Humanitarian Innovation Fund

Case Study

Mobile technology: listening to the voice of Haitians

Organisation: Haitian National Red Cross Society (HRC) and the International Federation of the Red Cross and Red Crescent Societies (IFRC)
Project: Mobile technology: listening to the voice of Haitians
Partner: Trilogy International Partners
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Location: Haiti

www.ifrc.org

HIF project profile

Haitian calling 733: the Telefon Kwa Wouj phone line

Summary

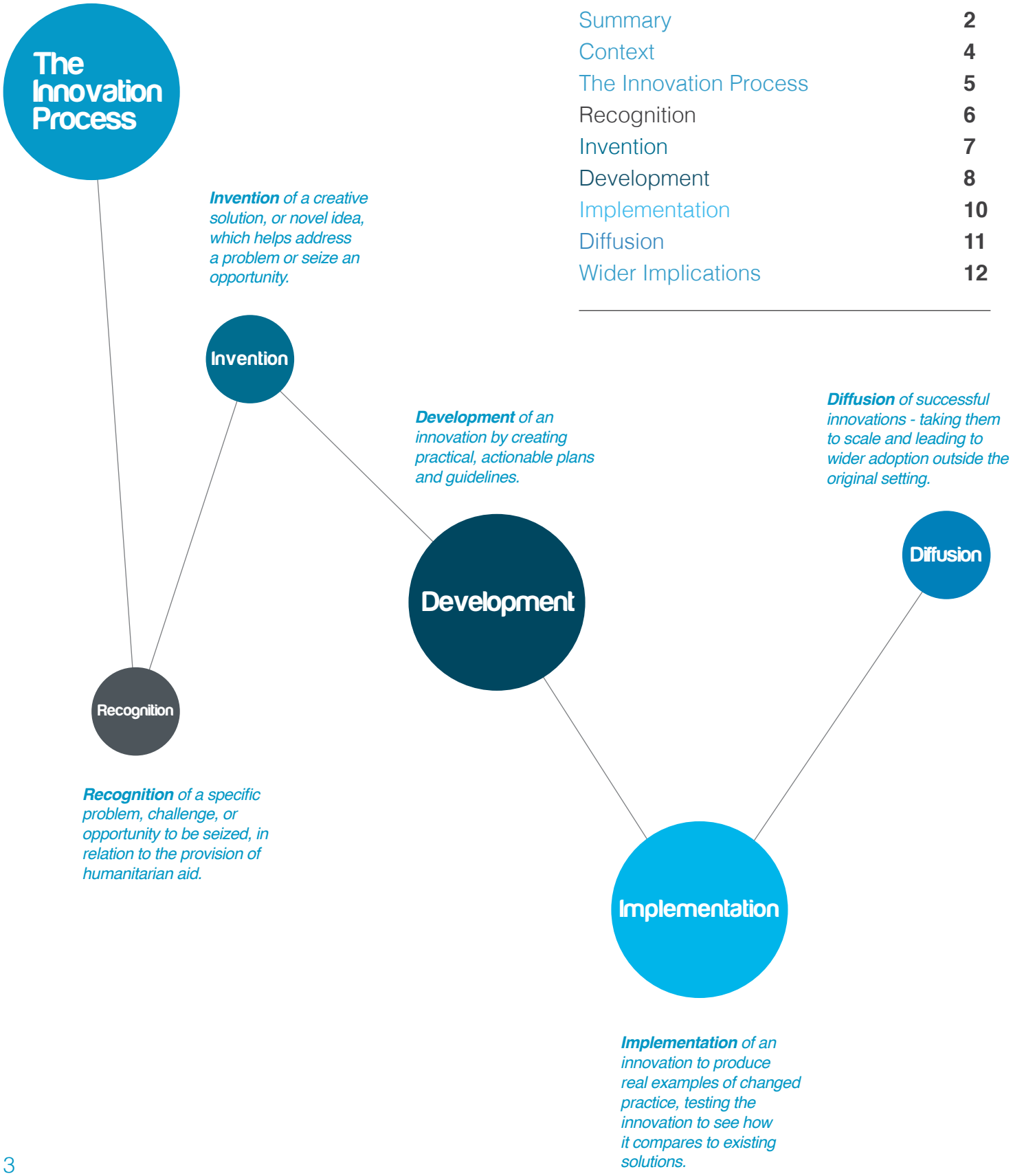
This case study analyses the innovative development and use of an Interactive Voice Response (IVR) system for the first time in a humanitarian setting by the International Federation of Red Cross and Red Crescent Societies (IFRC) through the national society, the Haitian Red Cross (HRC). Haiti's 2010 earthquake was a major opportunity for international aid agencies to address the challenge of improving two-way communication with disaster-affected communities – a facility emphasised as central to emergency response following previous disasters. The IFRC sought to use mobile technology to disseminate crucial information and to gather beneficiary feedback about its operations, to enable greater accountability of international agencies to local communities and to allow these communities a greater decision-making role in its disaster response efforts.

In view of the Haitian population's extensive engagement with mobile phones, the IFRC designed a system that used SMS to communicate brief health or disaster information and also alerted users to a free phone line offering access to more information via an IVR system. The free phone line allowed users to select automated voice recordings of information of interest to them through the keypad on their phone; they could then respond to surveys on IFRC programmes and operations and offer knowledge on particular subjects, again using the mobile phone keypad to select a response from the options provided. The Humanitarian Innovation Fund (HIF) provided funding to enable an IVR hub to be built according to the needs of the IFRC and piloted in the context of the Haiti response.

This case study explores how the IFRC's Beneficiary Communications programme used institutional experience and the expertise of wider partners to design the IVR system. It describes the process involved from the recognition of a need for innovation through to the implementation of the innovative IVR system. It seeks to highlight critical points in the process, such as challenges and opportunities, and the significant factors involved in shaping the stages of invention, development and implementation. It draws out wider implications for enabling innovation to occur in the broader humanitarian context, such as the importance of collaborating with external partners, embedding innovations into wider operational strategies and creating space for new thinking, as well as calculating risk and remaining flexible in approach.

This study was based on interviews with previous and current staff involved in different stages and aspects of the project, as well as a review of project literature, conducted in January and February 2014. The study is part of the series produced by HIF with the aim of enhancing understanding of the emergence of innovation in humanitarian settings in order to improve facilitation of such innovation through HIF funding in the future.

Contents



Context

The Haiti earthquake of 12 January 2010 attracted one of the largest humanitarian responses since the 2004 Indian Ocean tsunami. Haiti suffers chronic vulnerabilities such as systemic poverty, fragile governance and insecurity as a result of many factors including a predisposition to natural disasters and a long history of political instability. These vulnerabilities compounded the devastation wrought by the earthquake, whose epicentre was located just 10 kilometres beneath an urban area where 86% of the population lived in slum conditions. More than 500,000 people were injured or killed, and 2.3 million – almost a quarter of Haiti's population – were displaced[1]. The death of 25% of government and civil service personnel reduced the already weak national capacity for response[2], and the international relief effort was therefore crucial.

This earthquake was a major opportunity for humanitarian agencies to apply lessons learned from the 2004 tsunami. At the forefront was the need to improve communication with disaster-affected communities, as evaluations referenced poor information flow as a major source of frustration[3]. In the Haitian context, much improvement was made in the delivery of messages to beneficiaries, yet establishing a dialogue that would increase the accountability of aid agencies to them remained a considerable challenge[4]. Developing systematic methods for listening to beneficiaries was beginning to be seen as a core objective for humanitarians, in order that communities might participate in shaping appropriate interventions[5].

The potential of mobile technology to provide solutions to this challenge is being explored globally, and Haiti's rapidly growing mobile market has meant mobiles prove a cost- and time-efficient means to communicate with large numbers of people. Successfully used to monitor population displacement through SIM card tracking[6] and to distribute disaster preparedness information through SMS, mobile phones have also offered an opportunity to engage a wider array of voices and to empower those who remain marginalised in contexts where traditional participatory methods are used[7]. Since poor literacy levels[8] posed a limitation in using SMS as the only method of communication, more inclusive feedback mechanisms were ripe for exploration by the IFRC.

The IFRC is the world's largest humanitarian and development network, and through the Haitian Red Cross (HRC) it conducted the largest single country operation in its history. Active since 1932, the HRC has always partnered with communities to identify and prioritise the needs of the most vulnerable in emergency response. For the first time in a major disaster, the IFRC recognised the need to develop a Beneficiary Communication programme as an integral part of the operation strategy from the outset. Various technological and mass media communications tools, including radio, SMS and free phone lines, were used to contribute to its goal of establishing dialogue with communities, with the IVR innovation playing a major part. These tools were used to provide vital health and disaster preparedness information, facilitating feedback from communities with the expectation that this will contribute to increasing their decision-making power in shaping programmes and operations. The IVR represents a tool for application beyond this scenario.

[1] *UN (2010). 'Haiti: 6 Months after…' Available at: http://www.un.org/en/peacekeeping/missions/minustah/documents/6_months_after_commemoration.pdf*
[2] *Patrick, J. (2011) Haiti Earthquake Response: Emerging evaluation lessons, Evaluation Insights working paper, no.1. Available at: http://www.oecd.org/dac/evaluation/dcdndep/48321181.pdf*
[3] *Global Public Policy institute (2010). Inter-agency real-time evaluation in Haiti: 3 months after the earthquake. Available at: http://www.unicef.org/evaluation/files/Haiti_IA_RTE_final_Eng.pdf*
[4] *Quintanilla, J (2012). When communication really matters: the experience of CDAC in Haiti [online] Available at: http://www.odihpn.org/the-humanitarian-space/blog/when-communication-really-matters-the-experience-of-cdac-in-haiti*
[5] *Ljungman, C.M. (2012) CDAC Haiti Learning Review - report commissioned by the Communicating with Disaster Affected Communities (CDAC) network. Available at: www.cdacnetwork.org/sites/www.cdacnetwork.org/files/cdac0612_haiti_lr_005_full_l.pdf*
[6] *Bengtsson, L. et al (2011) Improved Response to Disasters and Outbreaks by Tracking Population Movements with Mobile Phone Network Data – A Post-Earthquake Geospatial Study in Haiti – PLOS Medicine Journal. Available at: www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001083;jsessionid=BA6AEC2DC467EFD46AC4488256EA1829.ambra02*
[7] *Save the Children and the Vodafone Foundation (2012) 'Mobile technology in emergencies: Efficient cash transfer mechanisms and effective two-way communication with disaster-affected communities using mobile phone technology'. Available at: www.savethechildren.org.uk/sites/default/files/docs/Mobile_Technology.pdf*
[8] *UNESCO Institute for Statistics (2010). Available at: http://www.uis.unesco.org/Pages/default.aspx*

The Innovation Process

Despite their unpredictable and dynamic nature, there are often similarities in the stages through which successful innovations progress.

It is therefore useful to understand the innovation process when trying to capture why particular innovations succeed or fail. There are various models to describe the innovation process, but HIF uses a model that is based on five stages:

- *the recognition of a specific problem or challenge*
- *the invention of a creative solution or novel idea that addresses a problem or seizes an opportunity*
- *the development of the innovation by creating practical, actionable plans and guidelines*
- *the implementation of the innovation to produce real examples of change, testing it to see how it compares with existing solutions*
- *the diffusion of successful innovations – taking them to scale and promoting their wider adoption*

These five steps provide a useful archetype for the innovation process, and are used in the HIF case study methodology. But they come with the caveat that innovation is complex and non-linear, and identifying deviations from this model is just as important as (and possibly more so than) confirming the applicability of the model itself when documenting the progression of an innovation.

Mobile technology: listening to the voice of Haitians

Recognition

***Recognition** of a specific problem or challenge*

This innovation is framed within the IFRC's commitment to tackle the humanitarian legacy of poor communication with disaster-affected populations and to increase the decision-making role of these populations in programme design. The IFRC acknowledged that the prevalence of mobile phones across the developing world offered technology that could facilitate this.

The opportunity to innovate was influenced by a few significant factors. Firstly, the capacity derived from a delegated role, the Beneficiary Communication Delegate, specifically created to enhance beneficiary communications, was crucial. The IFRC's experience in the tsunami led to a strategic decision to finance a Beneficiary Communications programme into its immediate earthquake response, allowing space to consider how best to engage the indigenous population.

Secondly, the limitations of the mobile technology first explored for two-way communication demonstrated the need for an alternative approach. The Trilogy Emergency Relief Application (TERA)[9] SMS system set up initially was successful in disseminating information, as large numbers accessed health information via a distributed phone number during the cholera outbreak of October 2010. However, the poor response to an SMS survey highlighted the need for a technology that circumvented barriers of low literacy and cultural unfamiliarity with using SMS, but that would capitalise on the apparent ease of engagement with mobile phones.

Thirdly, the appreciation of collaborative partnerships in previous disaster experiences helped position the IFRC to acknowledge the potential for innovation with the right expertise. The Irish Red Cross and IFRC's use of mobile technology during the tsunami provided awareness of how to connect with and explore the capacities already available to local telecommunication providers to address the problem.

IFRC phone line - SMS System

[9] *A mass SMS application developed by Trilogy for the IFRC*

Invention *of a creative solution*

This innovation was considered to address the need for a low-cost, time-efficient method of engaging beneficiaries in the recovery process without requiring literacy. It adapted a combination of mobile technologies already available and used by the telecommunications sector. The overarching objective of improving the suitability and efficacy of humanitarian operations was to be achieved by developing two-way communication between the HRC and beneficiaries by:

- adapting TERA (Trilogy Emergency Relief Application) to improve the dissemination of information to beneficiaries
- developing an IVR (Interactive Voice Response) system on a free phone line (Telefon Kwa Wouj/ short code *733) that both broadcasts information and gathers feedback

Both of these concepts were conceived out of discussions with senior management at Trilogy - which owned a telecommunication network in Haiti named Voilà – after IFRC made contact with them to engage their support in exploring how to get critical information about health, hygiene and disaster response to Haitians. The proposal stated that Trilogy would continue to adapt the TERA SMS system and another company would be contracted to develop an independent, custom-designed IVR hub to be under the management, and for the specific use, of the IFRC and HRC. The HIF funding enabled a pilot project by the IFRC, within their Haitian recovery effort, over an18-month period that would later be sustained by HRC, with contributions from telecommunication service providers through provision of free calls and text messages. The aim, however, was to secure a global agreement and licence to later deploy the TERA technology developed across all global contexts in which the IFRC works, along with the IVR model.

The system would work by using TERA to send an SMS message directing recipients to new or pertinent information accessible by calling the free Telefon Kwa Wouj phone line, also known as the *733 phone number. Users would be able to phone and select pre-recorded information using the mobile phone keypad, and/or give responses to an automated voice survey by selecting a multiple choice option via the keypad. The data gathered would be analysed to inform the content and approach of operations and to guide the Beneficiary Communications programme with regard to what information was most demanded by users. This would be freely accessible through the two major telecommunication providers in Haiti: Digicel and Voilà.

It was at this stage that the project proposal was submitted to the HIF at its first round of large grant funding. The HIF's independent Grants Panel noted the strong composition of the team and the wider beneficiary communications programme, as well as the clear and thoughtful project methodology, and collaborative approach to working with the private sector.

Development

Development *of practical, actionable plans and guidelines*

The development phase encompassed two processes that were managed under the Beneficiary Communications programme: adapting the TERA SMS system, and designing and building the IVR hub. The first three months (June–August 2011) had been earmarked for completing the IVR system and the adaptations of TERA, although the former took significantly longer.

The provision of a specific budget for the Beneficiary Communication programme allowed the IFRC to invest in a dedicated team, which later included an IVR development manager to facilitate the emerging innovation. The innovation benefited from the experience brought into the team and from their capacity to seek out expert advice in order to navigate the novel aspects of the process. The Beneficiary Communications Delegate at the outset, Will Rogers, produced practical plans in collaboration with Ian Beckett, Vice President of Information Systems and Technology at Trilogy. As a major decision-maker Beckett was instrumental in driving forward a cohesive organisational approach to remodelling TERA within the allocated time-frame. He also provided assistance with proposing the IVR system. An affinity with the organisational structure of the IFRC and the clear management structure within the HRC contributed to an easy working relationship with Trilogy on TERA.

In collaboration with the IFRC, Trilogy developed the 'Trilogy Emergency Relief Application', which is an SMS gateway developed to enable the HRC to connect to the infrastructure of a telecommunications company to mass-message populations while minimising the network capacity used. The result is that important information from aid agencies can be sent by SMS to a mass audience without risking an overload of the system that might cause failure during critical periods such as emergencies. The HRC sends text messages though an online site to the SMS gateway based on the server within the telecommunications company.

The adaptations of TERA involved increasing its user-friendliness. These included setting up a test that could verify whether the online site and server were communicating properly to ensure messages were being dispatched. Secondly, they continued to address low receptivity towards mass-messaging by adapting TERA to target geographical areas with context-specific information more flexibly. This was achieved by sending messages to individual cell towers able to access mobiles that have used the tower within a certain time-frame. Thirdly, they tailored different reply options to SMS messages in order to gather as much relevant and useful data as possible from any SMS feedback.

Advertisement for IFRC's phone line

***Development** of practical, actionable plans and guidelines*

The IVR underwent a more complex development phase. It was based on a model produced by Vocantas, a specialist IVR developer, which involved adapting a content management system used to store and send health-related messaging. Although the IVR hub was planned for completion by the end of the first three months, the need for a customised IVR system that could be managed by those without technical expertise elongated the process. The need for two IVR hubs to be built and housed on the premises of both participating Haitian network service providers – but within the original budget – complicated it further. This was finally enabled by redistribution of other budget allocations and significant negotiations with Vocantas, which gave generous cost reductions as part of a promotion of its Corporate Social Responsibility engagement. Nevertheless, these two obstacles meant the process took almost a year.

The IVR development plan, however, was highly flexible and exploited new opportunities for deepening beneficiary input to the design of the system. The IVR development manager, recruited from within Haiti, used both her cultural knowledge and her technical experience from working at Digicel to span the local, international and technological spheres of actors involved. Tasked with researching IVR usability and producing the IVR scripts (the specific wording recorded for users to listen to) she facilitated group discussions in Creole and gained deeper clarity on messaging and phrasing needed by beneficiaries. The IVR underwent a second round of testing with more than 100 people listening to audio examples, and more than 200 scripts produced to ensure the IVR information appealed to a wider audience. This extended period also enabled greater preparatory planning for the publicity of the IVR phone line through the radio and through IFRC sound trucks[10] operating in camps where the HRC worked.

The IVR was designed with an intrinsic ongoing development function, whereby data on the scripts accessed would inform the continuous refreshment of the material uploaded and ensure beneficiaries were targeted with relevant and additional in-depth information on the subjects most demanded. For example, the specific areas affected by Cholera outbreaks were regularly updated with the relevant context-specific prevention information. Just as significant, was that scripts were tailored to the needs of wider IFRC programme strategies in Haiti, so that data on script usage would facilitate teams in being able to adjust the targeting of their programmes and sensitisation strategies to optimise their effectiveness.

One of the limitations of the 'switch' systems used by Voilà and Digicel was that they were not able to directly transfer IVR callers to other numbers, such as ambulance services, as had been previously planned. Although a bridging system could have been deployed, whereby a caller could be transferred and use two IVR lines rather than one, this would have consumed too much IVR system capacity and been financially prohibitive. Instead, the IVR recordings included lists of useful telephone numbers.

Reflection on this stage suggests that where an innovation requires coordination with actors outside the humanitarian sphere, anticipating time to negotiate their engagement is as critical to the innovation process as configuring technology correctly. A longer than expected time-frame for technical development enabled greater inclusion of partnering stakeholders, and this advanced the impact of the innovation. The endorsement of a broadcasting regulator facilitated the engagement of Digicel, which enabled all Haitian mobile users to call Telefon Kwa Wouj for free.

[10] *A well-established method of public communication in Haiti where trucks are equipped with loudspeakers and a microphone*

Implementation *to produce real examples of change*

The IVR phone line Telefon Kwa Wouj was finally launched on 28 May 2012 with an extensive publicity campaign. TERA was used to send SMS messages nationally across Voilà network users. Billboards and street banners with the *733 number were in place around the capital Port-au-Prince for six months, and sound trucks were deployed in camps where the IFRC worked. The radio was a particularly significant aspect of the campaign. In the initial aftermath, radio was the most effective tool for communicating information[11] and was considered the most trustworthy source[12], which meant the presence of IFRC on radio also established it as a reliable resource. Regular radio slots as part of the wider Beneficiary Communications strategy to provide information such as malaria prevention and gender-based violence messaging enabled the IFRC to encourage listeners to use the IVR phone line.

From the first day, the IVR phone line has been a popular tool with Haitians. Within nine months, more than 1million calls had been received, averaging one call every 26 seconds and 3,398 calls per day[13]. Of these callers, 80,000 had fully completed surveys.

As an intrinsically confidential way of accessing information, the IVR has given the IFRC an accurate picture of the information most demanded by beneficiaries by tracking the number of times the individual scripts have been listened to. The simple process behind re-recording IVR scripts made it relatively easy to update them, keeping them 'fresh' for regular callers and made it simple to develop more scripts around high-demand material, such as sexual health advice.

The extent of its success, however, presented problems in dealing with the large quantity and complexity of output data. Technical complications resulting from the high volume of calls caused data downloads to be slow and unreliable. Furthermore, the difficulties in getting the IVR operational had drawn personnel resources away from planning the management of data before it was functioning. Although a data analysis officer had been recruited in advance, the unprecedented quantity and complexity of data made this a much larger job than anticipated. Considerable support by key personnel from the IFRC Planning, Monitoring, Evaluation and Reporting (PMER) Department, and Steve Powell, an IFRC consultant, was a central factor in enabling Beneficiary Communications to navigate the implementation stage of the project.

A major obstacle in this phase related to concerns about the accuracy of the survey response data and whether people understood how to use it. Data analysis and subsequent research with focus groups suggested that, because the phone line was free, the surveys were being used as a game. Most people were selecting the first response option, with progressively fewer selected as the options went on. The theory was tested by reversing the survey options, which revealed the same pattern. The IFRC was able to respond to this 'game' culture by making more of the surveys like a quiz, using these to test knowledge. Prizes for the first callers to provide a full set of correct answers were promoted through the radio, and the results from incorrect responses were used to tailor the material on the IVR or interventions to address knowledge gaps.

There are further developments to be made, relating to the way in which feedback from programme-specific surveys is processed. Initial concerns about the accuracy of data meant that the IFRC was reluctant to formalise feedback data that might initiate unnecessary changes to programmes, and instead used informal discussions with programme managers to consider the impact to programmes. Investing in a clearer or more formal process for sharing and responding to feedback might be significant. It would not only communicate a more serious commitment to the downward accountability of humanitarian organisations, but might also create a means by which to identify further need or space for innovation as the organisation evolves its operations in response to the context – as demonstrated in the example above.

[11] *Nelson, A. & Sigal, I. (2010) Media, Information Systems and Communities – Lessons from Haiti – report for the Communicating with Disaster Affected Communities (CDAC). Available at: network www.pbs.org/mediashift/Haiti%20Report%20English%2001.10.11-4.pdf*

[12] *Internews (2011) Providing Humanitarian Information to Flood-Affected People in Pakistan – Baseline Study, Sindh & Punjab, November–December 2010 – research report supported by infoasaid. Available at: infoasaid.org/sites/infoasaid.org/files/Infoasaid_Research.pdf*

[13] *FRC (2013). Haiti Beneficiary Communications Review. Available at: http://www.ifrc.org/PageFiles/121469/1253602-Beneficiary-Communications-Evaluation-Report-A4-EN-03.pdf*

Implementation *to produce real examples of change*

The system, as it stands, is vulnerable to competing priorities within the telecommunications operators. For example, when Voilà was taken over in October 2012 by Digicel the IVR experienced disruption and TERA was lost, although Digicel continued to send SMS messages in large numbers upon request. This demonstrates the issues that can result from innovations that are still in some way dependent on partner organisations.

Reflecting on the implementation process highlights how an innovation's success in achieving its purpose is as much about its position within a broader strategy implemented right from the start as it is about the innovation itself. The IVR has received a continuously high volume of calls, with the caller satisfaction survey functionality, added in July 2012, reporting that 70% of callers were satisfied with the service, 88% would use it again and more than 90% would recommend it to a friend. This shows the innovation to have succeeded in enabling time-effective feedback according to the needs of the agency, while at the same time being contextually relevant to communities. However, the IFRC is recording growing numbers accessing information directly from HRC personnel via previously established channels of communication, such as the sound truck visits and the manned Noula phone line[14]. This is a reminder of the IVR's limitations in comparison with face-to-face communication, which enables HRC to gather more context around the data received. The focus groups conducted by the IVR Development Manager continued to gather this, which highlights its need to be a part of a broader strategy to ensure ongoing and deeper accountability on the part of the agency.

Diffusion *of successful innovations - taking them to scale and leading to wider adoption outside the original setting.*

The Haiti earthquake was one of the highest-profile disasters in the media after the 2004 tsunami, and there has been global interest in how agencies in Haiti have sought to address the problems of poor communication with beneficiaries. The IVR, which recently reached the milestone of two million users, demonstrates it to be an innovation with an ongoing relevance even four years after the earthquake that instigated its development. It has therefore not been short of academic, humanitarian and technological spheres in which to profile its potential for transforming two-way communication among the humanitarian sector at large.

Sharing this work has been integral to the purpose of the Beneficiary Communication programme, which has taken part in a wide range of external conferences for the UN, DFID and others. Moreover, the creation of this dedicated programme team within the structure of the IFRC, for the first time in the organisation's emergency operations, has helped to disseminate the concept of this innovation. Numerous internal IFRC conferences and reports have provided a platform for evaluating the impact of the new team on the success of the Haiti response.

IFRC's commitment to increasing the involvement of beneficiaries across its network means the application of TERA and the IVR to IFRC's programmes around the globe has been considered throughout its development. An agreement with external parties for the use of the TERA technology by the IFRC anywhere in the world has already allowed it to be explored in operations in Nepal, Sierra Leone, Pakistan and Kenya. Furthermore, the learning captured through the innovation process in Haiti will be transferred into new operational contexts, initially through the deployment of key personnel previously involved in the original innovation. However, it is worth noting that limited budgets prevent a replication of the same beneficiary communications structure. This might reduce the time and resources dedicated to the project, and thus also the capacity to respond to or recognise the

[14] *The Noula Phone line was set up to allow beneficiaries to speak directly to an operator, independent of IFRC, about HRC shelter projects*

Diffusion

__Diffusion__ of successful innovations - taking them to scale and leading to wider adoption outside the original setting.

need to innovate further. Nevertheless, these applications of the innovation in different settings still represent major opportunities for demonstrating the impact of technological innovations such as this on the wider humanitarian world.

A broad interest in the application of technology to humanitarian settings has been important for providing many platforms for sharing the concept of the innovation – such as through academic journals[15], blogs[16] and mainstream media publications[17]. However, the level of collaboration with the private sector has made this innovation of particular interest to a wider audience. Not only have the commercial interests of Vocantas garnered opportunities to share the innovation through opportunities to promote its pivotal role in charitable work[18], but a growing engagement of private companies in the sphere of development and humanitarian response warrants exploration of the role they can fulfil for common philanthropic interests.

IFRC staff speaking to beneficiaries about the project

Wider Implications

Collaborating with external partners, and internal cross-departmental personnel

Innovation involves the use of unfamiliar processes, technologies and skills, which must be facilitated by those with experience and strengths if it is to succeed. In this particular case, the private sector played a significant role, initiating the concept of the innovation by applying standard technological infrastructure to the need and using experience to navigate the development. However, the experience also shows that building collaborative partnerships is not always straightforward. The competitive ethos of the private sector can be a barrier to the collaborative needs of non-profit actors, especially where it involves partnering with market rivals. This case highlights how establishing common ground can bring resolution. For example, the comparable organisational structure of IFRC and Voila, helped Voila to communicate and collaborate more easily with IFRC than they'd previously found possible with non-profit organisations of a more fluid structure. The impact of the earthquake on the lives of IFRC's beneficiaries and Voila's Haitian employees also contributed to a shared concern for helping in a time of need. Digicel's participation was facilitated by the Haitian broadcasting regulatory body endorsing the importance of the innovation, which suggests that building wide-ranging partnerships, especially with authoritative and trusted third parties, can be crucial in mediating positive relations with other partners.

[15] *Wall, I. (2011b) Citizen Initiatives in Haiti, Forced Migration Review, 38, pp.4-6. Available at: www.fmreview.org/sites/fmr/files/FMRdownloads/en/technology.pdf*

[16] *Steadman (2013). Hacking disaster: how designers and programmers are helping in emergencies (25 February 2013) Available at: http://www.wired.co.uk/news/archive/2013-02/25/emergency-technology-feature?page=all*

[17] *Tran (2013).Local people 'need access to technology to survive disasters', The Guardian, 17 October, Available at: http://www.theguardian.com/global-development/2013/oct/17/local-people-access-technology-survive-disasters*

[18] *A radio interview with CBC Canada took place on 30 November 2011 publicising the appointment of Vocantas and the SMS and upcoming IVR line.*

Wider Implications

Collaboration between departments within the IFRC was also essential for enabling the process of data analysis. This was especially important as the task required a significant personal time investment, the motivation for which is only likely to be found within an organisation amongst personnel committed to shared values and vision. Although a dedicated team with a dedicated budget was in place, this emphasises how important it is that departments provide their expertise and support for innovations which lack specific resourcing.

Embedding innovations into established strategies and institutionalising for wider impact

The personal investment of time and expertise by key individuals, outside the remit of their role, was critical to the successful development of the IVR. While any relational or altruistic motivations for this engagement might be difficult to explain or recreate, the potential scale of impact of the innovation might help incentivise this kind of commitment and support. This suggests that the position or role of the innovator(s) within the central institutional strategy could also be important. For example, the Beneficiary Communications programme was introduced for the purposes of transforming the wider operational approach, and so the IVR was integrated into the strategies of all programmes and engaged the interest of personnel beyond beneficiary communications. This helps reduce the possibility of the experimental space/product becoming isolated, or of the impact being limited to one programme.

Moreover, the development of the innovation was informed and buttressed by being embedded within a strategy dedicated towards developing better two-way communication. Multiple beneficiary communication tools laid the foundations for uptake of the IVR. For example, the weekly HRC radio slot used the influence of broadcasting to establish the HRC as a trusted source of information, whilst the Noula call centre, already sought to provide a means for more extended feedback or complaints about the IFRC's operations, which later provided context for the shorter survey feedback.

Creating institutional space to encourage new thinking

The IVR conceptualisation benefited from originating within a space that had no operational precedent, being birthed within a new team. This appeared to play a role in removing the limitations of institutional norms surrounding tools, targets and strategy that can impede lateral thinking. Creating an institutional space defined by experimentation and innovation could therefore be an important factor that enables new technologies and ideas to be explored more successfully. This also suggests an important point about conceptualising innovation as an end in itself, and acknowledging the symbolic impact alongside actual impact. Key individuals who focused on the innovation's potential rather than its perfection during the difficult phase of data analysis provided pivotal encouragement for those who were struggling to look beyond the obstacles of the technological innovation.

The role played by the geographical location of this space within the institution is also worthy of consideration. There is a question surrounding whether the beneficiary communications team and the IVR was better positioned close to the operations, as it was, due to the significance of contextual knowledge for the innovation's development, or whether being positioned within the central agency would have been advantageous in improving access to technological and human resources that had posed hindrances in Haiti.

Wider Implications

Recognising, calculating and mitigating risk

Innovation by its very nature involves a level of risk. This is particularly the case in the humanitarian setting of disaster response, where the institutional, infrastructural, environmental or resource-related context can be unstable and unreliable, not least with regard to mobile service networks. This case study highlights the need for innovators to carefully calculate risk in order to position themselves to embrace risks if they are to be successful. The IFRC's previous experience of the benefits of mobile technology encouraged it to invest resources early on in exploring its further potential, where other NGOs distrusted the ability of the mobile infrastructure to deliver. This suggests that action to seek an understanding of potential impact, through researching similar projects or conducting small-scale pilots, as well as the availability of designated resources, such as a grant, can be helpful in enabling an organisation to embrace risk in innovative settings. Furthermore, the IFRC deployed a considered strategy for mitigating risks, by exploring different methods to encourage Digicel – the major mobile service provider – to come on board in order to maximise impact. Although it has sought to build systems that are as user-friendly as possible for non-technical humanitarian personnel, there is an inherent risk in the ongoing dependency on external parties for the continuation of the service. There has already been a discontinuation of the TERA system due to service provider priorities and disruption to the IVR. The IFRC might seek to mitigate this level of dependency through investment in developing its own technical personnel, although there remains a fundamental reliance on external telecommunications infrastructure which is unavoidable.

Remaining flexible

This case study reinforces the supposition that the success of innovations is usually underpinned by a level of flexibility and an ability to adapt in response to the context. This case study shows how flexibility is particularly important when the innovation involves coordinating with external parties, whose different priorities and demands make firm deadlines difficult to maintain because of the time needed for negotiation. The IFRC developed an adaptable strategy, using delayed time-frames to continuously develop the innovation to suit beneficiary needs, whilst the innovation itself was built with an inherent ability to change in response to data it gathered. The IVR system recorded the information most used, which allowed ongoing improvements in information provision, while patterns in usage helped the team to see how best to design surveys to encourage more useful engagement with feedback mechanisms, through quiz-style surveys. It is clear that flexibility in the innovative process is essential in order that innovations might be pivotal tools in the drive towards shifting ownership of humanitarian practice into the hands of those it seeks to assist.

Advertisement for IFRC's phone line