How do mobile banks obtain trust

Trust for M-pesa

https://www.researchgate.net/publication/220939740_Examining_trust_in_mobile_banking_transactions_The_case_of_M-PESA_in_Kenya

Customers do not trust agents with their money

"The agents often complained that they would receive the blame for all the problems with the M-PESA system. Because M-PESA utilizes the same data channel as text messages, it often becomes congested at "peak texting times". The result is that many M-PESA transactions fail. They are either not processed in the system, or are processed but the SMS that confirms the M-PESA transaction to the agent and customer is not sent. The agents asserted that in both of these cases, they were accused of stealing the customer's money after a deposit was made and no confirmation SMS received"

Many similar stories to this one, in the same paper a customer is unaware of the transaction fee and accuses the agent of stealing. Similar to purchasing at a local market, it is easy to get mad at the employee when something seems incorrect, even though the employee most likely has no control over it.

Customers do trust M-Pesa

Safaricom dominates the kenyan market reporting to have 70% of the market in 2008, as such Kenyans have had many years to gain trust.

The president of Safaricom, Micheal Joseph is not affiliated with any tribes and is therefore politically neutral whereas traditional banks like Equity are politically engaged. Additionally Micheal Joseph has a South African background which benefits in the trust factor.

Takeaways for trust:

- Agents are the fall guys, just like the clerk at the local market is the fall guy. Safaricom could most likely take more measures for support but they already provide FAQ's and provide leaflets to the customers.
- Have a respected front figure
- Be politically neutral
- Have a track record to prove you're trustworthy

How to improve trust in mobile banking

https://www.researchgate.net/publication/282920198_An_empirical_study_on_trust_in_mobile_banking_A_developing_country_perspective
The above paper concludes that the most important topics in order to improve Brazilians trust in mobile banking seem to be:

- Communicate with older people, introducing mobile technology to them (Older people are having difficulties learning new technologies, additionally they are less interested in pursuing new technological advancements)
- Communicate with women, in order to reduce potential anxiety with technology (Women are less susceptible to try out new technology than men)
- Communicate with current customers leading them to inform to their friends about security on mobile banking, once social influence is an important issue to trust in mobile banking (According to another paper by Sohail and Al-Jabri (2014) non-customers perceive a higher level of risk than current users, which makes sense since current users are familiar with the product)
- Communicate with students and professionals, especially people working in the technology field, in order to disseminate functionalities, advantages, and security of mobile banking. (Trust can be obtained from a colleague or a friend, if they trust the product, you are more likely to trust it as well. Additionally students are susceptible to new technology and are willing to try them out)

Initial trust

https://www.sciencedirect.com/science/article/abs/pii/S0747563212000878
Central and peripheral cues are significant effects on initial trust. Central cues include information quality and service quality, where peripheral cues include system quality, reputation and structural assurance. As such some of the factors to gain initial trust are:

- Visual appeal in the product
- Navigational structure
- Smartphone interfaces allow for better interfaces than cell phones and terminals and thereby improve quality and trust
- Ease of use increases trust
- Technological and legal structures such as encryption and digital certificates increase user trust
- Synchronous information is important, receiving wrong information, such as incorrect funds drops trust a lot.
- Personalized information may enhance user trust. Information such as location of nearby ATM.

Asynchronous transactions (pay now, receive later or vice versa)

This topic is essential for e-commerce and financial instruments, currently most mobile banking solutions utilize local agents and use point of sale (PoS) for transactions. Does M-pesa, Ecocash, etc. allow for asynchronous transactions, i.e. providing a loan to another user or pay online for goods?

M-pesa allows for eCommerce and relies on trust between the customer and the vendor, otherwise, since m-pesa is centralized the customer can claim they did not receive their goods and settle later.

M-pesa does not seem to allow for asynchronous transactions between two users, they do allow for micro-loans with Safaricom, the owners.

Double spending

In the case of M-pesa and Ecocash, the more common mobile banking platforms, transactions happen through a central unit. One user would like to transfer money to another user and send a USSD message to Safaricom with the required information: The recipient's phone number, the amount and their PIN. Safaricom is then in charge of sending a confirmation, as well as adding and subtracting to both accounts. Money can be withdrawn or deposited at any agent, which there are many of.
This is a very simple structure, with all the money backed up by actual cash. This method should also ensure that no double spending happens.

Payment over distance

I mentioned earlier that mobile payment systems were mainly used for PoS. What ways can we make payments over distances, and what are the benefits and drawbacks of these solutions?

Solution	**Pros**	**Cons**
Bank transfers		
Bank applications (Venmo, MobilePay, WePay, …)	- Free - Easy - Works across multiple banks	- Requires banks - Not international - Requires internet
Western Union	- Requires no bank account - Can deposit cash - Easy to use	- Must meet in person to receive money - Fees - Requires identification
Cryptocurrency (Bitcoin, DAI, …)	- Fast - No identification required - Close to no regulations	- Requires wallet to send/receive - Have to convert to local cash - Requires internet and internet-available device - Irreversible - Fees - Hard to use
Hawala	- Typically cheaper - Fast - Easy to use - No bank accounts - No regulations	- Illegal in a few countries - Susceptible to theft - No transaction history - Commonly used among terror groups

USSD-based (M-Pesa, EcoCash, …)	- Easy to use	- Fees - Can only withdraw at merchants - Limited to few countries - Requires account to receive

More pain points for more mobile banking platforms

- How often is the USSD network down
  - Close to no sources, 99.99% uptime of what I could find. Additionally early announcements were made regarding planned maintenance.
- How often is the internet unavailable
  - https://app.fing.com/internet/place/Kenya/all shows higher and more occurring internet dropouts than most of europe. Only a few places have any extreme dropouts.
- History of hacks and theft
  - Sim-card theft
    - Once a scam artist is in possession of your PIN using m-pesa or any similar mobile banking service, they can simply steal the sim-card and empty the users wallet
  - General attempts at theft like sending a fake confirmation message or social hacking in attempts to get the user to send money
  - Very little history of hacks or vulnerabilities in the system of ecocash and m-pesa