped into basic and advanced transactions. Dependent variable in (1) is a binary indicator for whether the respondent is comfortable keeping BDT 1000 in her mobile money account. Dependent variable in (2) is a binary indicator for whether the respondent is comfortable in keeping BDT 5000 in her mobile money account. Dependent variable in (3) is a binary indicator that captures the reasons for which the respondent avoids saving in MMA. MMA stands for Mobile Money Account. Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

workers in T1. However, this increase almost triples the proportion of workers using mobile money accounts to save. The treatments had no impacts on the use of informal instruments for saving. Finally, both treatments had similar effects on the savings outcomes.

6.4 Impacts on Remittances

Next, we consider impacts on an outcome for which transaction costs are greatly reduced by mobile money: sending and receiving remittances. Table 7 presents the impacts of the interventions on sending remittances, including whether or not the woman has sent any remittances in the 6 months prior to the endline survey, the amount sent (inverse hyperbolic sine form to account for outliers in this variable), and how the remittances were sent (by hand, mobile money or some other mode). Finally, if remittances were sent by mobile money, we study intervention impacts on whether these were sent with the woman's own mobile money account, or using an agent's mobile money account.

At baseline, 47.8% of women reported sending a remittance in the 6 months prior to the survey. At endline, 38% of women in the control group did so. Women in the T1 group were close to 11 percentage points more likely than women in the control group to have sent any remittance at endline, an effect which is statistically significant at the 10% level of significance. The DFS training on its own has no statistically significant effect, and the coefficient is even negative. Including the offer of a bKash account with the DFS training increases the likelihood of sending any remittance by close to 16 percentage points,

Table 6: Impact on Personal Savings

	(1)	(2)	(3)	(4)
	Has any savings	Saves via formal sources	Saves via informal sources	Saves via MMA
T1: DFS Training + bKash offer	0.0455	0.0966*	0.0140	0.0437*
	(0.0556)	(0.0538)	(0.0482)	(0.0246)
T2: DFS Training	0.0672	0.124**	0.0197	0.0358
	(0.0562)	(0.0543)	(0.0492)	(0.0249)
R^2	0.058	0.085	0.071	0.098
Baseline Mean	.705	.429	.127	.009
Endline Mean Control	0.560	0.304	0.228	0.0270
Test: T1 = T2	0.539	0.273	0.891	0.813
Observations	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the DW has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in (1) is a binary variable indicating whether respondent had any money kept aside in the form of savings in the last one year. Dependent variable in (2) is a binary indicator for whether respondent stored/saved money in formal sources, such as bank accounts, microfinance institutions, micro-credit accounts and local post officer account, for more than a day in the past 12 months. Dependent variable in (3) is a binary variable indicating whether respondent stored/saved money in informal sources, such as at home (under the mattress, in the cupboard, or other places in the household, claypot, for more than a day in the past one year. Dependent variable in (4) is a binary indicator for whether respondent stored/saved money in a mobile money account for more than a day in the past one year. MMA stands for Mobile Money Account. Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

and this effect is statistically significant at the 1% level of significance.

Column 2 considers the impacts of the interventions on the amount sent. Similar to column 1, we find that combining the DFS training with the bKash offer increases the amount of remittances sent, both over those sent by women in the control group (statistically significant at the 10% level) and over offering DFS training only (statistically significant at the 1% level).

We find no statistically significant effects on the mode of sending remittances, though receiving both the DFS training along with the bKash offer increases the likelihood of using mobile money relative to receiving DFS training only by over 10 percentage points (significant at the 1% level). This effect is driven partly by a reduction (though not statistically significant) in the use of mobile money agents' accounts (the dominant way of sending remittances by mobile money in our context) to send remittances among the group offered DFS training only, coupled with a small increase relative to control (not statistically significant) in the use of agents' mobile money accounts among women who received both the DFS training and bKash offer.

Table 8 reports impacts on remittances received. Column 1 considers effects on the intensive margin, column 2 on the amount received (inverse hyperbolic sine), whole columns 3-5 study impacts on mode used to receive remittances. Finally, columns 6 and 7 consider impacts on the use of mobile money accounts to receive remittances. We fail to find statistically significant effects of the interventions on any

Table 7: Impact on Remittances Sent

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Sent remit	Sent remit: IHS Amount	Sent remit using hand delivery	Sent remit using MMA	Sent remit using other	Sent remit using own MMA	Sent remit using agent MMA
T1:DFS Training + bKash offer	0.109*	1.021*	0.0410	0.0516	0.00633	0.0286	0.0295
	(0.0543)	(0.461)	(0.0245)	(0.0510)	(0.0212)	(0.0210)	(0.0492)
T2:DFS Training	-0.0400	-0.270	0.0347	-0.0527	-0.0236	-0.00788	-0.0407
	(0.0550)	(0.468)	(0.0248)	(0.0516)	(0.0215)	(0.0212)	(0.0498)
R^2	0.094	0.101	0.062	0.107	0.061	0.088	0.097
Baseline Mean	.478	4.08	.121	.341	.017	.039	.300
Endline Control Mean	0.380	3.168	0.0270	0.310	0.0430	0.0330	0.272
Test: T1 = T2	0.00497	0.00591	1.000	0.0197	0.0909	0.125	0.0799
Observations	464	464	464	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the Domestic Worker has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in (1) captures whether respondent sent any remittances in the last 6 months. Dependent variable in (2) captures the IHS amount of remittances sent in the last 6 months. Dependent variable in (3) captures whether respondent sent remittances using hand delivery in the last 6 months. Dependent variable in (4) captures whether respondent sent any remittances using MMA in the last 6 months. Dependent variable in (5) captures whether respondent sent any remittances using other ways, such as hand delivery through friends and family, and/or direct deposit into bank account, in the last 6 months. Dependent variable in (6) captures whether respondent sent any remittances using her own MMA. Dependent variable in (7) captures whether respondent sent remittances using agent's MMA. MMA stands for Mobile Money Account. Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

of the outcomes considered for receipt of remittances, though some coefficients are non-negligible (e.g. impacts of T1 on receiving any remittances, and using own MMA to receive remittances), indicating a lack of sufficient power for these outcomes.

6.5 Impacts on Hours Worked and Earnings

We consider the effects of the interventions on the domestic workers' labour supply and earnings. Table 9 presents the impacts of the treatments on hours worked by the domestic worker in the last 30 days. Column (1) considers whether the treatments affected the domestic worker's availability to work, showing no impacts of either intervention. Columns (2), (3) and (4) display impacts on total hours worked in the 30 days prior to the survey at HelloTask, outside HelloTask and in total respectively.

We find that women in T1 work 3.4 hours more (significant at the 5% level) through the HelloTask platform relative to the control group.[11] This is a sizeable effect, equivalent to 110% of the baseline mean. Workers in T2 also worked 2 hours more on average relative to those in the control group, but this effect is not statistically significant.

In column (3), we find that women in T1 and T2 report working 8-9 more hours outside of HelloTask compared to the control group. However, these effects are statistically insignificant. Similarly, in col-

11. At endline, 2.1% of sampled women reported having worked for HelloTask in the 30 days prior to the survey.

Table 8: Impact on Remittances Received

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Received remit	Received remit: IHS Amount	Received remit using hand delivery	Received remit using MMA	Received remit using other	Received remit using own MMA	Received remit using agent MMA
T1: DFS Training + bKash offer	0.0530	0.600	0.0144	0.0335	0.00273	0.0573	-0.0302
	(0.0500)	(0.435)	(0.0281)	(0.0445)	(0.0107)	(0.0392)	(0.0228)
T2: DFS Training	0.0269	0.333	0.0525	-0.0370	0.0105	-0.00533	-0.0218
	(0.0508)	(0.442)	(0.0285)	(0.0452)	(0.0108)	(0.0399)	(0.0232)
R^2	0.042	0.047	0.038	0.044	0.018	0.060	0.023
Baseline Mean	.381	3.147	.138	.235	.009	.166	.069
Endline Control Mean	0.239	1.979	0.0430	0.190	0.00500	0.130	0.0540
Test: T1 = T2	0.689	0.649	0.184	0.125	0.563	0.129	0.736
Observations	464	464	464	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the Domestic Worker has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in (1) captures whether respondent received any remittances in the last 6 months. Dependent variable in (2) captures the IHS amount of remittances received in the last 6 months. Dependent variable in (3) captures whether respondent received remittances using hand delivery in the last 6 months. Dependent variable in (4) captures whether respondent received any remittances using MMA in the last 6 months. Dependent variable in (5) captures whether respondent received any remittances using other ways, such as hand delivery through friends and family, and/or direct deposit into bank account, in the last 6 months. Dependent variable in (6) captures whether respondent received any remittances using her own MMA. Dependent variable in (7) captures whether respondent received remittances using agent's MMA. MMA stands for Mobile Money Account. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

umn (4), we find that women in T1 work about 13 hours more and women in T2 work about 9 hours more, compared to the control group, though once again these effects are noisy and so not statistically significant.

These increases in hours worked also translate into higher wages earned through HelloTask (Table 10). Column (1) of this table shows that women in T1 and T2 earn 303 BDT and 219 BDT more on average through HelloTask relative to the control group. These impacts are statistically significant at the 5% and 10% levels respectively. These effects are large, positive, and significant and are equivalent to one extra hour of work at HelloTask. We cannot reject the equality of the treatment effects between the two groups (p-value 0.762).

We also observe increases in wages earned outside of the HelloTask platform. Column (2) shows that women in T2 earn BDT 952 more in wages relative to the control group (significant at the 10% level), while those in T1 earn BDT 428 more in wages, though this effect is not statistically significant. These translate into higher overall wage earnings for the women (column (3)) of 893 BDT (T1) and 597 BDT (T2). Though these effects are economically significant, this variable is very imprecise so that these coefficients are not statistically significant.

Finally, in column (4), we find an increase in the wages earned via mobile money accounts, with women in T1 earning twice the amount in wages compared to their baseline earnings (significant at 10%

Table 9: Hours Worked in the Last 30 Days

	(1)	(2)	(3)	(4)
	Available to work in the last 30 days	Total Hours worked at HT last 30 days	Total Hours worked outside HT last 30 days	Total Hours worked (from all activities) last 30 days
T1: DFS Training + bKash offer	0.0238	3.428**	9.853	12.66
	(0.0483)	(1.482)	(10.21)	(10.15)
T2: DFS Training	0.0179	2.097	8.145	8.680
	(0.0491)	(1.506)	(10.37)	(10.30)
R^2	0.137	0.109	0.275	0.293
Baseline Mean	.787	3.071	80.398	87.187
Endline Mean Control	0.728	0.0650	84.93	87.78
Test: T1 = T2	0.505	0.572	0.196	0.187
Observations	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the DW has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in column (1) is binary. Dependent variable in (2) are total hours worked by the respondent at HelloTask. Dependent variable in (3) are total hours worked by the respondent as a domestic worker outside of HelloTask. Dependent variable in (4) is the total hours worked by the respondent from all activities. This includes work at HelloTask, work as domestic worker outside of HelloTask, work as garments workers, and including other formal and informal work. MMA stands for Mobile Money Account and HT stands for HelloTask. Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

level). For women in T2, the effect size is around half that of, but is statistically insignificant. These results thus show that the T1 intervention of DFS training combined with the bKash offer increased wage earnings through a mode which allowed women to keep greater control of their earnings.

6.6 Impact on Transfers to Spouse

Table 11 presents the impacts of the interventions on outcomes related to the transfers that women who were married at baseline made to spouses. At baseline, just under a quarter of the sample of married women reported facing pressure to share income with their spouse. The interventions had no impact on this as shown in column (1).

Columns 2 and 3 report impacts on indicator variables capturing whether or not the domestic worker received or gave money from/to her spouse. We find that the interventions had no statistically significant impacts on these outcomes, though the coefficient on T2 for giving money to the spouse is relatively large. Finally, we find no statistically significant impacts of the interventions on the net transfer received by the domestic worker. We see that the coefficient on T1 is positive, while that on T2 is negative and large.

Table 10: Wages Earned in the Last 30 Days

	(1)	(2)	(3)	(4)
	Total Wages earned at HT last 30 days	Total Wages earned outside HT last 30 days	Total Wages earned (from all activities) last 30 days	Total MMA Wages earned last 30 days
T1: DFS Training + bKash offer	302.9**	428.0	892.9	305.4*
	(123.7)	(513.5)	(566.1)	(163.5)
T2: DFS Training	219.1*	951.5*	596.6	147.6
	(125.8)	(521.0)	(574.4)	(166.0)
R^2	0.072	0.346	0.221	0.097
Baseline Mean	203.918	4738.612	6299.853	260.916
Endline Mean Control	11.06	4597.0	6259.4	152.4
Test: T1 = T2	0.762	0.762	0.353	0.818
Observations	464	464	464	464

Notes: All regressions are estimated with baseline control variables. Control variables that are not shown in the table include: Age categories of the Domestic Worker, Whether the Domestic Worker has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in (1) are total wages earned by the respondent at HelloTask. Dependent variable in (2) are total wages earned by the respondent as a domestic worker outside of HelloTask. Dependent variable in (3) is the total wages earned by the respondent from all activities. This includes work at HelloTask, work as domestic worker outside of HelloTask, work as garments workers, and including other formal and informal work. Dependent variable in (4) is the total wages earned and payment received via MMA. MMA stands for Mobile Money Account and HT stands for HelloTask. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

7 Discussion

In this section, we interpret the empirical results using the conceptual framework developed in Section 4. In the first instance, the training could potentially improve participants' (i) awareness of various mobile financial services accounts, (ii) technical knowledge about mobile money accounts, and/or (iii) financial literacy. We find no evidence of (i) but some evidence of (ii) and (iii) (subsection 6.1).

Improved financial literacy can lead to better financial management, greater control over personal finances, and higher propensity to maintain personal savings, while improved technical knowledge about mobile money accounts may increase the use of these accounts for saving. We find evidence of both in subsection 6.3. Improved control over personal finances can also strengthen incentives to work and earn more. We find evidence of both effects in subsection 6.5.

Higher earnings and savings could, in theory, lead to pressure from other household members to hand over or share these funds. But we do not find any evidence of such pressure in subsection 6.6.

A question that remains is why the estimated effects for women in T2 are weaker than those in T1. For women in T1, the additional offer of wage payments into a bKash account may have induced them to revisit the knowledge provided during the DFS training sessions, even if they subsequently decided not to take up the offer. This would explain the stronger estimated effects on knowledge in arm T2 (subsection 6.1). It is worth noting, however, that the point estimates for savings, hours worked and earnings are

Table 11: Impact on Transfers to Spouse

	(1)	(2)	(3)	(4)
	DW faces pressure to share income from spouse	DW received money from spouse	DW gave money to spouse	Net Transfer
T1: DFS Training + bKash offer	0.00500	0.0217	-0.00989	141.3
	(0.0235)	(0.0607)	(0.0575)	(924.1)
T2: DFS Training	-0.0192	0.0203	0.0815	-950.6
	(0.0818)	(0.0598)	(0.0571)	(922.4)
R^2	0.093	0.128	0.060	0.119
Baseline Mean	.237	.453	.327	
Endline Mean Control	0.227	0.645	0.248	4119.9
Test: T1 = T2	0.972	0.593	0.185	0.561
Observations	358	358	358	358

Notes: All regressions are estimated with baseline control variables. These include: Age categories of the Domestic Worker, Whether the Domestic Worker has any child below the age of 5years, Categories indicating the relationship of the Domestic Worker to the Household Head, Categories for Education Level of Domestic Worker, Categories for Education Level of the Household Head, and Categories for HelloTask Service Zones. Dependent variable in (1) is a binary variable indicating whether respondent feels any pressure from her spouse to share her income, captured at endline only. Dependent variable in (2) is a binary indicator for whether respondent received any money from her spouse in the last 30 days. Dependent variable in (3) is a binary variable indicating whether respondent gave any money to her spouse in the last 30 days. Dependent variable in (4) is difference between the money received from the spouse and given by the respondent to her spouse in Bangladeshi Taka, in the last 30 days. Regressions are for all married woman at baseline. DW stands for Dometic Worker. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

broadly similar across the two arms, and differences between them are statistically insignificant.

8 Cost Effectiveness of the Intervention

To assess the cost effectiveness of the intervention, we calculate the internal rate of return (IRR). IRR helps us to calculate the return on the initial cost of the intervention based on the income or cash flow it generates. The cost of delivering the two-day DFS training in the venues was BDT 1290 per domestic worker. This includes venue rental, training materials, participant travel allowance and compensation, and administrative costs for project officers and supervisors. Relatedly, delivering the DFS training via door-to-door costs BDT 747 per domestic worker. We show a breakdown of all our cost in Table A7 followed by the IRR and payback period calculations in Table A8 in the Appendix.

Our results in Table 9 show that the intervention increased the average number of hours worked at HelloTask by 3.428 hours (T1), compared to a baseline of 3.07 hours in a month. As mentioned in Section 4.3.2, HelloTask pays BDT 150 per hour to domestic workers, and so domestic workers in T1 earn an additional BDT 450 per month compared to the control group. Assuming that this effect on earning an additional BDT 450 per month is sustained for a year (i.e., the time between the baseline and the endline survey), the total return per participant is BDT 5400 (BDT 450 x 12 months).

Using these cash flows, we can estimate the monthly IRR which stands at 36.6%. This means that every month, we are getting BDT 36.60 as a return for every BDT 100 spent. We can also calculate

the payback period meaning we are able to recover the initial cost of BDT 1290 within 2.5 months. Additionally, delivering the DFS training via door-to-door us an even higher IRR (60%) with a payback period of within 1.5 months.

While the IRR estimates presented in this chapter suggest strong financial returns, we are unfortunately unable to benchmark them directly against other studies, as the intervention has not yet been scaled and comparable IRR estimates in similar contexts are lacking. However, preliminary conversations with BSR and RISE, who originally developed and implemented the DFS training for garment workers, indicated that returns on investment were also very high in that setting.[12] This was largely due to the ability to deliver training sessions directly within factory premises, in close collaboration with garment factories and the mobile financial services provider, bKash.[13] Future research would greatly benefit from systematic IRR comparisons across different delivery models and sectors to further inform cost-effective scaling strategies.

9 Conclusion

We investigated, using an experimental design, the economic impacts of providing digital finance training, coupled with general financial literary training, to an economically marginalised population: women engaged in gig work in the domestic work sector in Bangladesh. The workers lack formal employment contracts, make limited use of formal financial accounts, and have limited say in household financial decisions. We find that the intervention led to moderate improvements in knowledge of digital finance and general financial literacy, substantial effects on savings behaviour, and increased employment and earnings.

Our study suggests that digital gig work platforms that are increasingly working with women in the informal sector should consider offering tailored training in addition to their standard onboarding programmes. These incremental changes can equip women with the knowledge and skill set to expand their economic agency. For mobile money providers, this study lends insights into the state of awareness and usage among a neglected but economically active population that makes up 90% of the women from the informal sector in Bangladesh since 2010 (Raihan and Bidisha, 2018).

The HERFinance Digital Wages Curriculum was originally developed for workers employed in the ready-made garments sector in developing countries. In 2020, the training was delivered to 100,000 garments workers in Bangladesh, half of whom were women. However, these training modules are not well-suited for female domestic workers as the modules portrayed examples based on workers in the

12. It is also worth mentioning both BSR and RISE were generous in their support to me by offering free of cost Training on Trainers (TOT) to HelloTask to familiarise them with the materials. This also included discussions of what was effective in providing the training to workers in the garments factories. Hence, TOT costs do not appear in my cost calculations

13. For an overview of the HERfinance Digital Wages curriculum and its impact on workers in Bangladesh's ready-made garments industry, see, please see here and here

ready-made garments sector.[14] We adapted the original training materials to incorporate up-to-date information on mobile money services, transaction fees, interest rates and newly added services. We also adapted the role-play sessions, budgeting/saving templates, and examples of mobile money to fit with the needs of domestic workers.

The intervention could potentially be extended to the estimated 1.3 million female domestic workers in Bangladesh (Seery, Emma, 2020) and urban domestic workers in other developing countries such as India and Pakistan, where digital financial inclusion remains limited but highly relevant.[15] More generally, the adaptation of existing training materials on digital finance and financial literacy for female domestic workers, with the use of role-play and relatable examples, can be scaled up in similar contexts.

Finally, a challenge that may constrain scale-up is the lack of documentation. During focus group discussions, women reported that entering incorrect PIN combinations led to account inactivity and eventually caused their accounts to be locked. To unblock these accounts, users are required to re-register using their national identity documents, which many women are unable to retrieve on their own. This constraint is also seen to affect other low-income groups, such as ready-made garment workers, who often rely on identification and guarantees provided by their employers to open accounts (Breza et al., 2020).

14. Women employed in the ready-made garments sector in Bangladesh tend to be younger, more educated or still pursuing education, have greater bargaining power, and are less likely to marry at an early age (Heath and Mobarak, 2015)

15. For a review of domestic workers in India, please see here, and for Pakistan, see here.

APPENDIX

Empowering Poor Urban Women Through Digital Financial Services: Does Wage Payment via Mobile Money Translate into Economic Empowerment?

Bansi Malde, Maliha Rahanaz, Zaki Wahhaj

A Additional Tables

Table A1: Baseline Balance Check: Mean and Standard Errors by Arm

Variable	N	(1) Control Mean/SE	N	(2) T1 Mean/SE	N	(3) T2 Mean/SE	t-test Difference (1)-(2)	t-test Difference (1)-(3)	t-test Difference (2)-(3)
Age	226	34.181	170	34.641	167	35.605	-0.460	-1.423*	-0.964
		[0.556]		[0.604]		[0.603]			
Respondent is married	226	0.677	170	0.676	167	0.683	0.001	-0.006	-0.006
		[0.031]		[0.036]		[0.036]			
Age at marriage	223	15.170	168	15.161	167	15.210	0.010	-0.039	-0.049
		[0.178]		[0.212]		[0.207]			
Relationship to household head: household head	226	0.363	170	0.335	167	0.359	0.028	0.004	-0.024
		[0.032]		[0.036]		[0.037]			
Completed primary education	226	0.442	170	0.441	167	0.425	0.001	0.017	0.016
		[0.033]		[0.038]		[0.038]			
Completed secondary education	226	0.221	170	0.176	167	0.156	0.045	0.066	0.021
		[0.028]		[0.029]		[0.028]			
Has access to personal phone	226	0.938	170	0.959	167	0.952	-0.021	-0.014	0.007
		[0.016]		[0.015]		[0.017]			
Mean monthly income (BDT)	186	7375.652	127	7630.654	124	7604.871	-255.001	-229.219	25.783
		[287.203]		[383.644]		[343.149]			
Ever used mobile money account	226	0.854	170	0.847	167	0.796	0.007	0.058	0.051
		[0.024]		[0.028]		[0.031]			
Has a bKash mobile money account	226	0.473	170	0.518	167	0.461	-0.044	0.012	0.057
		[0.033]		[0.038]		[0.039]			
Has others (Nagad/ROCKET) mobile money account	226	0.659	170	0.576	167	0.647	0.083*	0.013	-0.070
		[0.032]		[0.038]		[0.037]			
Deposits money in mobile money account	226	0.027	170	0.029	167	0.048	-0.003	-0.021	-0.018
		[0.011]		[0.013]		[0.017]			
Sends money using mobile money account	226	0.566	170	0.582	167	0.509	-0.016	0.057	0.073
		[0.033]		[0.038]		[0.039]			
Received remittance in the last 6 months	226	0.429	170	0.365	167	0.353	0.064	0.076	0.011
		[0.033]		[0.037]		[0.037]			
Sent remittance in the last 6 months	226	0.456	170	0.506	167	0.485	-0.050	-0.029	0.021
		[0.033]		[0.038]		[0.039]			
Has any savings in the last 12 months	226	0.743	170	0.653	167	0.695	0.090*	0.049	-0.042
		[0.029]		[0.037]		[0.036]			
Age of the household head	226	40.186	170	39.794	167	40.743	0.392	-0.557	-0.948
		[0.760]		[0.795]		[0.839]			
Household size	226	3.619	170	3.418	167	3.701	0.202	-0.081	-0.283
		[0.099]		[0.120]		[0.128]			
Number of children in the household	226	1.575	170	1.406	167	1.587	0.169	-0.012	-0.181
		[0.079]		[0.087]		[0.094]			
Domestic worker is the primary earner	226	0.142	170	0.200	167	0.174	-0.058	-0.032	0.026
		[0.023]		[0.031]		[0.029]			
Weekly per capita consumption (BDT)	226	202.949	170	221.702	167	255.565	-18.752	-52.615*	-33.863
		[9.587]		[17.112]		[29.850]			

Notes: The table presents the mean standard errors and t-tests at baseline. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided and the bKash offer was given. T2 is the treatment arm that received DFS training only ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

B Outcome Measures

B.1 Knowledge of HerFinance Training Curriculum Materials

We would like to emphasise that, except for Questions 1 and 5, all other questions may have more than one correct or desirable behavioural outcome. We define these variables as the number of correct/desirable behavioural responses. We define the questions that were asked below:

1. Question 1 (Module 1): When you open a mobile money account, is the account registered with your SIM or with your mobile phone? *Correct answer: SIM.* We call this variable, Cor_Q1.

2. Question 2 (Module 2): If in the instance you forget your PIN, what would you do? *Correct answers: Follow the instructions on the mobile money menu to create a new PIN and/or call the helpline to change the PIN.* We call this variable, Num_Q2.

3. Question 3 (Module 3): How often do you use your mobile money account to track or manage your expenses and budget? *Desirable behavioural outcomes: regularly and/or occasionally.* We call this variable, Num_Q3.

4. Question 4 (Module 4): Can you tell me what are some of the effective methods for families to save money? *Correct Answer: using mobile money for savings and acquiring interest, opening a deposit plus scheme (DPS) account, saving during periods with fewer expenses, and/or exploring additional income sources, like starting a small business or taking side jobs.* We group the first two answers as methods that are formal and the last two as informal methods. We call this variable, Num_Q4.

5. Question 5 (Module 5): Now, suppose if someone saves BDT 1500 in the mobile money account for one year, and at the end of the year, she has BDT 2000. What is the total interest this person earned for the year? *Correct answer: BDT 500.* We call this variable, Cor_Q5.

6. Question 6 (Module 6): What is/are the demonstrations of positive power when talking about finances with spouse/family members? *Desirable behavioural outcomes: (i) using effective communication and negotiation, (ii) achieving each other's financial goals, and/or respecting each other's financial opinions and (iii) hiding information from the other party. These responses would enable us to capture what domestic workers believe are demonstrations of positive power.* For our analysis, we use these responses as outcome variables to understand whether the intervention affected their understanding of power. We call this variable, Num_Q6.

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Table A2: Baseline Balance Check: Normalised Differences and F-Test for Joint Orthogonality

Variable	Normalized difference (1)-(2)	Normalized difference (1)-(3)	Normalized difference (2)-(3)	F-test for joint orthogonality
Age	-0.056	-0.175	-0.123	1.520
Respondent is married	0.001	-0.012	-0.013	0.009
Age at marriage	0.004	-0.015	-0.018	0.016
Relationship to household head: household head	0.058	0.007	-0.050	0.178
Completed primary education	0.003	0.035	0.032	0.067
Completed secondary education	0.111	0.166	0.056	1.461
Has access to personal phone	-0.093	-0.061	0.033	0.458
Mean monthly income (BDT)	-0.062	-0.059	0.006	0.196
Ever used mobile money account	0.019	0.153	0.132	1.286
Has a bKash mobile money account	-0.088	0.025	0.113	0.609
Has others (Nagad/ROCKET) mobile money account	0.171	0.026	-0.144	1.562
Deposits money in mobile money account	-0.017	-0.115	-0.096	0.740
Sends money using mobile money account	-0.032	0.115	0.147	1.030
Received remittance in the last 6 months	0.131	0.155	0.024	1.426
Sent remittance in the last 6 months	-0.100	-0.059	0.042	0.501
Age of the household head	0.036	-0.050	-0.089	0.320
Household size	0.132	-0.052	-0.176	1.490
Number of children in the household	0.145	-0.010	-0.154	1.297
Domestic worker is the primary earner	-0.157	-0.088	0.067	1.199
Weekly per capita consumption (BDT)	-0.103	-0.191	-0.108	1.981

Notes: The table presents normalised differences and the F-test for joint orthogonality at baseline. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided and the bKash offer was given. T2 is the treatment arm that received DFS training only ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table A3: Summary of DFS Training by Treatment/Control Arm

Arm	Hub Training	Door-to-Door Training	No Training
T1: DFS Training + bKash offer	42.3%	35.3%	20.6%
T2: DFS Training	50.3%	33.5%	14.9%
Control	0%	0%	0%

Notes: The table presents a summary of the DFS training up-take. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided and the bKash offer was given. T2 is the treatment arm that received DFS training only.

Table A4: Attrition

	C	T1	T2
Baseline	226	170	167
Endline	180	140	140
Completion Rate	79.6%	82.3%	83.8%

Notes: This table presents the completion rates by treatment/control arms. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided, and the bKash offer was given. T2 is the treatment arm that received DFS training only.

Table A5: Endline Balance Check: Mean and Standard Errors by Arm

Variable	N	(1) Control Mean/SE	N	(2) T1 Mean/SE	N	(3) T2 Mean/SE	t-test Difference (1)-(2)	t-test Difference (1)-(3)	t-test Difference (2)-(3)
Age	184	34.163	140	35.271	140	35.736	-1.108	-1.573	-0.465
		[0.556]		[0.666]		[0.659]			
Respondent is married	184	0.690	140	0.671	140	0.714	0.019	-0.024	-0.043
		[0.034]		[0.040]		[0.038]			
Age at marriage	181	15.343	138	15.123	140	15.214	0.220	0.129	-0.091
		[0.199]		[0.234]		[0.224]			
Relationship to household head: household head	184	0.359	140	0.336	140	0.314	0.023	0.045	0.022
		[0.035]		[0.040]		[0.039]			
Completed primary education	184	0.457	140	0.407	140	0.450	0.050	0.007	-0.043
		[0.037]		[0.042]		[0.042]			
Completed secondary education	184	0.223	140	0.171	140	0.157	0.052	0.066	0.014
		[0.031]		[0.032]		[0.031]			
Has access to personal phone	184	0.946	140	0.957	140	0.950	-0.011	-0.004	0.007
		[0.017]		[0.017]		[0.018]			
Mean monthly income (BDT)	154	7278.061	107	7574.701	104	7502.923	-296.640	-224.862	71.779
		[316.185]		[427.313]		[371.655]			
Ever used a mobile money account	184	0.864	140	0.850	140	0.786	0.014	0.078	0.064
		[0.025]		[0.030]		[0.035]			
Has a bKash mobile money account	184	0.478	140	0.514	140	0.486	-0.036	-0.008	0.028
		[0.037]		[0.042]		[0.042]			
Has others (Nagad/ROCKET) mobile money account	184	0.641	140	0.586	140	0.650	0.055	-0.009	-0.064
		[0.035]		[0.042]		[0.040]			
Deposits money in mobile money accounts	184	0.027	140	0.029	140	0.050	-0.002	-0.023	-0.021
		[0.012]		[0.014]		[0.018]			
Sends money using mobile money account	184	0.560	140	0.600	140	0.507	-0.040	0.053	0.093
		[0.037]		[0.042]		[0.042]			
Received remittances in the last 6 months	184	0.418	140	0.371	140	0.343	0.047	0.075	0.028
		[0.036]		[0.041]		[0.040]			
Sent remittances in the last 6 months	184	0.462	140	0.507	140	0.471	-0.045	-0.009	0.036
		[0.037]		[0.042]		[0.042]			
Has any savings in the last 12 months	184	0.739	140	0.636	140	0.729	0.103**	0.010	-0.093
		[0.032]		[0.041]		[0.038]			
Age of the household head	184	40.000	140	40.429	140	41.229	-0.429	-1.229	-0.800
		[0.763]		[0.883]		[0.929]			
Household size	184	3.696	140	3.429	140	3.793	0.267	-0.097	-0.364
		[0.111]		[0.134]		[0.138]			
Number of children in the household	184	1.625	140	1.414	140	1.643	0.211**	-0.018	-0.229**
		[0.068]		[0.081]		[0.083]			

Notes: The table presents the mean standard errors and t-tests at endline. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided and the bKash offer was given. T2 is the treatment arm that received DFS training only ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table A6: Endline Balance Check: Normalised Differences and F-Test for Joint Orthogonality

Variable	Normalized difference (1)-(2)	Normalized difference (1)-(3)	Normalized difference (2)-(3)	F-test for joint orthogonality
Age	-0.144	-0.205	-0.059	1.800
Respondent is married	0.040	-0.052	-0.093	0.302
Age at marriage	0.081	0.048	-0.034	0.267
Relationship to household head: household head	0.048	0.094	0.046	0.352
Completed primary education	0.099	0.013	-0.086	0.435
Completed secondary education	0.128	0.166	0.038	1.295
Has access to personal phone	-0.053	-0.019	0.034	0.111
Mean monthly income (BDT)	-0.072	-0.058	0.017	0.195
Ever used a mobile money account	0.040	0.209	0.166	1.928
Has a bKash mobile money account	-0.072	-0.015	0.057	0.218
Has others (Nagad/ROCKET) mobile money account	0.114	-0.018	-0.132	0.747
Deposits money in mobile money accounts	-0.008	-0.121	-0.110	0.725
Sends money using mobile money account	-0.081	0.105	0.186	1.230
Received remittances in the last 6 months	0.096	0.155	0.060	1.004
Sent remittances in the last 6 months	-0.090	-0.019	0.071	0.343
Has any savings in the last 12 months	0.224	0.024	-0.199	2.325*
Age of the household head	-0.041	-0.116	-0.075	0.541
Household size	0.173	-0.062	-0.226	2.058
Number of children in the household	0.178	-0.015	-0.190	1.625
Domestic worker is the primary earner	-0.142	-0.009	0.131	0.960
Weekly per capita consumption (BDT)	-0.138	-0.083	0.052	0.723

Notes: The table presents normalised differences and the F-test for joint orthogonality at endline. Control is the arm that received no intervention. T1 is the treatment arm where the DFS training was provided and the bKash offer was given. T2 is the treatment arm that received DFS training only ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table A7: Cost of intervention per domestic worker

Item	Door-to-door	Venue
Venue rent	0	240
Banner	0	40
DFS Material Cost	120	120
Travel Allowance	0	300
Participation Payment and Food	500	500
Conveyance for Field Officer & Project Officer	67	50
Food for Field Officer & Project Officer	27	20
Miscellaneous	33	20
Total	**747**	**1290**

Notes: The table presents the cost of delivering the DFS DFS training using two modes: door-to-door and venue sessions. The cost figures are in Bangladeshi Taka (BDT)

Table A8: Cash-flow to calculate IRR

Monthly Cash-flow	Door-to-door	Venue
Month 0 (Cost of Investment)	-747	-1200
Month 1	450	450
Month 2	450	450
Month 3	450	450
Month 4	450	450
Month 5	450	450
Month 6	450	450
Month 7	450	450
Month 8	450	450
Month 9	450	450
Month 10	450	450
Month 11	450	450
Month 12	450	450
Internal Rate of Return (IRR)	**60%**	**37%**
Payback Period (months)	**1.5**	**2.5**

Notes: This table shows the monthly cash inflows following the intervention, used to estimate the internal rate of return (IRR) for the two delivery modes. The initial cost is incurred in Month 0, and the assumed monthly benefit is BDT 450 for twelve months. The internal rate of return (IRR) is calculated by solving the equation:

$$0 = -C_0 + \sum_{t=1}^{12} \frac{R}{(1+r)^t}$$

where C_0 is the initial cost of investment (Month 0), R is the monthly return (assumed constant), r is the monthly IRR, and t is the month index from 1 to 12. The payback period is calculated as C_0/R.