Understanding Early Technology Adoption by the Emergent Elderly in Dharavi

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Abstract. This field trip proposes a two-day program to understand and evaluate technology adoption of digital wallets among the elderly population in one of the urban slums of Mumbai, through training, probes and shadowing. The aim of the study is to analyse perceived challenges, influences & motivations, barriers to adoption and issues faced during wallet transactions. The findings from this study will be interpreted to formulate design recommendations and guidelines, useful to deploy meaningful propositions suitable for the elderly population, especially to facilitate a smooth transition to the digital vision of India.

Keywords: Emergent users, elderly, digital wallets, demonetization, India

1. Introduction

On the evening of Nov. 08, the Prime Minister of India announced demonetization of the Rs.500 and Rs.1,000 notes, the two big currency denominations that account for 86% of the money in circulation [1]. The move was an effort to stop counterfeiting of the current banknotes allegedly used for funding terrorism, as well as a devise to crackdown on black money in the country [2]. In the long-term, India aimed to become a cashless society and embrace the transparency of currency digitization.

However, in the days following the announcement, the country witnessed severe cash shortages that caused great inconveniences to its people. A large mass of the Indian population, who are disadvantaged by the 'digital divide' - the gap that stops people from benefiting from ICTs [3], could not quite comprehend the cashless vision and lined-up to withdraw their money, standing in serpentine queues. The poor, the disabled and elderly citizens were most inconvenienced, as they had to wait for long hours to withdraw money. This led to several unfortunate deaths due to anxiety, panic and exhaustion.

This disadvantaged population that India hosts, are the emergent users - those who are less educated, economically disadvantaged, geographically dispersed, and culturally heterogeneous [3]. The user-usage model for the emergent user reports that age and educational levels are the highest significant predictors of technology usage for the emergent users. It also states that the emergent users are likely to be Basic

Users and Navigators. We can extrapolate this model to state that young people are more likely to be more tech-savvy. Conversely, older people are expectedly less tech-savvy. The study also states that for such users, the task typologies of 'Text Inputter', 'Transactor' and 'Account Holder' should be avoided [3].

Clearly, in the context of how the elderly population is coping at this time of currency distress is understandable. The download rates of such mobile wallets and other digital mechanisms have been rather sparse. This digital barrier and eventual conversion to be able to be a 'Transactor' requires a combination of several facets. It includes understanding of the concept of a virtual personal wallet, a digital identity of an account holder, and trust in the virtual banking system to carry out the transactions, which are barriers for the senior population who perhaps do not have the requisite mental model for the same [3].

The confluence of this necessary conversion (Being a 'Transactor' of a mobile wallet) vis-a-vis the seemingly constant stage of use ('Unexposed', and no prior intention to progress) of the elderly, brings us to an opportunity for an interesting research space, which defines the motivation of this study. Hence, this study will particularly focus on issues and concerns that arise in the early phase of technology adoption by this particular population group.

2. Plan

2.1 User group, recruitment and facilitation

Owing to the unique limitations of emergent users and the specific challenges of old age that adds to this situation, the study focuses on the elderly fraction of the emergent user group. The study proposes the following user group:

-User type: Elderly emergent users
-Age: 60 – 75 years

The study recommends the following recruitment criteria for the users:

-Are in possession of a smart phone
-Have no prior exposure to any digital payments (e.g. mobile wallets etc.)
-Are physically fit and mobile

The recruited users will be paid Rs.500 as a token compensation that will be loaded in their digital wallets. The decision of the goods purchased with this amount will be a prerogative of the users.

2.2 Location: Dharavi

The study is proposed to be conducted at Dharavi, owing to its potential in translating its business acumen and eventually surviving the cashless journey. Dharavi was

founded in 1882 during the British colonial era. The slum grew in part because of an expulsion of factories and residents from the peninsular city-centre by the colonial government, and from rural poor migrating into urban Mumbai. It is currently a multi-religious, multi-ethnic, diverse settlement. Estimates of Dharavi's total population vary between 700,000 to about 1 million. It has an active informal economy in which numerous household enterprises employ many of the slum residents. It exports goods around the world. Leather, textiles and pottery products are among the goods made inside Dharavi by the slum residents. Interestingly, the total annual turnover is estimated at over US$1 billion.

To recruit appropriate users in this location, we will need to work with local organisations.

2.3 Method: Technology Probe

A technology probe will be used in this study to understand and map user behaviour. A suitable example is Paytm, the most popular mobile wallet in India, today. The method will consist of the following steps:

Day 1

- 9 am - 11 am Introduction to wallets, training, loading, mutual exchange
- 11 am - 1 pm First shopping experience along with the participant
- 2 pm - 4 pm Shadowing the users to understand tasks & behaviour

Day 2

- 10 am - 12 pm Focus group and discussion with the users
- 1 pm - 3 pm Wrap up, summarising and recommendations

Training will include helping users understand the concept of digital wallets, downloading the relevant wallet app in their phones, explaining basic features and key use cases and setting expectation of the study.

The study will also seek approval from the users owing to their age, possible health threats and their consent to use their experiences to draw inferences.

2.4 Participants

Group Facilitator (1) - Shaon Sengupta – PhD Candidate at IDC, IIT Bombay, with focused interest in the elderly population. Role to help with training, time keeping and consolidation of activities.

Senior Researcher (1) - Preferably, a candidate belonging to an advanced digitalized country, who can trigger and provoke users during focus groups and the project team during the brainstorming session.

Field representatives (5) - To help lead in observation and shadowing activities. This position seeks knowledge of Hindi and Marathi and a combination of male and female candidates.

Designer (1) - To help in creating quick mock-ups of ideas and simulations to connect recommendations to visualized sketches.

3. Expected Outcomes

The outcome of the two-day trip will include a highly engaging report and presentation consolidating top findings and insights drawn from observations, artefacts, verbatims etc. The findings will further be used to create design recommendations and guidelines for design payment mechanism that are suitable to our target population. The design recommendations will finally lead to quick prototypes demonstrating the translation of issues and relevant design visualisations.

References

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