

VOICES THAT COUNT

INTRODUCTION

mSurvey™ uses SMS (simple message service)/texting features on mobile phones to aggregate and visualize data within communities. mSurvey™ is used by local community members in collaboration with non-governmental organizations [NGOs], agencies, and local governments to carry-out assessment, evaluation, and documentation within communities. We overcome the financial and time constraints normally associated with undertaking surveys and data collection, including reaching across the barriers of different time zones.

Quite often, many “good” projects fail due to the lack of community integration, insufficient community feedback and awareness; and the lack of current data. The failure creates significant financial dilemmas and does not access the necessary information to solve the critical issues in the communities. mSurvey™ empowers local community members to offer feedback as data aggregators within their immediate areas. As a result, communities become more tightly engaged in the development processes as contributors to the vision and sustainability of development.

The technology is developed to dynamically assess issues in the local regions and to cross-reference data, which is significantly necessary for understanding community dynamics that are otherwise not obvious. We believe that many of the prolonging concerns in the process of development are significantly complex and therefore need approaches that can capture the relationship in data across many disciplines.

TECHNOLOGY

mSurvey™ digs deeper for data by accessing conditions in urban and rural areas in developing regions using mobile technologies tailored for the demographic. Other organizations use technologies such as online surveys and PDA surveys. These processes seem to work in



developed countries, but lack the significant reach and penetration needed in developing countries. mSurvey™ uses the growing omnipresence of mobile phones used by the general population. Due to the lack of the technological infrastructure in developing countries, it is a difficult and sometimes an impossible task to get the significant data needed. We understand the dilemma, which was the impetus behind the development of mSurvey™. Our integration supports local industry by integrating our system with local wireless companies, IT organizations, and community members.

INNOVATION

We focus on collecting, aggregating, and visualizing data for ad-hoc analysis. The customary approaches to data aggregation is quite challenging to assess the ongoing dynamics within communities that are consistently affected by displacement, health, education, poverty, crime, and other unknown variables. We realize that with more data directly from communities, we can use customized algorithms to search and clarify many unknown issues that can help the process of development. In addition, we realize that poverty is a major concern of development, therefore our system aggregates data at no cost to the community members while offering a financial payment structure for engaging in the ongoing assessment of their communities. We communicate with community members through SMS messaging and surveys in regions of assessment.



The communities assess their current conditions by responding to mobile surveys which are processed and analyzed dynamically. NGOs, governments, social scientists, and philanthropist get a real-time view of the community dynamics and can use data to develop new approaches and projects. Our core innovations are the bi-directional interaction we enable between underprivileged communities and project developers, and the poverty alleviation payment structure of employing beneficiaries as enumerators.

Our payment structure methodology uses reward minutes and mobile banking, which may have been a foreign instrument until the introduction of mSurvey™— research has shown, mobile phones significantly improve financial access.

OUR APPROACH

We built the mSurvey™ system with the philosophy of building relationships within communities. We believe it is imperative to engage communities in the process— helping them realize where their answers are being put into effect. Many times

survey methodologies take a very top-down approach to collect data. We tend to see this differently. If the communities are made aware how much their data count and what they say contribute, they are keen to contribute for more cohesive, integral and sustainable results.

We are aware of the many pitfalls observed in the collection of data and survey techniques that have attracted significant debate. Some of these issues include distant participation, data accuracy, and response rate. We find it beneficial for distant participation. Respondents are more comfortable with offering honest assessment. Survey professionals note that feedback using internet-based surveys significantly offer direct “non-pressured” feedback, which is a model we use in the mSurvey™ approach. We apply a Participatory Rapid Appraisal [PRA] + technology model. Our payment structure enables higher response rates. The direct communication with respondents allows more refined and accurate data. We tailor our approach to mitigate these concerns and are constantly working towards further improvement.

	PRA	Survey Research	Ethnographic Research
<i>Duration</i>	Short	Long	Long
<i>Cost</i>	Low to medium	Medium to high	Medium
<i>Depth</i>	Preliminary	Exhaustive	Exhaustive
<i>Scope</i>	Wide	Limited	Wide
<i>Integration</i>	Multidisciplinary	Weak	Weak
<i>Structure</i>	Flexible, informal	Fixed, formal	Flexible, informal
<i>Direction</i>	Bottom-up	Top-down	Not applicable
<i>Participation</i>	High	Low	Medium to high
<i>Methods</i>	Basket of tools	Standardized	Basket of tools
<i>Major research tool</i>	Semi-structured interview	Formal questionnaire	Participant observation
<i>Sampling</i>	Small sample size based on variation	Random sampling, representative	None
<i>Statistical analysis</i>	Little or none	Major part	Little or none
<i>Individual case</i>	Important, weighed	Not important, not weighed	Important, weighed
<i>Formal questionnaires</i>	Avoided	Major part	Avoided
<i>Organization</i>	Non-hierarchical	Hierarchical	Not applicable
<i>Qualitative description</i>	Very important	Not as important as 'hard data'	Very important
<i>Measurement</i>	Qualitative or indicators used	Detailed, accurate	Detailed, accurate
<i>Analysis/Learning</i>	In the field or on the spot	At office	In the field and on the spot

figure 1.0: Matrix of data aggregation methodologies



APPLICATIONS

We have used the mSurvey™ system to collect general data from communities in Dandora and Kibera located in Kenya, Africa. Our data collection process captured more data than we anticipated. During the data collection process, we observed how involved and engaged the community members were in answering the questions and their willingness in offering very clear feedback—knowing how they were contributing. We tailored the technology to be used by anyone in the community either through the direct SMS, or through the help of a community or family member. The data collection carried out in Africa helped us to refine our technology to make it more intuitive and engaging for an inclusive representative audience. We anticipate the mSurvey™ system can be used to:

- Get to know more about the communities
- Help with the strategic planning of projects
- Get project assessment and updates from community members
- Find out about the labor market of the regions, i.e. who knows what skills that may be useful in learning and transferring technologies
- Observe community dynamics and trends
- Increase project visibility and awareness

RECENT ACTIVITIES

We have undertaken studies and tested the technology in two major settlement communities in Kenya: Dandora and Kibera. We have offered mSurvey™ workshops at the UN World Urban Forum, Rio Brazil and at the InterAmerican Development Bank. We are in correspondence to assess selected communities in Bangladesh by the United Nations Development Program (UNDP). Our organization received seed grants and support from the Legatum Center, Venture Mentoring Service Program, and the Public Service Center at MIT. We continue to work with local community organizations in Kibera, Kenya, UrbanIT, a local IT company in Nairobi, Kenya and Safaricom in Kenya. We continue to integrate the mSurvey™ technology into the current processes of surveying and data aggregation for global application.

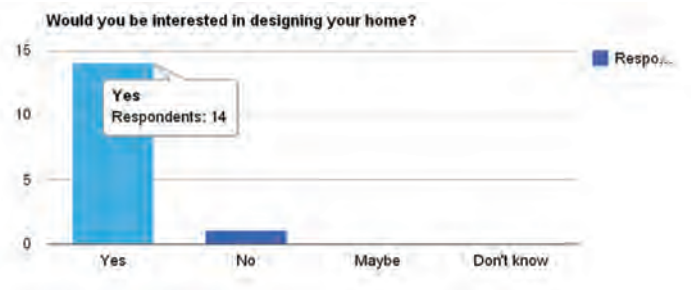
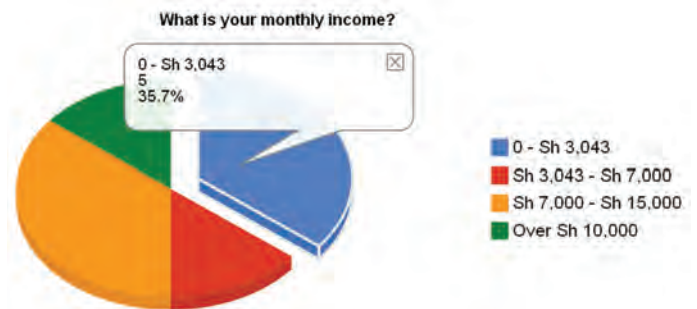


figure 2.0: sample questions and data from Kenya



ABOUT US

Kenfield Griffith (Co-Founder) – Kenfield’s interests predominantly focus on the dissemination of technologies as accessible platforms that promote sustainable design for global development. Ken’s investigation is tailored towards the flexibility of technologies for cultural and geographical invention/innovation. Kenfield is a PhD in the Design and Computation group at MIT. Kenfield has a background in computer science, architecture, and engineering systems. Kenfield assists with the engineering and design of mSurvey’s technology. His main roles are to liaison mSurvey™ with communities, develop the logistics of mSurvey, develop the design and deployment of mSurvey, and develop the layout of the mSurvey™ model. Kenfield was born and raised in Montserrat, West Indies.

Andrew Hoy (Co-Founder) – Andrew is a graduate of MIT where he studied chemistry. Andrew has a history of engineering projects around his computer science credentials with a very diverse background in developing new online and communication technologies. Andrew continues to engineer and deploy multiple features of the mSurvey™ model. Andrew’s major roles are to engineer the modular design of mSurvey™ and integrate the process with mobile devices. Andrew also assists with the design decisions of mSurvey™ and optimizing the process for efficient data capture. Andrew has previously researched bio-energy and helped design bioreactors that can transform biomass into energy with the Biological Energy Interest Group. Andrew has an interest in developing technologies to support development in developing countries. Andrew was born and raised in Massachusetts.

David King (Software architect) – Dave is a graduate of MIT with a degree in computer science and electrical engineering. King has over 12 years of experience in all aspects of software development from database design to user interfaces to the management of software development teams. He has been involved in numerous startups and is currently the senior software architect at SynQor, Inc – an international company that King helped to grow from a team of 12 in 1999. At SynQor he specializes in extensible systems for ad-hoc data visualization of very large scale manufacturing

databases; however, Dave has been looking for ways to leverage technology to address issues in the developing world ever since living in Calcutta, India in 2009. He joined mSurvey in 2010 to work on their data and graphics platform – helping to develop a data analysis system that supports real-time visualization, ad-hoc query capability, and web delivery of static reports to end users around the globe.

Q & A

Q – How do you deal with ensuring the randomness of a survey sample when required?

A – *mSurvey™ aggregates a significant amount of data such that we find it easier to write algorithms that randomize results based on user query.*

Q – How do you manage the issue of multiple users of one cell phone and who the actual survey taker is?

A – *We aim at getting as much information needed from communities. However, we track cell phones by unique users.*

Q – Do the pre-existing algorithms limit the user to a certain type of survey question (yes / no, ratings, etc) or can you have any kind of survey question you want?

A – *Our system is open to ask any question needed by users of mSurvey™.*

Q – How does this methodology change the dynamics and benefits the communities?

A – *The cost of the surveys is used as incentives for the community members. We have observed that community members tend to discuss the issues within groups that significantly contributes to a new way of thinking and discussion.*

Q – How do you insure an honest answer?

A – *We treat each answer as an honest answer. However, because the system is inexpensive and easy to deploy, data analysts can cross-check data quicker. mSurvey™ makes it less cumbersome and more cost-effective to do follow-up surveys.*

FEEDBACK

We are happy to play a role in the communities you serve and offer any support we can. Please contact us with your questions, concerns, and feedback on how our technology can help you achieve your goals.