Improving Government Service Delivery through e-inclusion

A CKS Presentation for *LIRNEasia*

Introduction

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Location & Sample

Management & Logistics

Introduction

Background

- The increasing success of mobile connectivity, especially with respect to voice, can be attributed in many ways to the budget telecom network business model, characterized by intense competition and regulation.

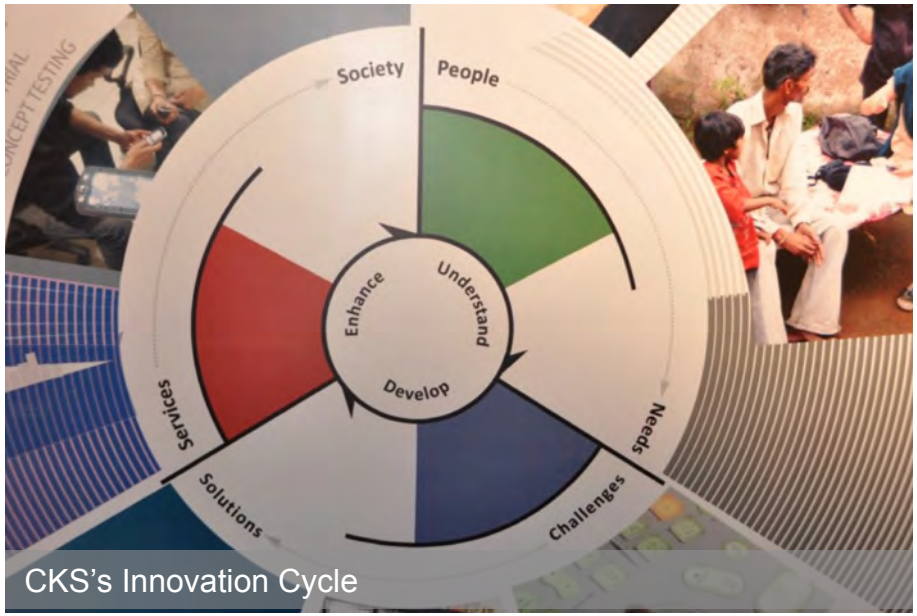
- Another factor that has contributed to the success of mobile voice is the use ICT in service delivery, to allow for smooth and efficient service provider - customer relationships.

- It would seem, then, that there are significant learnings from the mobile telecom sector that can be introduced into government services and public utilities to enable better customer relationships.

- It is with this agenda that LIRNEasia, an Information and Communication Technology (ICT) policy and regulation capacity building organization, is undertaking a study on Improving Government Service Delivery for E-Inclusion.

- The study is aimed at encouraging the use of ICT in the provision of government and other public utility services to impact the uptake of internet and more-than-voice services. Of particular importance is the benefit that such an intervention will make to urban BoP customer segments, who have till now had limited use of internet and more-than-voice services.

Center for Knowledge Societies



CKS's Innovation Cycle

34 ways to save lives

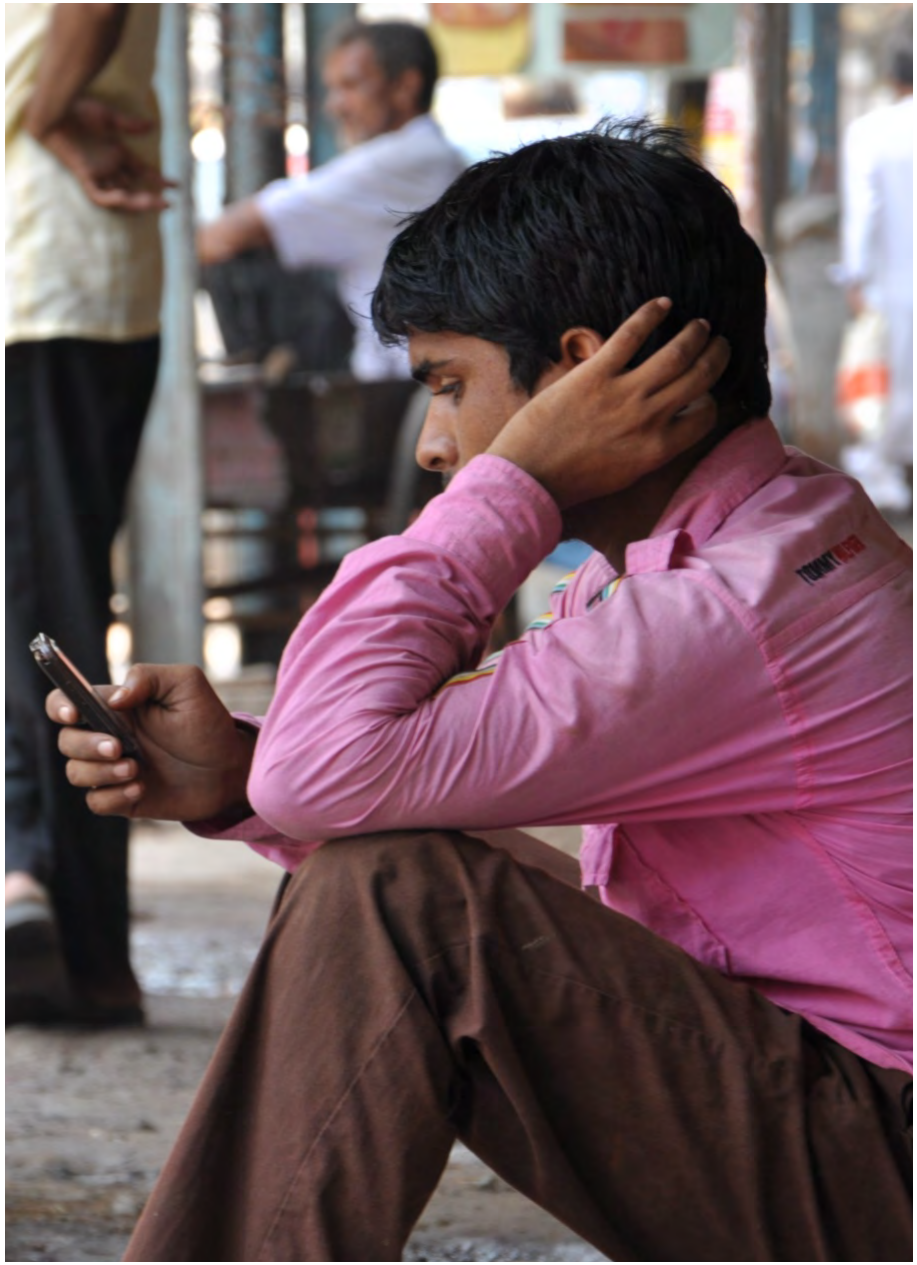
- CKS is a research, design and innovation company focusing on emerging economies of the world. We conceptualize and develop innovative product services and business practices that harness the new possibilities of media, communications and technology. CKS personnel are drawn from a variety of disciplines including Design, Sociology, Anthropology, Communications, Media, Business, Engineering and Human Development.

- CKS has worked in the mobile telecom sector, with handset manufacturers as well as network operators. It is the author of the acclaimed Mobile Development Report, which explores the socio- economic impact of mobile phones in rural areas in emerging economies. It offers a detailed analysis of the social dynamics of mobile phone usage among urban and rural users from lower income backgrounds.

- CKS has worked with LIRNEasia In its prior research works on ICT use at the Bottom of the Pyramid (Teleuse@BOP3 and Teleuse@BOP4) in 2008 and 2011.

- More recently, CKS has worked with the Gates Foundation on the design of vaccine delivery innovations for use in rural areas of India, particularly in Bihar. This work is on-going, and has already resulting in the Rural Health Innovation publication. Rural Health Innovation offers a gamut of 34 innovation concepts, which will radically transform the ways in which maternal and child health is managed in the state.

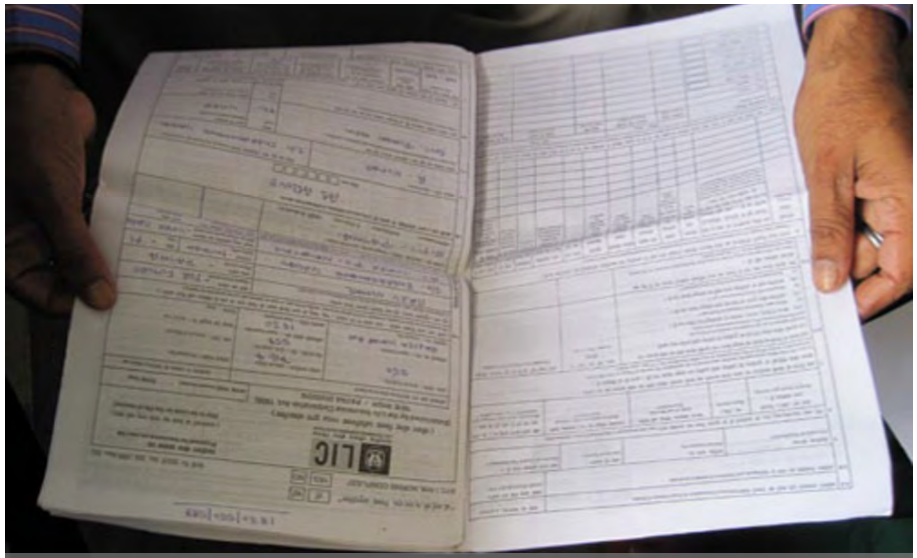
Scope



- Understand customer relationship management practices in mobile telecom, electricity and governance
- Identify use and failure cases in customer relationship management practices in telecom, electricity and governance
- Identify use cases of the successful implementation of ICT in customer relationship management practices in mobile telecom
- Develop service design concepts for efficient service delivery in electricity and governance based on an understanding of the use of ICT in service delivery in mobile telecom

Broad Research Questions

Bill payments


Registration forms as entry requirements

What telecom, electricity and government services are the urban BoP and BoP MEs accessing?

- What are the requirements to enter?
- What kinds of user paid individually consumed government services are available to the BoP and BoP MEs?
- What are customers willing to pay for?
- What alternatives to these services are available?

What is the user experience of BoP and BoP ME customers of services within the three sectors?

- What are customer expectations of the services they avail?
- What are the levels of satisfaction for customers? What creative and coping mechanisms do they employ?
- What are the preferred modalities of engagement between customer and service provider?
- What is the character of customer loyalty in urban BoP segments?
- How is the role of a service provider defined?
- How important is the human element in customer relationship management and does it differ across the three sectors?

Broad Research Questions

Customer record maintenance

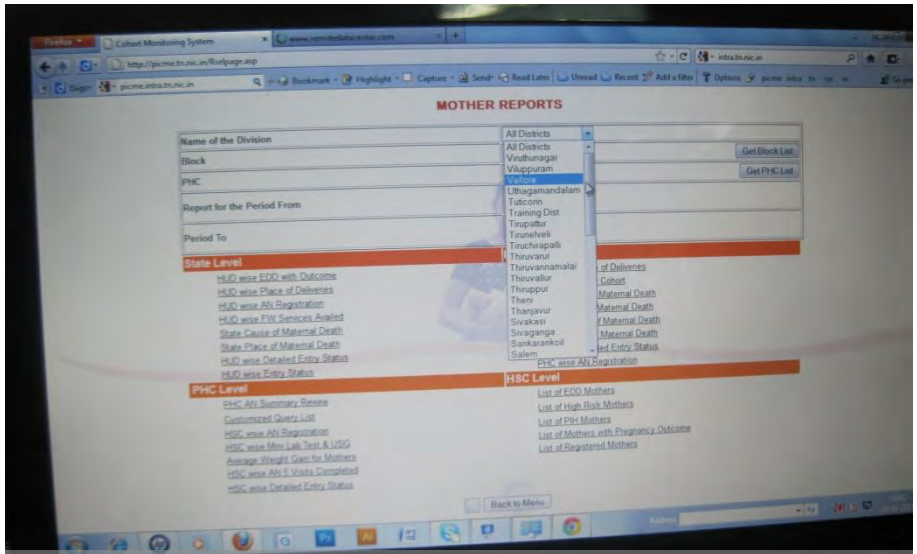
What conditions of 'voice' and 'exit' exist with respect to telecom, electricity and governance?

- To what extent are customers willing to engage with the three sectors?
- What manifestations and behaviours of voice and exit are prevalent in mobile telecom, electricity, and government service?
- What channels of voice exist for customers?
- Is voice important for customers?
- How much voice can you allow for customers?
- When do customers choose to exit?

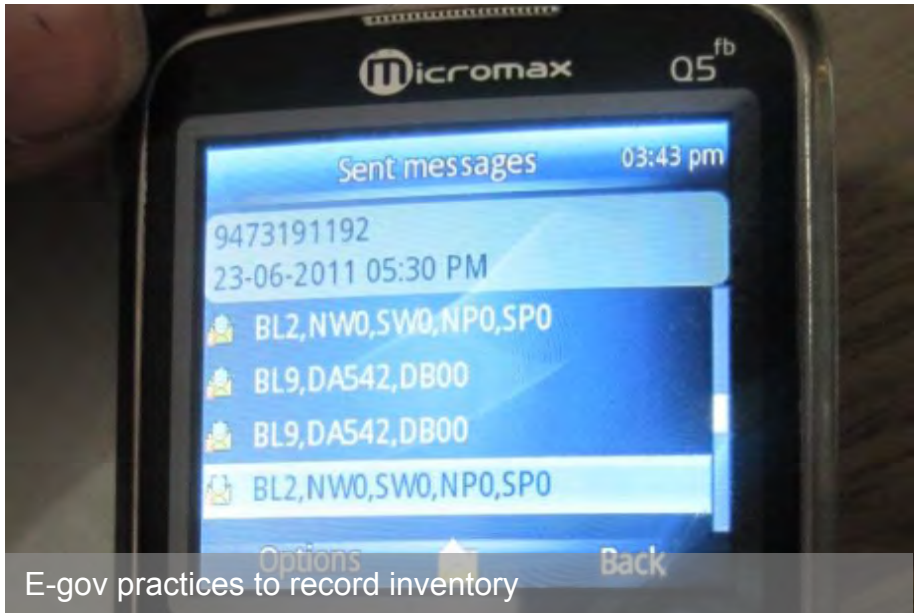
What are customer lifecycle management practices?

- How do service providers maintain information about their customers?
- How do complaints work and to what extent are they handled?
- What kinds of enquiries are most common?
- What kind of training with respect to customer relations do service providers receive?
- Are they willing to pay for customer care?

Broad Research Questions



Online customer databases



E-gov practices to record inventory

What are prevailing mobile usage patterns, and can ICTs play in customer relationship management?

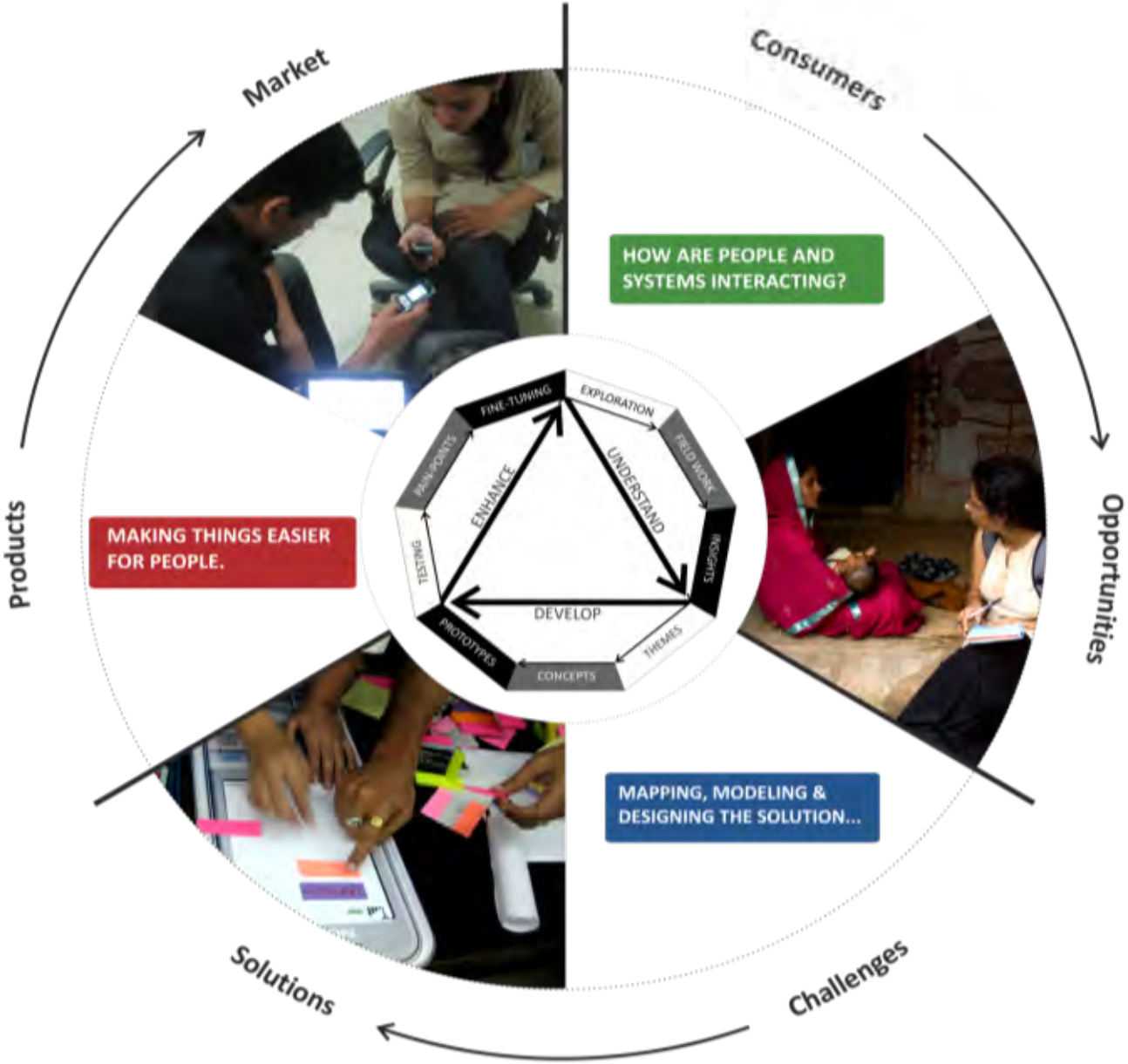
- What are the complex, more-than-voice applications over mobile networks in voice and data forms that BoP are accessing?
- How are mobile phones / internet currently used in the delivery of service?
- What ICT usage is prevalent in CRM?

What lessons of CRM can we learn from telecom?

- How do customers compare services across the three sectors?
- What designed elements of CRM can be carried forward into other sectors?
- What are the preconditions for implementing a solution that has worked in telecom, for electricity and governance?

Approach

CKS' approach to User Centered Systems Design



Understand: Identify User Needs

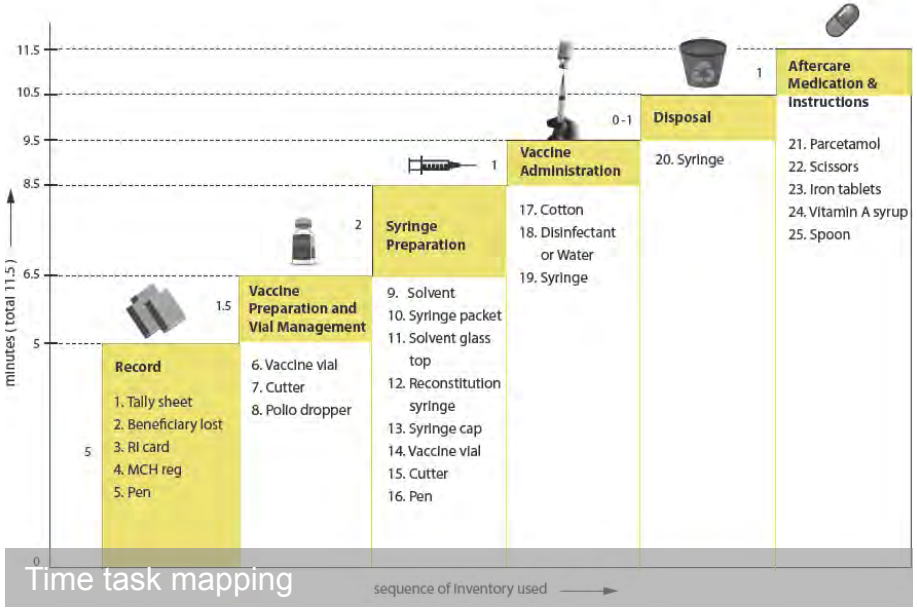
Shadowing in work and other contexts

Participant observation

In-depth interviewing

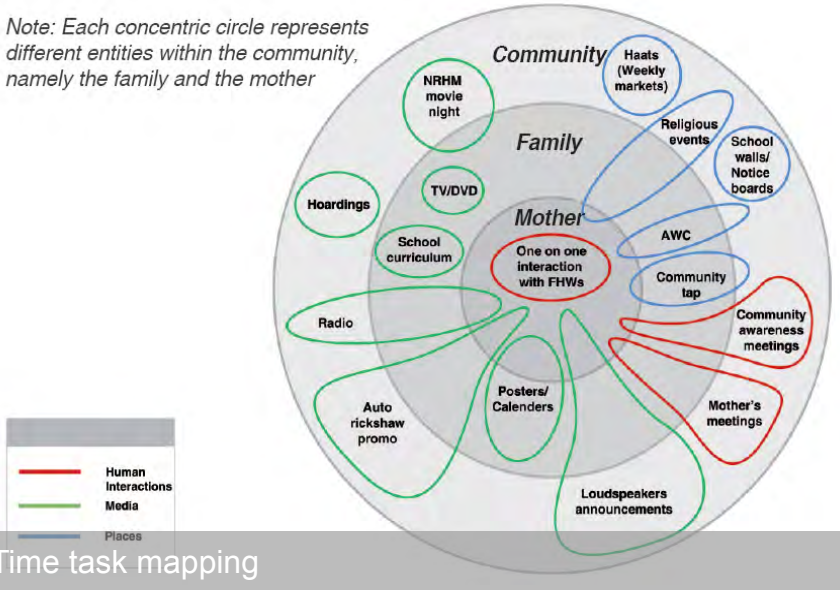
Community group discussions

Understand: Identify Breakdowns and Define Challenge Areas

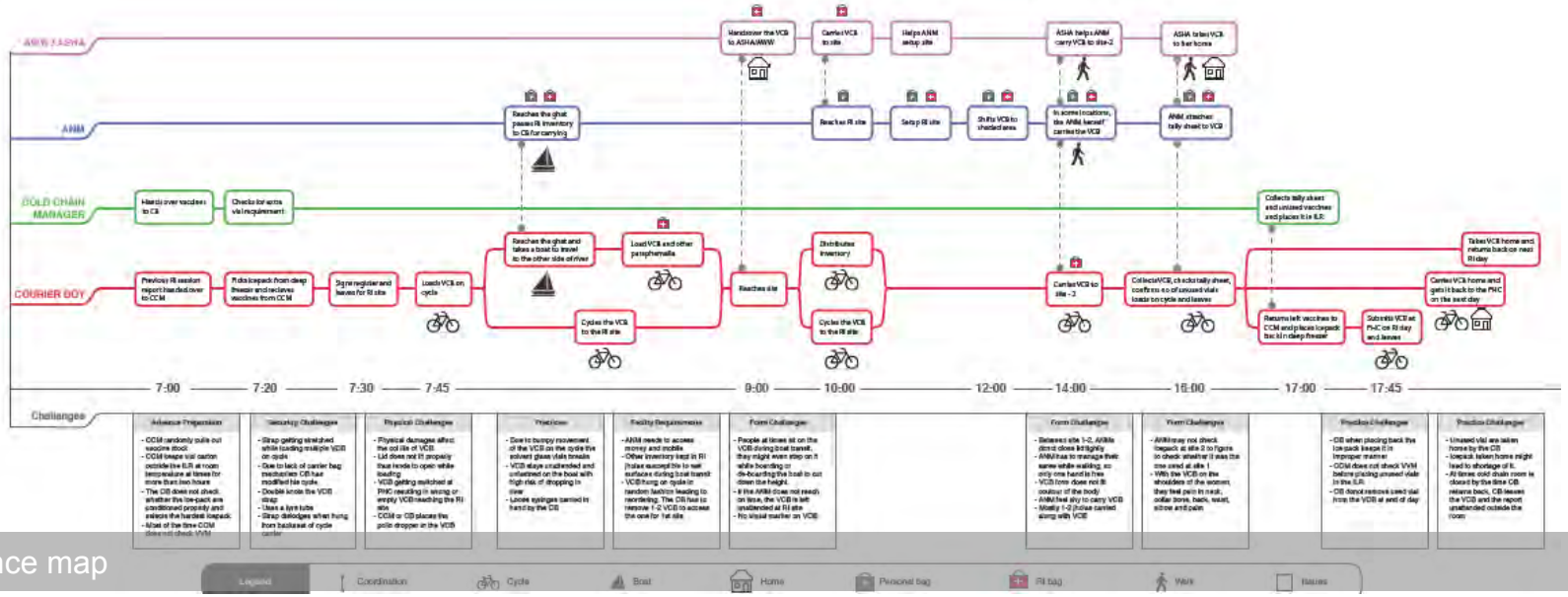


Time task mapping

Note: Each concentric circle represents different entities within the community, namely the family and the mother



Time task mapping



Experience map

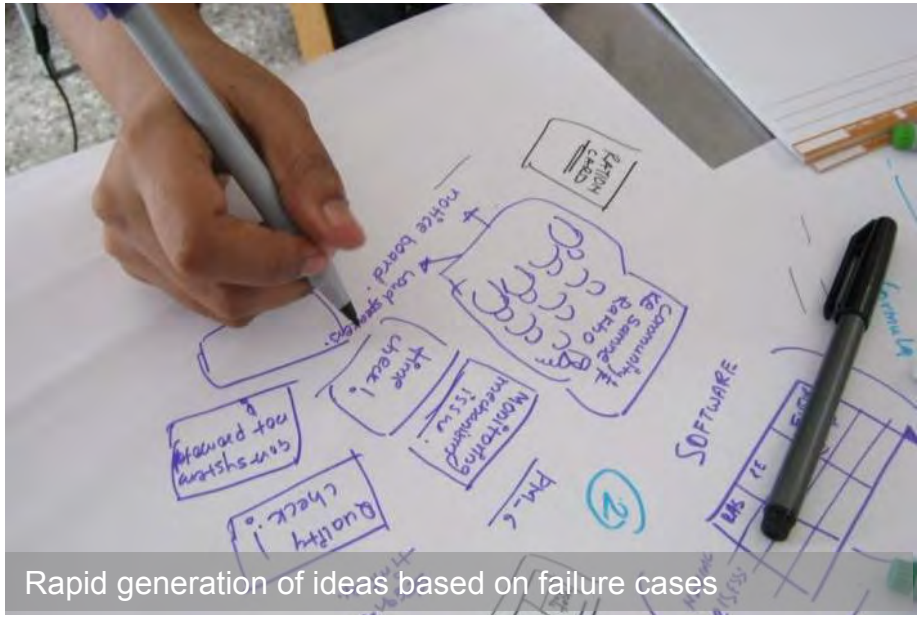
Develop: Design Analysis for Multiple Concept Generation

Tracking Children and Work Activities

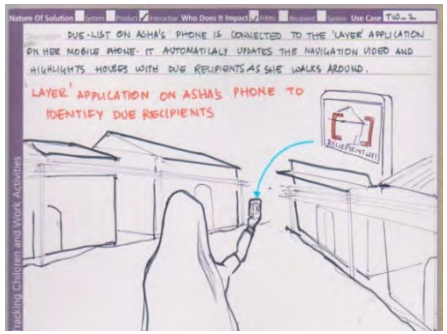
Use Case Code	Scenario	Evidence Source	Information Challenge	Skills and Attitude Challenge	Logistical Challenge	Material-Technical Challenge	Incentiv Issues	Process Challenge	So
TW_2	ASHA does not carry a due list during mobilization and relies on her memory to track, leading to recipients being missed out	2009.12.13	No way of cross-checking for ASHA to ensure all due recipients have been mobilized	ASHA takes mobilization casually ASHA does not understand the consequence of recipients missing out on their vaccine doses if she fails to track them				No monitoring mechanism to ensure ASHA has mobilized all due recipients	
TW_3	ASHA often misses out on recipients due for measles vaccination as there is a gap of 6 months post DPT administration, and due lists are generated only for the month following each session, or tends to forget in the absence of any written records		Retaining and backtracking information of recipient for longer duration is challenging for ASHA			Format of due list/ registers do not support tracking of information after long durations		No mechanism to ensure back tracking of children who have fallen out of the system	
TW_4	ASHA does not ensure that all recipients who have been mobilized by her have come to the site and have been administered vaccine by the ANM		No communication between ASHA and ANM to cross-check between recipients mobilized and recipients					No system to ensure cross-checking of information based on FHW's individual task areas	

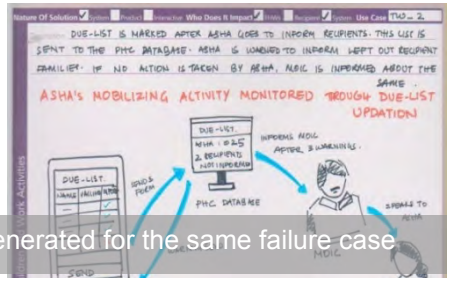
Analyzing failure cases to understand the nature of challenge

IdentifyingRegisteringLocating | SessionPlanning&Management | SessionExecution&Logistics | TrackingChildren&WorkActivity | Accountability and Training | Awarer | Tracking Childr



Rapid generation of ideas based on failure cases

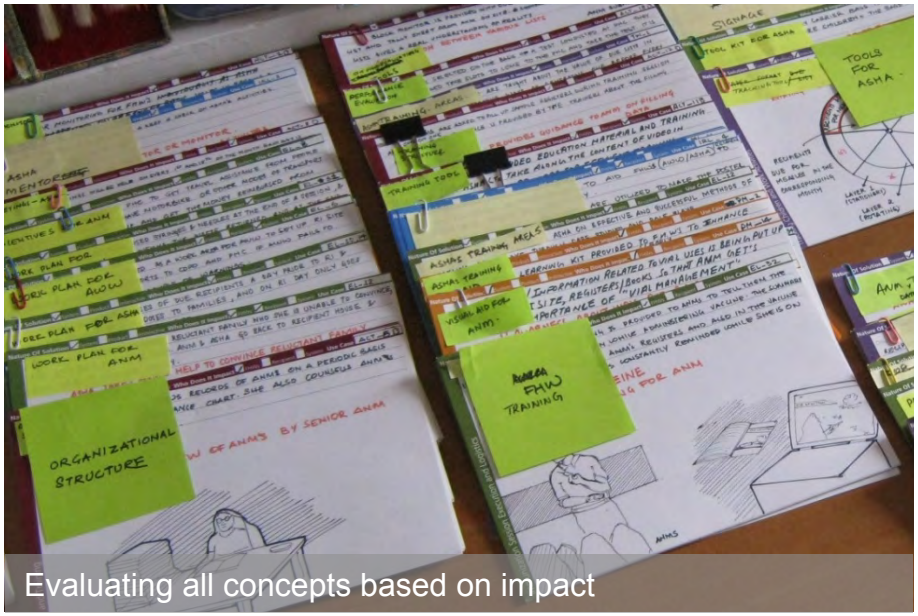




Multiple product and service ideas generated for the same failure case

Develop: Concept Evaluation and Prioritization

Identifying most promising concepts



Evaluating all concepts based on impact

Clustering ideas based on challenge areas

Concept articulation and visualization

Enhance: Prototyping and Validation

Validation of concept cards

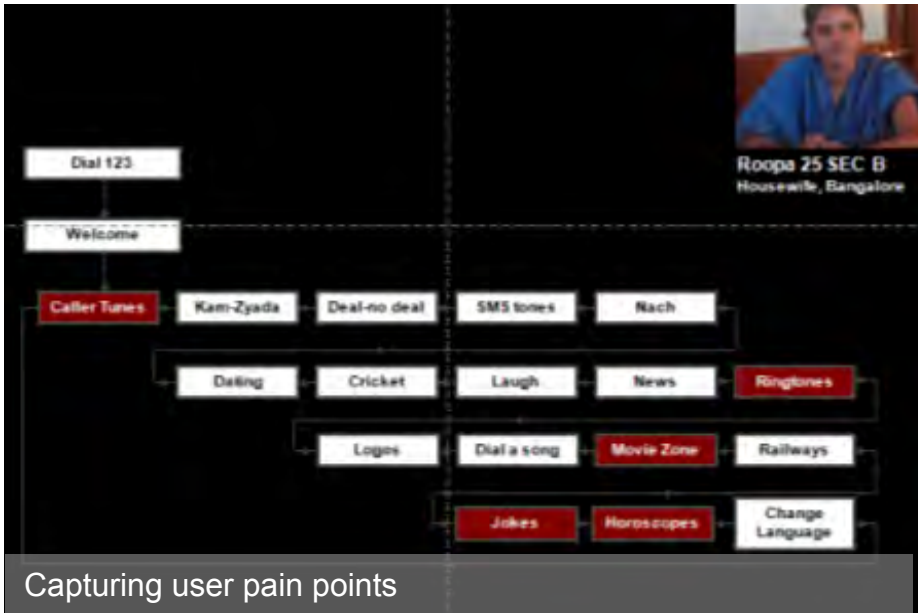
Validation of paper prototype

Validation of product prototype

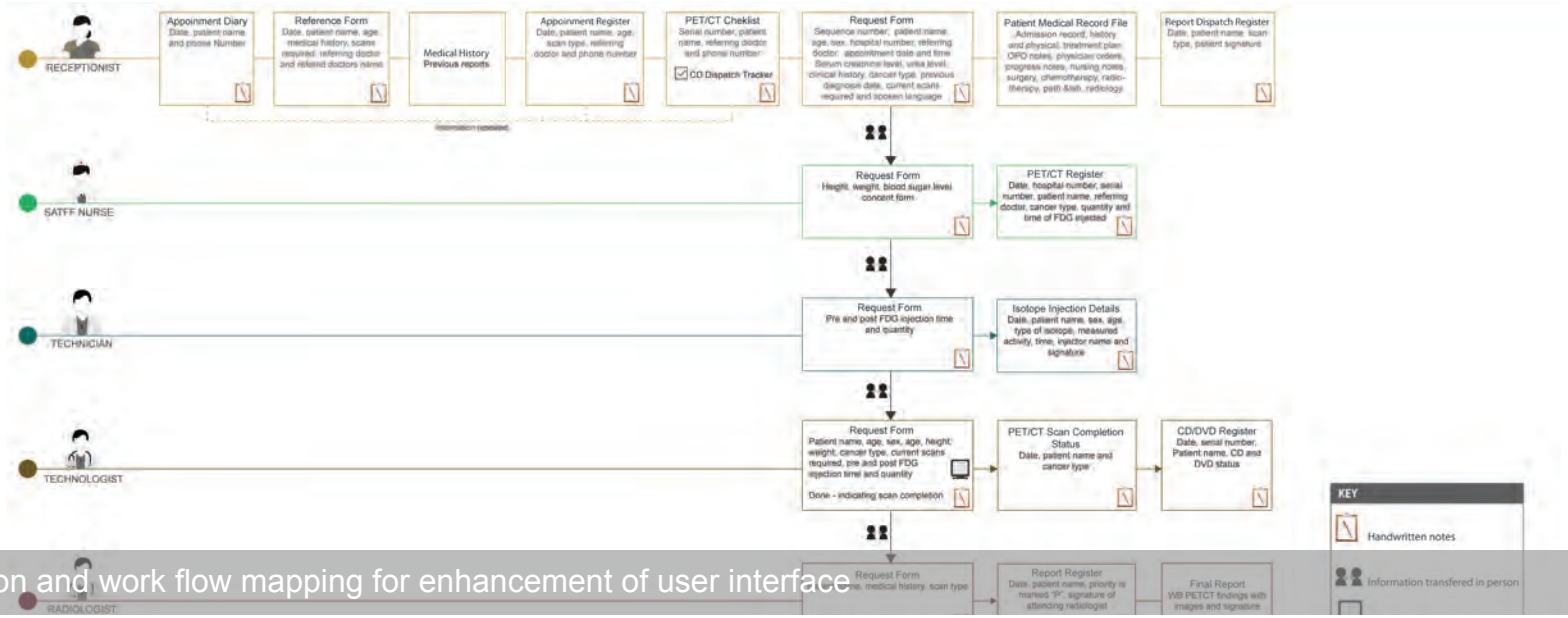
Usability testing in a lab environment

Enhance: User Experience Enhancement

User experience definition and enhancement



Capturing user pain points

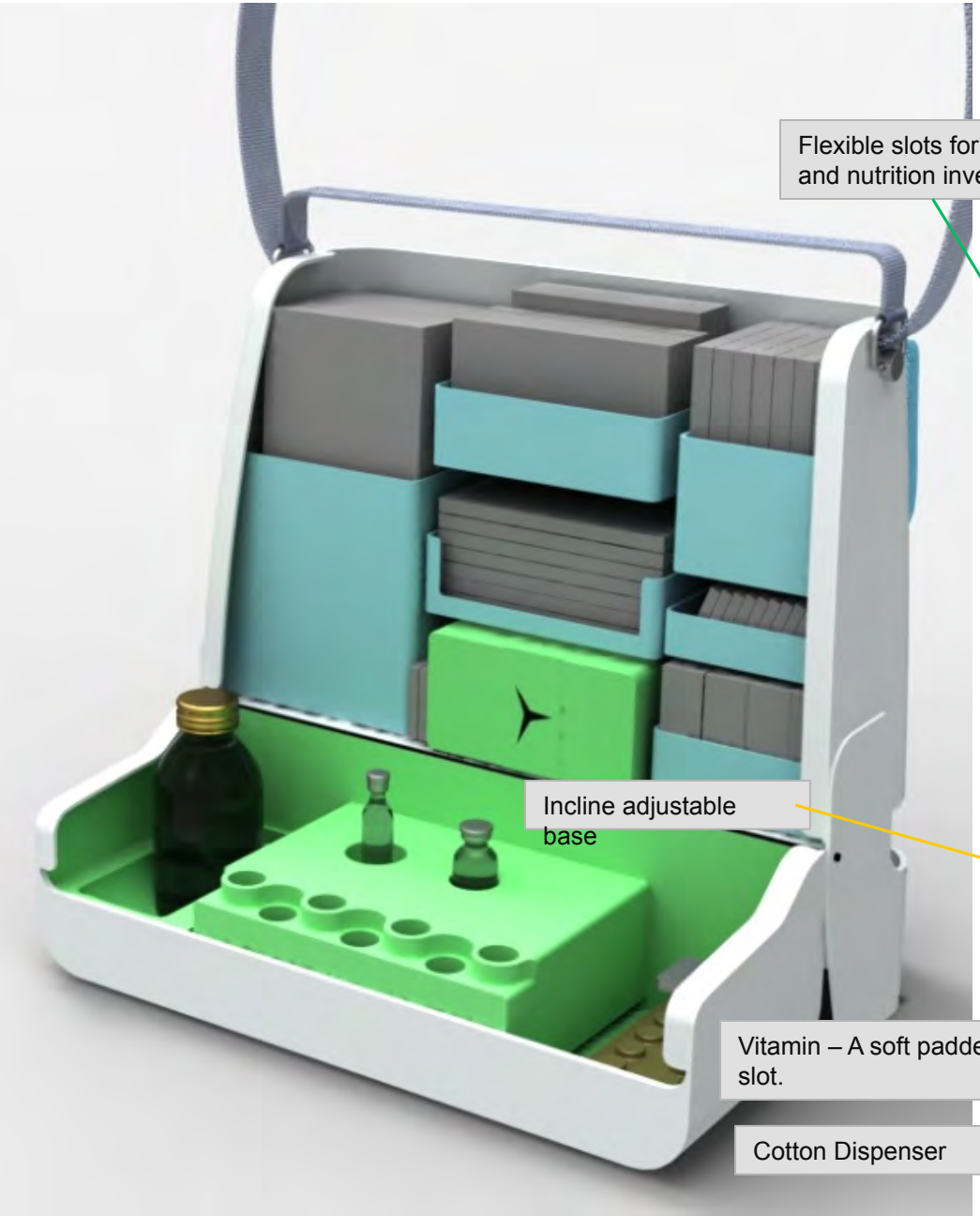


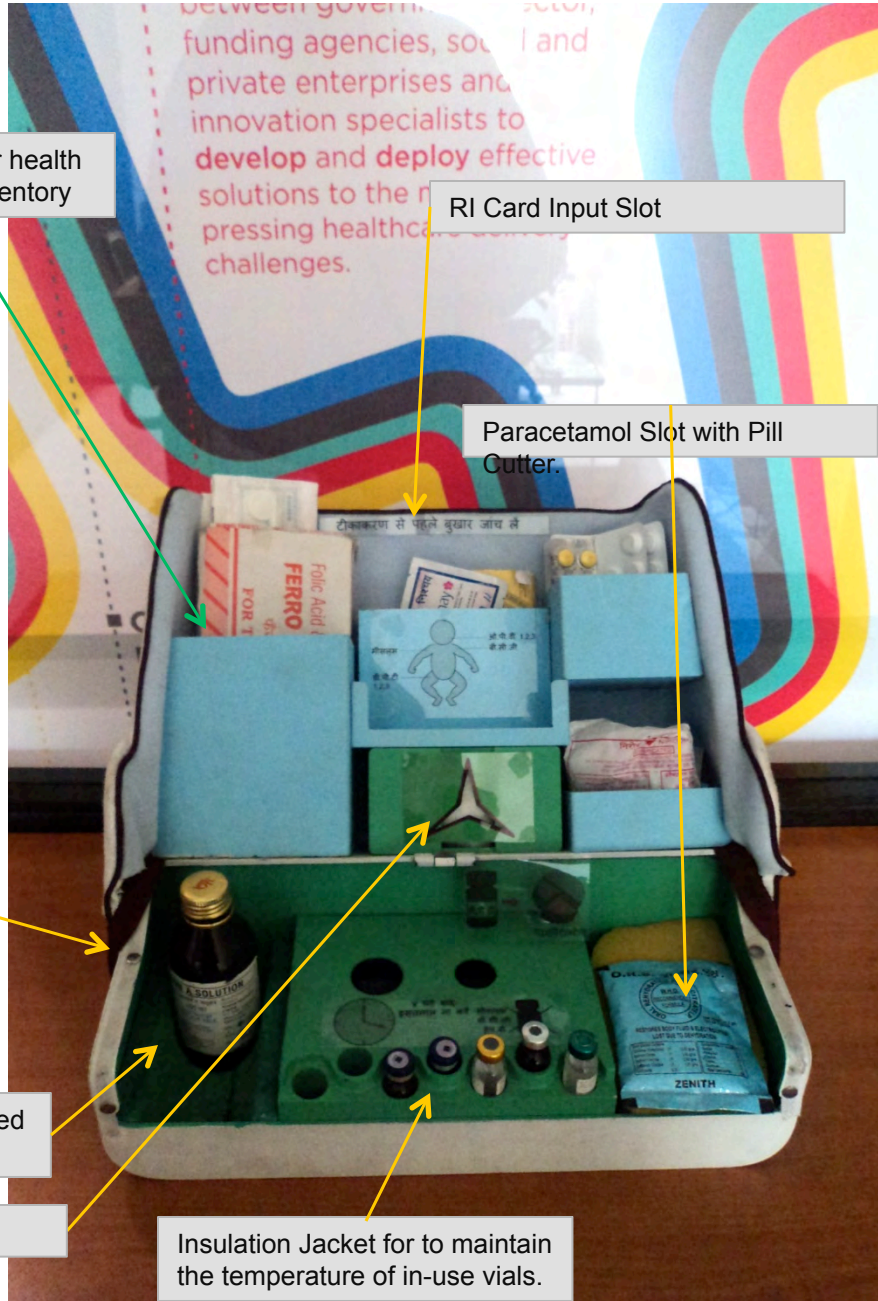
Information and work flow mapping for enhancement of user interface

34 Ways of Save Lives

Meta Category	Meta Concepts	Component Solutions
Managing Health Information	Tracking Solutions for ANM	Recipient Tracking Record
		Personal Digital Assistant
	Tracking Solutions for ASHA	Recipient Tracking Record
		Applications on Mobile Phone
	Tracking Solutions for Recipients	Health Form
		Smart Card
	Audio Services for FHWs and Recipients	Audio Services for Registration
		Robo Callsfor Notification
		IVRS for Real-time Assistance
	Data Aggregation and Planning Tools	Integrated Database
		Multi-purpose Coverage Area Map
		Real-time and Dynamic Microplan
Enhancing Service Delivery Infrastructure	Immunization Site Design	Fixed Outreach SessionSite
		Temporary Outreach Session Site
		Mobile RI Clinic
	Mobility Solutions	Cycle for ASHA
		Motorized Cycle Rickshaw
Improving Medical Equipment	Comprehensive Vaccine Services Delivery Kit	Vaccine Plus Kit
Strengthening the Healthcare System	Work Tools for FHWs	Action Tools for ANM
		Action Tools for ASHA
	Advanced Training for FHWs	Training for ANM
		Training for ASHA
	Supportive Supervision for Effective Monitoring and Feedback	Technology and Additional Resources for Mentoring and Monitoring
Transforming Community Perceptions	Repositioning Maternal and Child Health Services	Branding Through Logo and Tagline
		Tokens of Child Protection – iTawiz
		Professional Identity for ANM
		Professional Identity for ASHA
	Engaging the Community	Active Below the Line Communication
		Interactive Installations at Community Hot-spots
	Motivating Mothers and Family	Communication through Mobile Phones
		Maternity Celebrations
		Meetings for Mothers
		Gifts and Incentives for Immunization

The Vaccine Delivery Kit





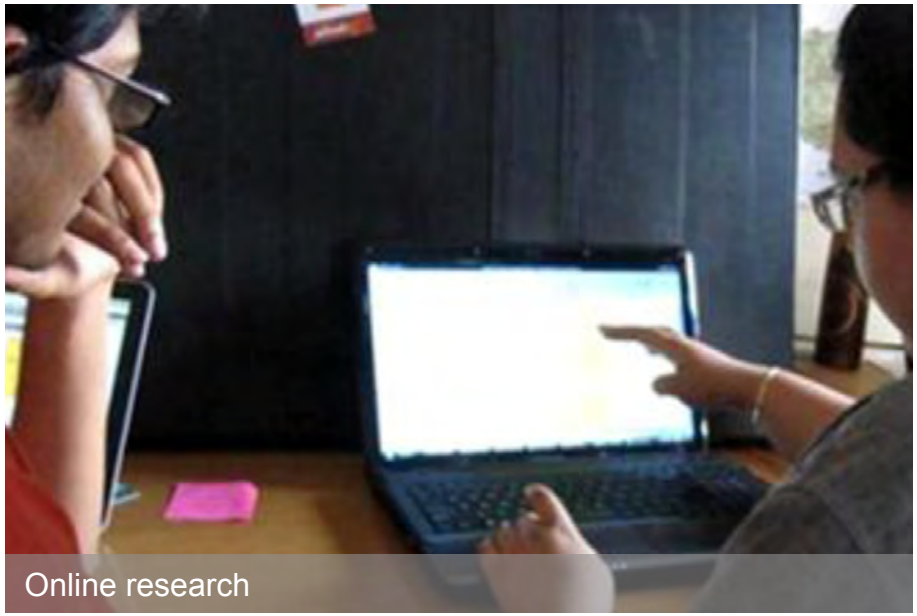
HEALTH

Service Providers

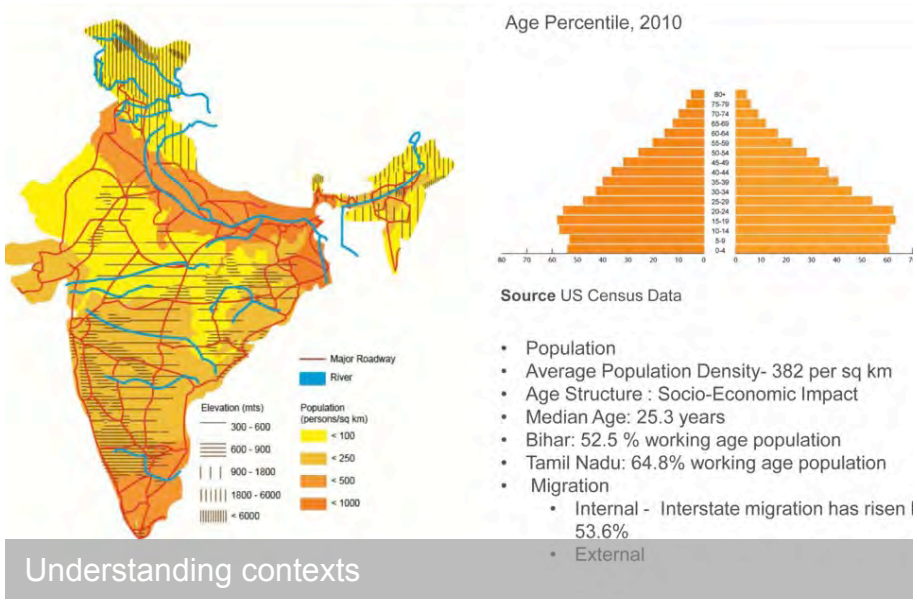
	BEING	HAVING	DOING	INTERACTING
SUBSISTENCE				
PROTECTION	corrupt	security		
AFFECTION				
UNDERSTANDING	uneducated, ignorant, motivation, careless	information, finding trained staff, sources of information, archive, explanation and communication, health-knowledge, accurate information, manual records, new medicines, local information, procedures, information and communication platform, linguistic variation	tracking systems, record systems, health related information , translating	large organization
PARTICIPATION	misconception,trust, careless, corrupt,	time, trained staff, training program, local services, specialized doctors, income, affordability, government system, appointment system, authority, community relationships	many beneficiaries, government procedures, guidance, waiting for medicines, time consuming process, harsh working conditions, coordination, assitance, migration	
LEISURE				
CREATION		infrastructure, blood bank, operation theatre, ambulance facility, equipments, electricity supply, water supply, ICT facilities, computer and internet facilities, funds, customer service centres, long distance, public transport, construction of roads, vehicles, stress management programs, incentives, staff, heirarchy		
IDENTITY				
FREEDOM				

Methodology

Secondary Research



Online research



Understanding contexts

- CKS will begin its work in the project by undertaking a process of secondary research including a review of previous CKS work in the sector, as well as material collected and referenced by LIRNEasia

- Online research will also be conducted to gather information about the three countries, and the specific research locations chosen

- CKS researchers will seek to collect broad information about the nature of service offerings available to urban BoP populations in mobile telecom, electricity and governance across the three countries

Expected Outcomes

→ Contextual understanding of the three countries and specific research locations chosen
→ Understanding the nature of mobile telecom, electricity and government services available to BoP populations in urban slums
→ Identification of available services that best align to those relavent to the project e.g., services that are paid and consumed individually
→ Guidelines for research design

Research Design

Creating templates for documentation

The use of interview guides on field

- Based on secondary research, CKS will create recruitment questionnaires, field guides and interactive field tools. These questions and probe points will be valuable during the study to extract crucial and focused information from users.
- Activities for the community group design activity will be designed during this stage
- Templates for the documentation of field data, both through visual and textual formats will also be created
- This will be followed by team briefing sessions for field research preparation

Expected Outcomes

→ Overall research alignment plan
→ Finalizing user profiles and sampling
→ Research team induction and finalizing research tools

Ethnographies at Service Provision Sites

Queues at sites of service provision

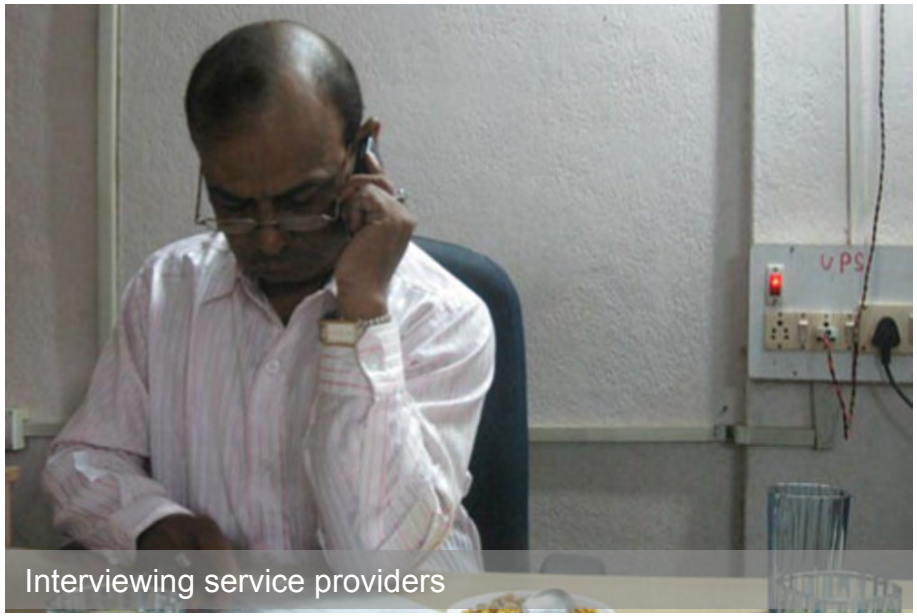
Service provider – customer interactions

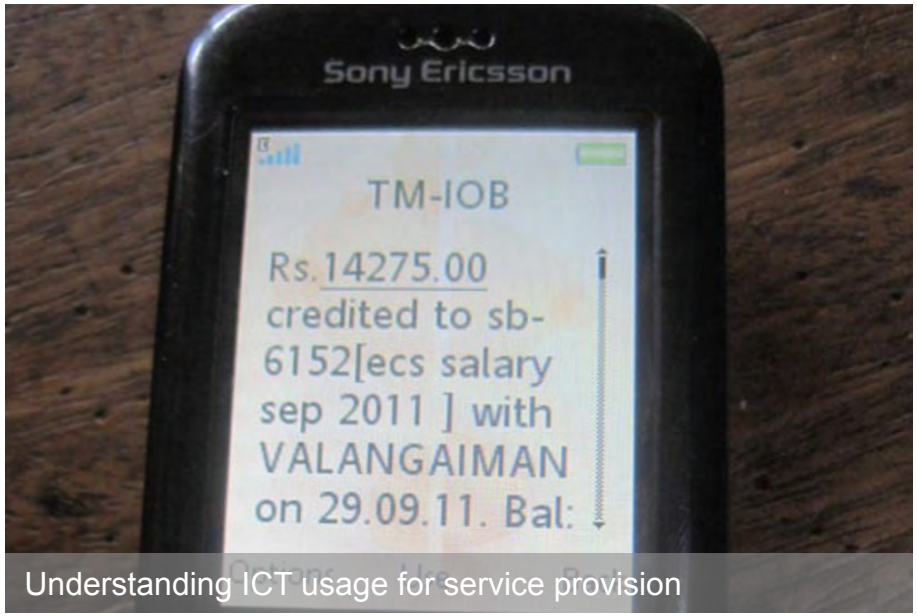
- CKS proposes to conduct ethnography at sites of service provision over the course of a day, in the three chosen sectors
- The sites or offices chosen will be those that accommodate customers for various purposes, such as registration, information, bill payments, and complaints and so on
- At the sites, CKS researchers will employ tools of participant observation as well as visual and design documentation in order to understand the various interactions, their modalities and nature, between customers and service providers
- The relationships and interactions between various personnel within the office, as well as with customers will be mapped, with a particular emphasis given to information flows during these interactions.

Expected Outcomes

→ Understanding the nature of services available to BoP in urban slums
→ Mapping service provider – customer relationships through transactions and interactions
→ Identifying information needs and flows that can be translated into future ICT based service design elements

In-depth Interviews with Service Providers


Interviewing service providers



Understanding ICT usage for service provision

- In order to acquire a detailed understanding of customer relationship management practices, CKS researchers will conduct in-depth interviews with service providers who are customer touch points for the organizations within the three chosen sectors
- These interviews will be conducted with service providers observed during the day ethnographies at sites of service provision
- Through these interviews, CKS researchers will understand the use of ICT or lack thereof, for service provision and delivery
- We will understand challenges during customer interactions, and techniques to overcome them, in order to identify points of intervention for new ICT enabled service designs

Expected Outcomes

→Understanding customer relationship management practices
→Capturing the use of ICT in service delivery
→Mapping the gaps within service delivery

In-depth Interviews with Customers

In-depth interviews with customers

Understanding micro-entrepreneurship

- In order to understand the service delivery needs and challenges from the perspective of its end users, CKS will conduct in-depth interviews with customers of the three chosen sectors.
- These interviews will allow CKS researchers to identify challenges in the process of availing a service.
- Stories narrating various experiences in dealing with service providers, for a range of purposes will be captured and documented during these interviews.
- The existing use and comfort levels of ICTs, especially mobile voice, internet and more-than-voice services will also be understood to inform service design concepts.

Expected Outcomes

→Understanding user experiences of service delivery
→Capturing mobile usage patterns, especially in relation to access to services
→Identifying creative and coping mechanisms

Community Group Design Exercises

Community group discussions

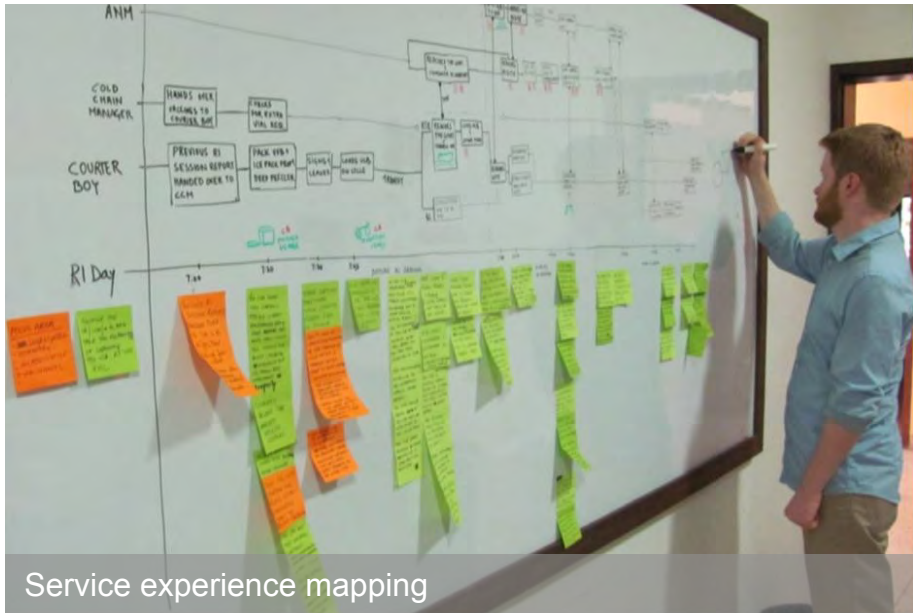
Group opinion voting

- In order to realize the challenges in availing services that are broad based, CKS researchers will conduct community group discussions with customers
- During these discussions participants will undertake design exercises that use activities and games as stimulus to elicit possible solution areas for the challenges identified.
- CKS researchers will moderate these activities and subsequent discussions in order to identify a user perspective of the most pressing requirements in relation to customer relationship management.
- These exercises will provide insight into how customers perceive their challenges, the mechanisms through which they currently cope with them, and how they would wish to overcome them in the future

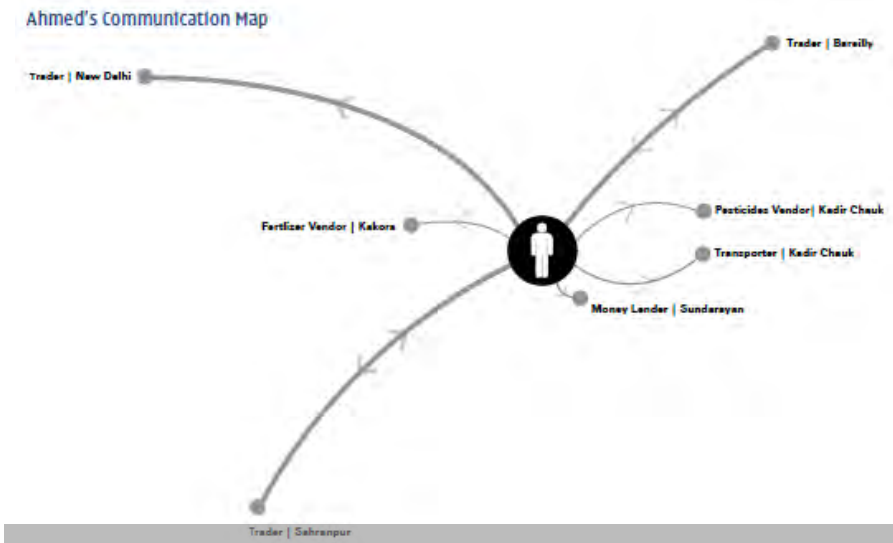
Expected Outcomes

→Capturing collective narratives
→Validation of common user experiences
→Preliminary ideas for service design

Experience Mapping



Service experience mapping



Network diagrams

- CKS will extract and mine all data from interviews and observations, in order to begin its design analysis.
- The first step in the process involves the creation of experience maps capturing the experience of a customer while interacting with a service provider.
- These maps describe in detail the various interactions, including exchanges of dialogue, artifact and information, between customers and service providers.
- The experience map will organize in sequence and record the interaction from its beginning to its end
- This will allow us to identify pain points in order to arrive at areas of intervention that will benefit from the use of ICT enabled services specifically for the electricity and governance sectors.

Expected Outcomes

→Granular analysis of the elements of user experience
→Identification of ‘pain points’ or ‘points of frustration’
→Identification of possible points of ICT based interventions

Use and Failure Case Analysis

Tracking Children and Work Activities

Use Case Code	Scenario	Evidence Source	Information Challenge
TW_4	ASHA does not ensure that all recipients who have been mobilized by her have come to the site and have been administered vaccine by the ANM		No communication between ASHA and ANM to cross-check between recipients mobilized and recipients who have received RI
TW_5	In case where the recipient has lost or damaged the RI card, ANM does not issue a new RI card due to shortage or uncertainity about her authority in reissuing of cards, leading to tracking challenges in the subsequent sessions		
TW_6	Due to shortage of health cards, the ANM sometimes issues RI card to new recipients on temporary formats such as a paper chit, and is not often replaced with an RI card later		
TW_7	In the absence of an RI card if the mother/ ASHA fails to recollect the due dose and the ANM is unable to track the child in her register, there is no alternate source to avail this information. This leads to errors in vaccine administration as the ANM estimates the due vaccine based on an approximation of the child's age		RI card and ANM's registers are the only source of information
TW_8	FHWs find it difficult to identify recipients based only on the father's name when there are overlaps		
TW_9	As the ASHA makes a copy of the beneficiary list generated by the ANM instead of creating her own due list, recipients who missed the session and hence are not recorded in the beneficiary list are likely to fall out of the system permanently		No records of recipients who miss an RI session
TW_10	ANM is required to maintain a number of registers for RI often with repeated information sets, and she finds record keeping burdensome and time consuming		

IdentifyingRegisteringLocating | SessionPlanning&Management | SessionExecution&Logistics | TrackingChil

Mapping Use Cases

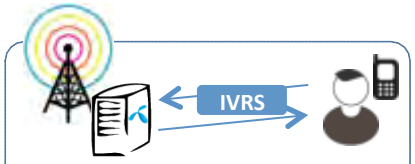
- Based on all field findings the CKS team will undertake use and failure case analysis across the three sectors and four locations.
- In the first stage, use case scenarios for ICT enabled service delivery in the mobile telecom sector will be identified in order to determine specific elements of customer relationship management that can be transferred or translated for the other two sectors.
- In the second stage use and failure cases for service delivery in electricity and governance will be identified.
- These cases will allow us to identify specific challenges areas that need to be addressed as well as enhancements to existing ICT based services which will be taken forward during subsequent design and concepting activities.

Expected Outcomes

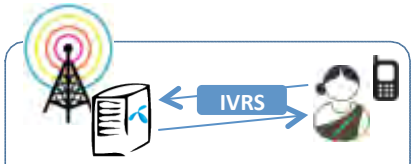
→Mapping and comparing CRM practices and user experience across sectors and countries
→Identifying best practices in CRM
→Identifying granular as well as meta-level challenges
→Identifying opportunity areas for ICT intervention

Internal Concepting Workshop

Brainstorming



- The automatic voice call confirms the details.
- Customer keys in ******(his pin)
- The server **authenticates** the pin and processes the transfer.



- The **receiver** gets a voice call/ SMS with details of the deposit.
- Also the details of nearest Telenor touch point.

Service concept development

- Using the experience maps as well as the use and failure case analysis as stimulus, the CKS team will enter into an internal concepting workshop conducted in two stages.
- During the first stage ICT enabled services in the mobile telecom sector will be storyboarded in order to create a database of service designs to be referred to during the second stage of the workshop.
- This will be followed by the second stage, where ICT enabled service provision in the mobile telecom sector will be reviewed in light of specific challenge areas in customer relationship management in electricity and governance sectors.
- This review will be aimed at arriving at opportunity areas for new service design concepts. Multiple concepts will be generated rapidly using a template that specifies the use and failure case addressed.
- Various aspects of the service design concepts will be detailed out, and translated into storyboards once they have been reviewed and refined internally.
- These service design concepts will be used as stimulus during the expert collaborative workshop.

Expected Outcomes
→ Generating multiple CRM concepts

Expert Collaborative Workshop

Reviewing collected data

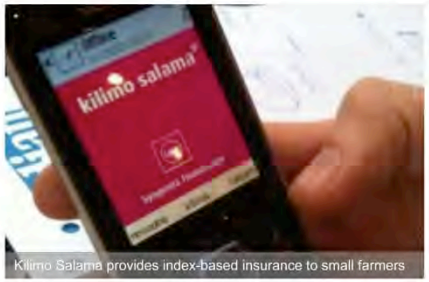
Prioritizing concepts

- In order to review, validate and prioritize service design concepts, CKS will conduct a two day collaborative workshop with service design experts in the three sectors.
- Preliminary field findings as well as analysis will be shared with the experts through presentations, subsequent to which service design concepts created during the internal concept generation workshop will be presented to the experts for review.
- These concepts will be prioritized based on their feasibility, viability and desirability.
- Based on feedback gathered during this workshop, the CKS team will further refine concepts that have been validated and prioritized.
- This will be followed by storyboarding of the final concepts.

Expected Outcomes
→Validation of multiple generated concepts
→Refinement of most promising concepts
→ Prioritized set of solutions sets

Deliverables

Kilimo Salama



Kilimo Salama provides index-based insurance to small farmers

Location: Kenya
Date of Launch: 2010
Target: Small Holder Farmer
Category: Network Application
Technology: SMS, USSD, WAP
Service Provider: Safaricom
Partner: Syngenta Foundation for Sustainable Agriculture and UAP Insurance Limited
Status: Operational

Description
Kilimo Salama offers weather index/micro-insurance to small holder farmers in Kenya. This 'pay as you plant' allows farmers to "try out" insurance.

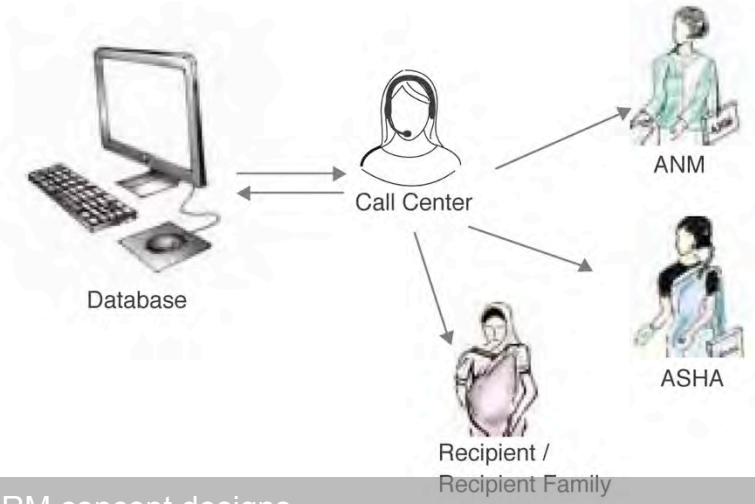
Weather stations ensure timely collection and reporting of weather data.

Phone numbers linked to a weather station receive a confirmation of their payout through M-PESA via SMS.

Experience shows that as farmers learn to trust insurance, they expand their coverage and are comfortable investing more in their farm, raising their productivity and increasing their food security.

Takeaway
- Provision of index-based insurance for smallholder farmers and claim payments made through M-Pesa

Visual and textual documentation

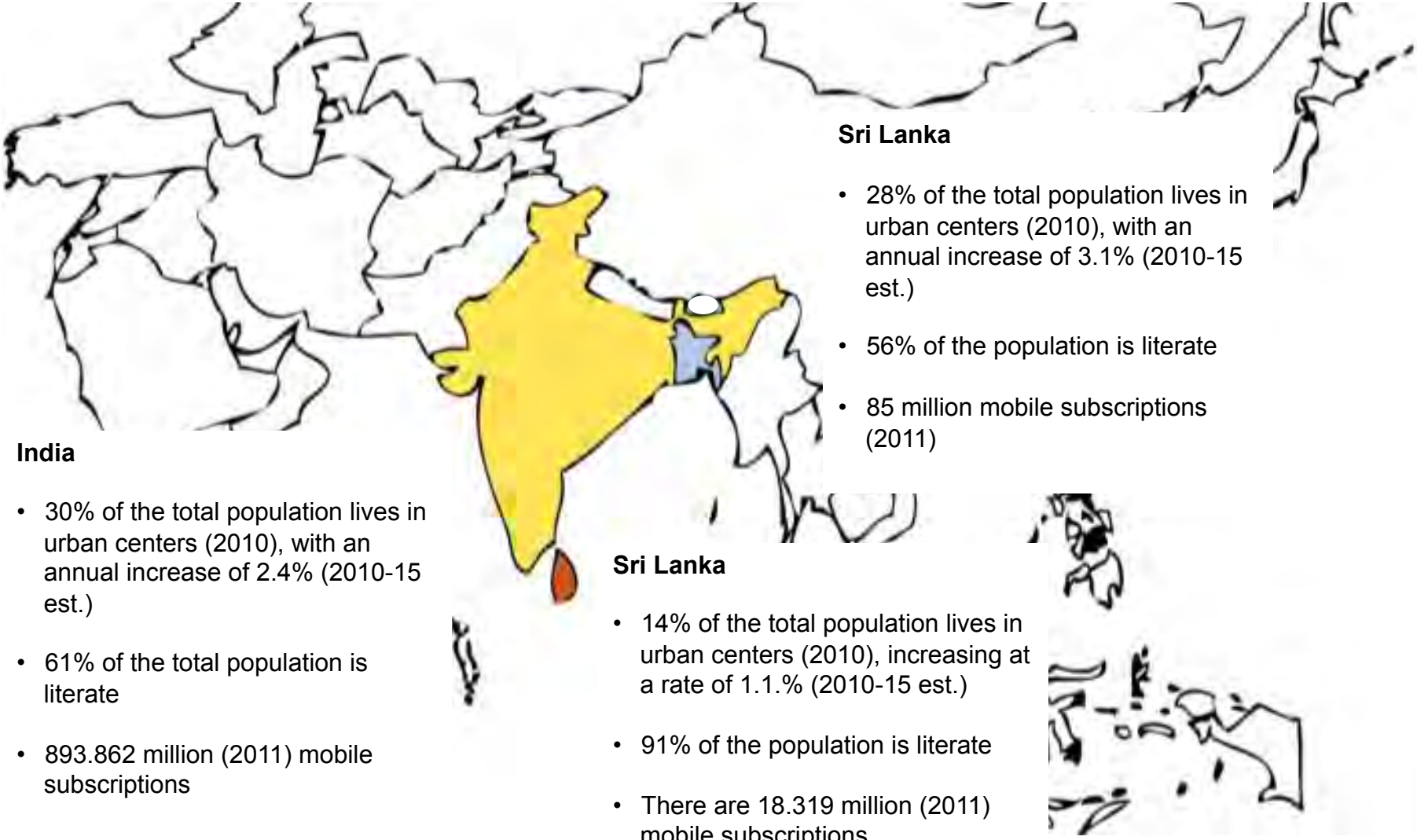


CRM concept designs

- The final deliverable will take the form of a report in .ppt format
- The report will outline the process and methodologies undertaken during research and design analysis
- Key insights from field work conducted in different countries as well as challenge and opportunity areas identified during the analysis sessions will be documented
- The report will also illustrate the storyboards of the service design concepts in electricity and governance sectors so they can be presented to stakeholders and decisions makers representing the two sectors
- Prior to the final report, CKS will create an executive summary outlining key findings and service design concepts for the immediate presentation to stakeholders

Location & Sample

Locations



India

- 30% of the total population lives in urban centers (2010), with an annual increase of 2.4% (2010-15 est.)
- 61% of the total population is literate
- 893.862 million (2011) mobile subscriptions

Sri Lanka

- 28% of the total population lives in urban centers (2010), with an annual increase of 3.1% (2010-15 est.)
- 56% of the population is literate
- 85 million mobile subscriptions (2011)

Sri Lanka

- 14% of the total population lives in urban centers (2010), increasing at a rate of 1.1.% (2010-15 est.)
- 91% of the population is literate
- There are 18.319 million (2011) mobile subscriptions

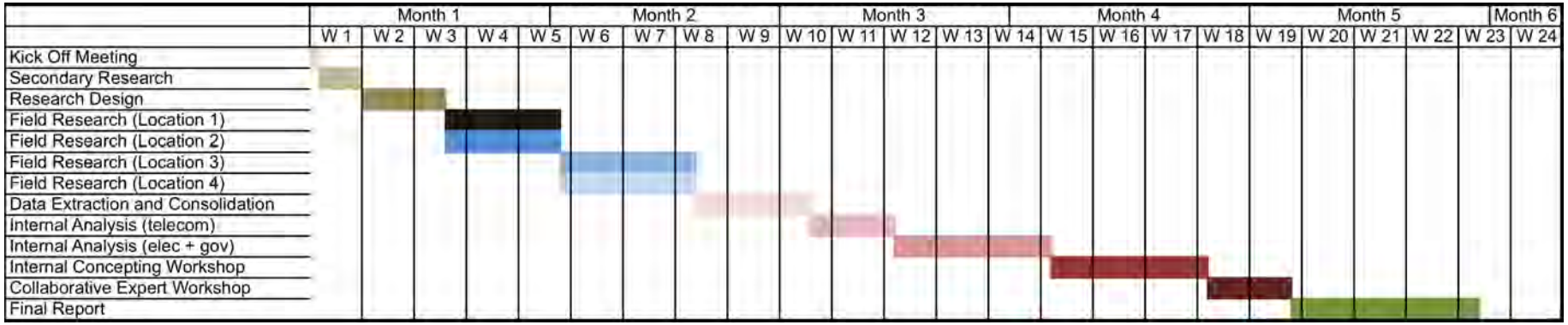
*source CIA factbook

Sample

Protocol	Sector	Age	Gender	Occupation	SEC	Mobile Usage
Service Site Ethnographies	Telecom	-	-	-	-	-
Service Site Ethnographies	Electricity	-	-	-	-	-
Service Site Ethnographies	Governance	-	-	-	-	-
Service Provider Interviews	Telecom	-	-	Recharge Agent	-	-
Service Provider Interviews	Telecom	-	-	Customer Care Center Employee	-	-
Service Provider Interviews	Electricity	-	-	Manager / Administration / Engineer	-	-
Service Provider Interviews	Electricity	-	-	Lineman / Technician	-	-
Service Provider Interviews	Governance	-	-	Local Ward Member / Local Government representative	-	-
Service Provider Interviews	Governance	-	-	Government Agents / Administration		-
Customer Interviews		36 - 45	Male / Female	Micro-entrepreneur	C/D/E	Calls, texts, uses VAS
Customer Interviews		26 - 35	Male / Female	Micro-entrepreneur	D/E	Calls, texts, uses VAS including mobile internet
Customer Interviews		18 - 25	Male / Female	Student / Salaried employee	D/E	Calls, texts, uses VAS including mobile internet
Customer Interviews		26 - 35	Male / Female	Daily Wage Earner	D/E	Calls, texts, uses VAS / would like to use VAS
Community Group Design Activity		26-35	Male	Micro-entrepreneur / Self employed	C/D/E	Varying

Management and Logistics

Timeline


Month 1
Month 2
Month 3
Month 4
Month 5
Month 6
W 1
W 2
W 3
W 4
W 5
W 6
W 7
W 8
W 9
W 10
W 11
W 12
W 13
W 14
W 15
W 16
W 17
W 18
W 19
W 20
W 21
W 22
W 23
W 24
Kick Off Meeting
Secondary Research
Research Design
Field Research (Location 1)
Field Research (Location 2)
Field Research (Location 3)
Field Research (Location 4)
Data Extraction and Consolidation
Internal Analysis (telecom)
Internal Analysis (elec + gov)
Internal Concepting Workshop
Collaborative Expert Workshop
Final Report

Global Partnerships and Vendor Management

CKS's footprint

- CKS has been undertaking multi-country studies in emerging economies of the world since the last 8 years. In the process of our research, we have forged several strong regional partnerships with different research organizations in South and South-East Asia, the Middle – East, Africa and South America.

- CKS research team will travel to all the research locations two days before the actual protocols to conduct dummy field work and also ensure that the recruitment is carried out properly

- In all countries, CKS researchers will be assisted with the translators and local researchers. CKS researchers will debrief after each day's protocol in each location, and information gathered in the day will be digitized and analysed.

Make New Things Possible