

An Exploration of Smartphone Based Mobile Money Applications in Pakistan

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After initial access, does the ability to learn applications play a role in the adoption and continued use of mobile money services?

Digital Financial Services (DFS)

Banks



- Operate through physical branches
- Require significant investment

Mobile Money / Branchless Banking



- Use cellular and MNO distribution services
- Transactions through mobile wallets
- Cash-in/Cash-out using retailers/mobile money agents

Mobile Wallets



- Reduced geographical barrier of traveling to banks
- Different level of privacy and security
- Reduced transaction costs

Motivation

- The inability to use mobile money services as one of the barriers to adoption (CGAP, 2015)
- Financial transactions – personal and private (Vines et al. CHI'14)
- Mobile wallets – intricate and numerous option
- Initial learnability vs. extended learnability (Grossman et al. CHI'09)

Pakistan – a DFS ready country?

- NADRA - national identification system covering 90% of the population
- OTC (Over the Counter) a really popular way in Pakistan
- Mobile money friendly regulations by State Bank of Pakistan

What do we mean by learnability?

- Learnability is an important component of usability
- No unified definition of learnability (Grossman et al. CHI' 09)

“The ease with which users are able to learn to use the system, without requiring any external guidance or support, and achieve the task they wish to perform”

The fieldwork

- Partnership with Akhuwat Microfinance
- Talked to a total of 118 participants across three phases
- Men and Women
- Rural, Urban, and Peri-urban
- Participants with different levels of literacy



Study Design

- Three steps
 - Pre-task Interview – demographics, existing practices with money, ownership and access, banking and OTC experiences
 - Task Based Learnability Evaluations
 - Post Task Feedback – learnability of applications and possible improvements

Research Phases

Telenor
Mobile Wallet

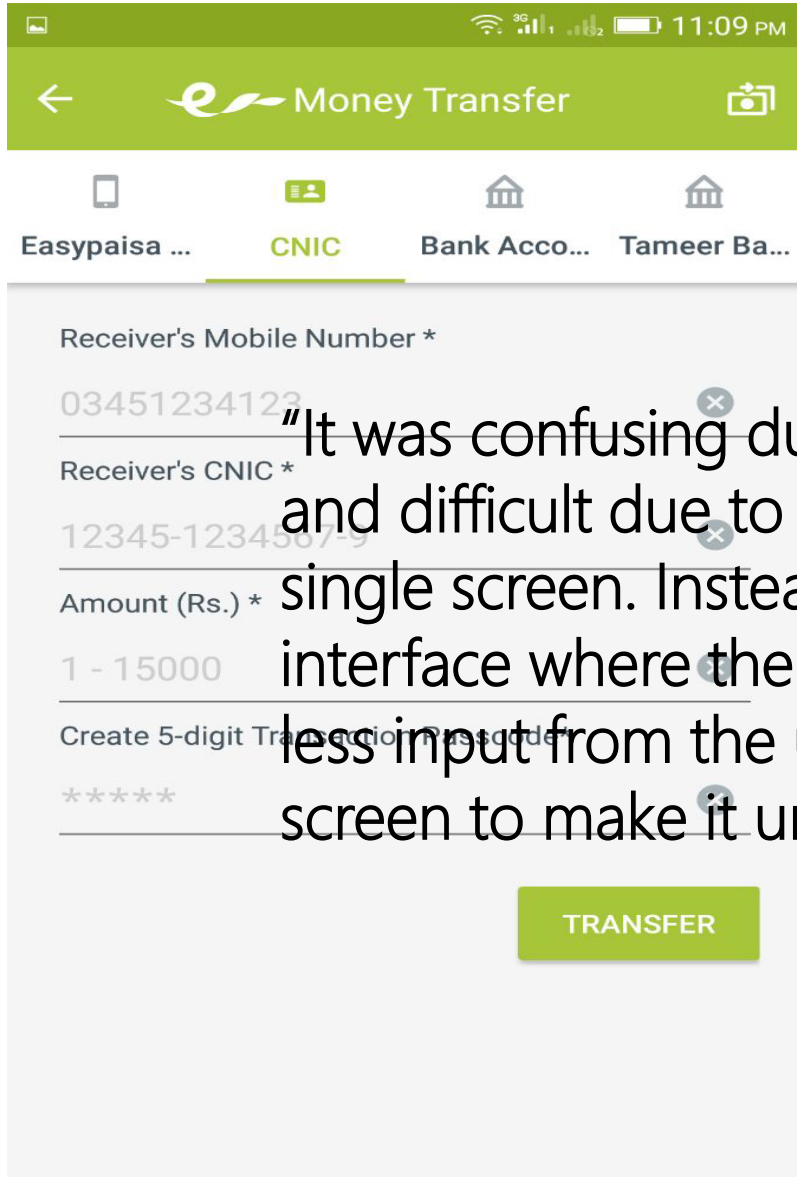
Karandaaz UI
Toolkit
Prototype

Modified
Karandaaz
Prototype

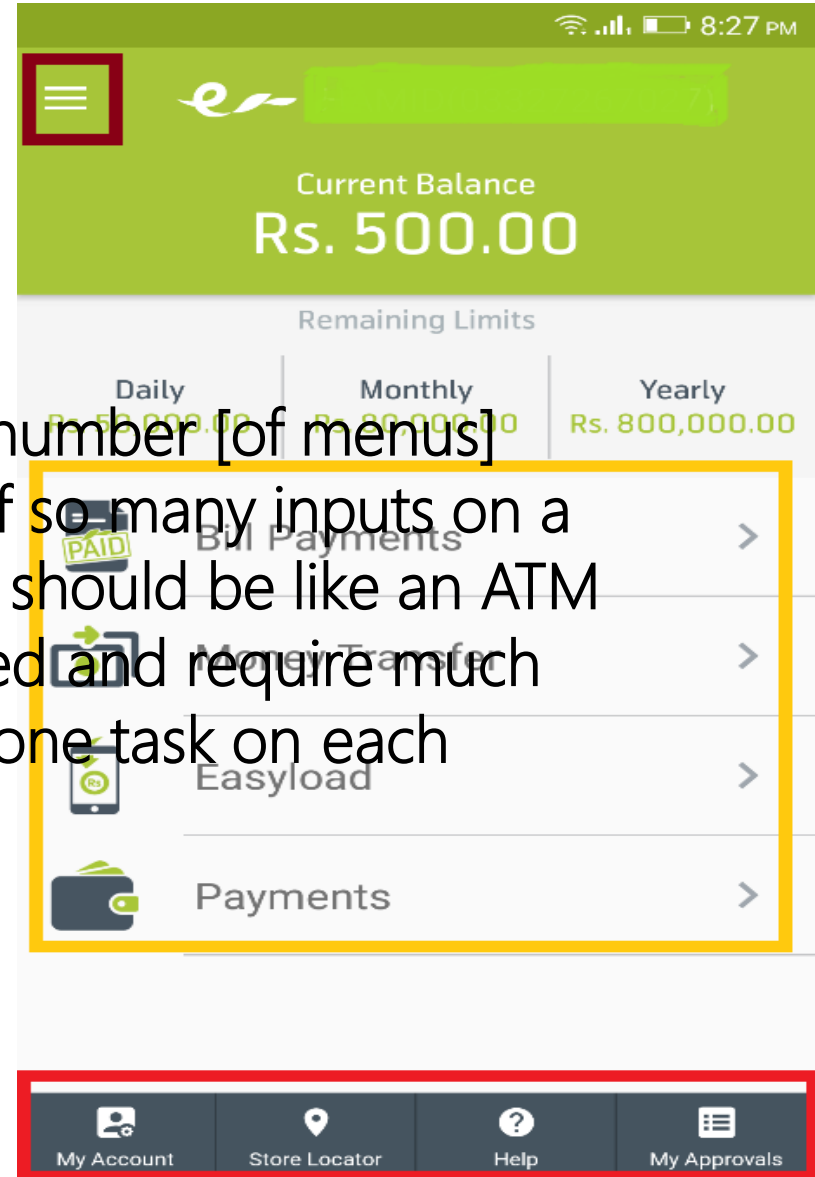
Telenor Mobile Wallet

- Telenor's wallet EasyPaisha
 - 2016 highest market share
- Tasks Selected
 - Change PIN
 - Send money to an Easy Paisha account
 - Send money to bank account
 - Sending airtime to someone else (on same or different network)
 - View statements





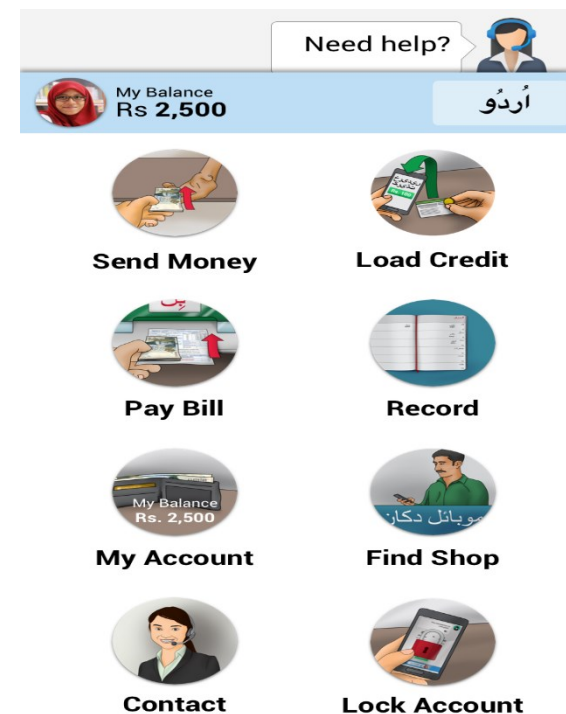
"It was confusing due to the large number [of menus] and difficult due to the proximity of so many inputs on a single screen. Instead the interface should be like an ATM interface where the options are fixed and require much less input from the users and only one task on each screen to make it understandable."



Karandaaz UI Toolkit



- In 2016, released Design Toolkit
- Specifically focused on low-literate users
- Assistance through text and graphics
- English and Urdu language support

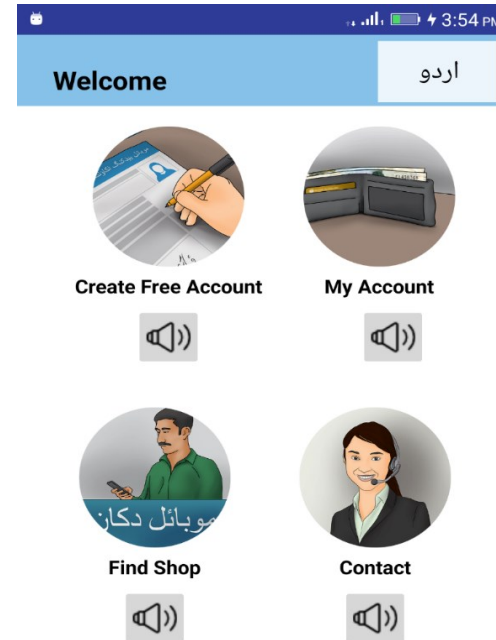


Observations from Karandaaz UI Toolkit Prototype

- Confusion between PIN code and secret code

- Interface Issues

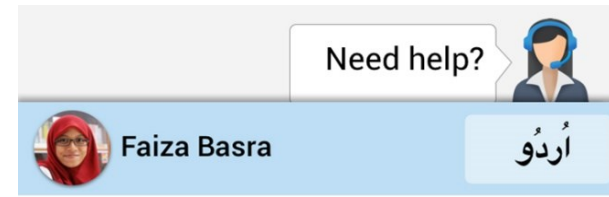
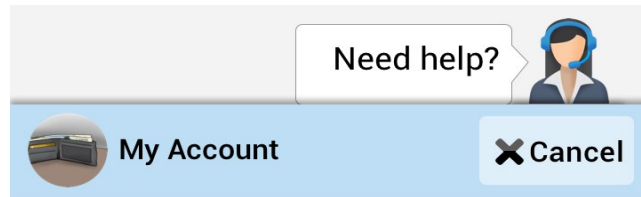
- Flat images as buttons
- Backspace location



Phase 3 - Modifications to Karandaaz

- Where do I enter the information the audio is asking me?
- I am here and supposed to enter phone number but why?
- Something went wrong but what?

Phase 3 - Modifications to Karandaaz



What is your phone number?

“Written text might be misinterpreted but voice and audio explain it really well. Reading takes time and requires interpretation.”

1 2 3
4 5 6
7 8 9
0

➔ Next



Send Money



Pay Credit



Pay Bill



Record



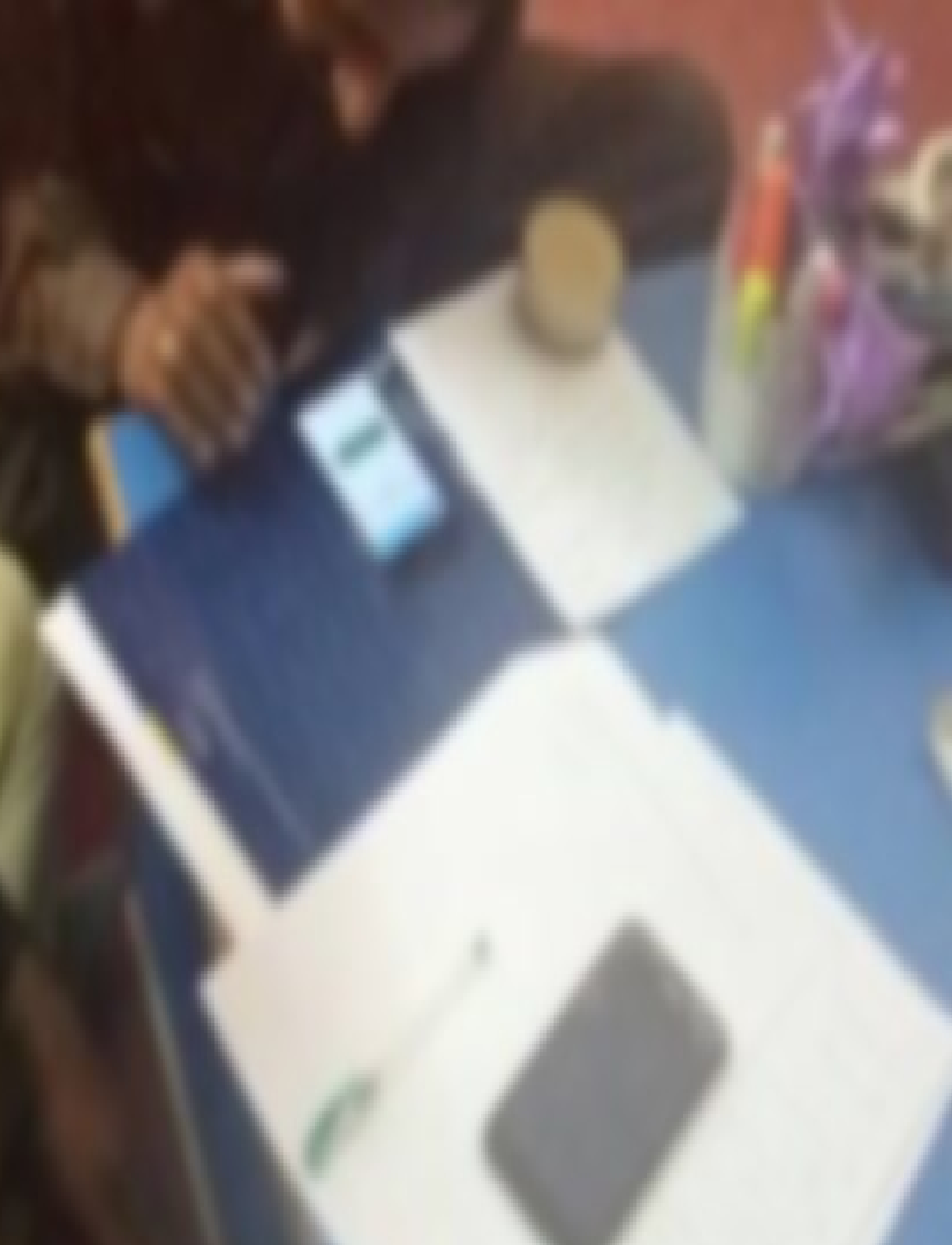
My Account



Find Shop

Findings

- Lack of information and understanding
 - Understanding of mobile wallets
 - Brand awareness vs. actual use
- Perceived lack of usefulness
- Trust of customer support centers
- OTC usage and mobile wallet knowledge



Design Considerations

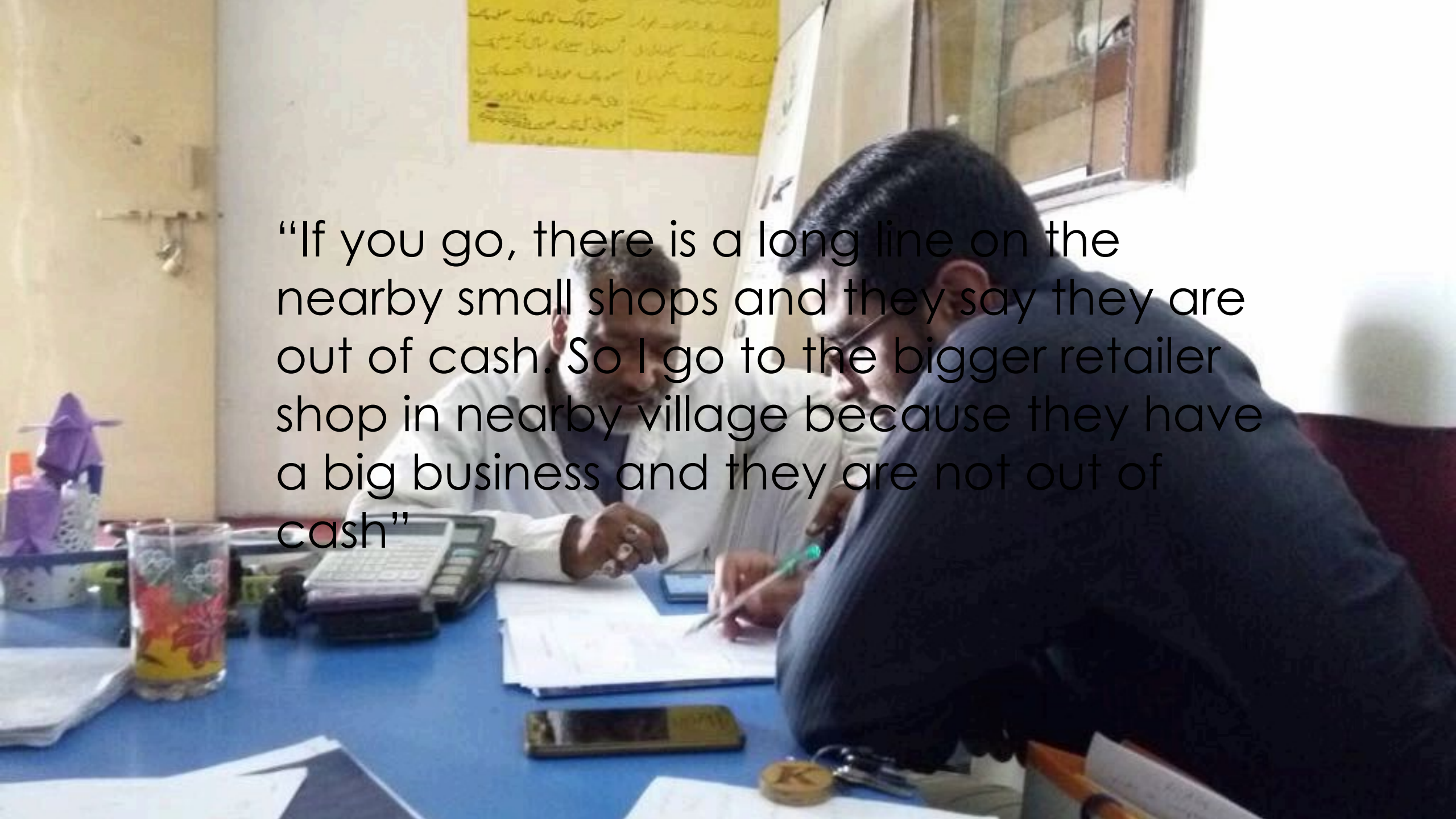
- Privacy and Security
- Audio vs. Privacy

Time Taken vs. Learning



Relevance and Convenience

“I can transact from home and will not need to go to city after burning fuel worth 150 rupees and spending time as well. I can do something else in the same time. There is no mobile money agent shop in our nearby village but there is 4G internet”

A photograph of two men in an office. The man on the left, wearing a white shirt, is leaning over a desk and writing on a document with a pen. The man on the right, wearing a dark blue shirt and glasses, is also leaning over the desk, looking at the document. On the desk, there is a large calculator, a smartphone, and some papers. In the background, there is a window with a wooden frame and a yellow poster with Arabic text on the wall. A text overlay is present in the center of the image.

“If you go, there is a long line on the nearby small shops and they say they are out of cash. So I go to the bigger retailer shop in nearby village because they have a big business and they are not out of cash”

Women and Mobile Wallets

- Hesitation in discussing interest or previous usage of mobile phones

“It is not considered good in our family for girls to use phones. Both my brothers (younger and elder) have smartphones. We do not have Wifi or cable since we can't afford it. They use someone else's Wifi who lives in our street.”

- Shared phones and access
- Increased independence vs. cash-in transactions

Summary

- Learnability is impacted by things other than interface issues
- OTC usage is not synonymous to Mobile Money use
- Contextual understanding of Mobile Money is important to understand mobile wallets
- When designing, we have to be aware of contextual scenarios like shared phones or gendered constructs

Thank you!

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