Mobile Opportunities: Exploring Innovative pathways for Marginalized Communities (A Trinidad and Tobago Perspective)

Theme : Community Development

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MOBILE OPPORTUNITIES RESEARCH: A LESSON IN PARTNERSHIP

The Mobile Opportunities Research Project is the focal point for conducting studies in pro-poor, mobile application needs assessment, design, development, deployment and evaluation. In this project, Caribbean fisher folk represent the target group for the development and demonstration of local innovative capacity.

Central to the Project's operations is a tripartite partnership which leverages the strength of multi-disciplinary collaboration and a 360° approach to networking and knowledge management. The initiative involves a unique collaboration between the University of the West Indies (UWI), The Caribbean Fisheries Training and Development Institute (CFTDI) and the Distance Learning Secretariat (DLS) of the Ministry of Science, Technology & Tertiary Education (MSTTE) in the Government of the Republic of Trinidad and Tobago.

Of particular interest to Small States of the Commonwealth is that the 2008 Boot Camp of the Virtual University for Small States of the Commonwealth (VUSSC), on the theme of 'Fisheries', provided the backdrop for the journey and set the stage for new stakeholder relationships. That year, the DLS, dissatisfied with the patchy success achieved in transferring skills gained at the Boot Camp, implemented a 'post-boot camp' action plan. The plan, which involved an Open and Distance Learning initiative entitled "Podcasting in your Nets" (Sankarsingh 2008) benefitted from a partnership with the CFTDI to develop and deliver learning content in digital audio-file format to fisher folk in Trinidad and Tobago. The pilot used the mobile phone as the delivery channel for the fisher folk learners. Fishing extension officers used Bluetooth technology to distribute learning content to the mobile phones of their user groups who in turn shared the audio files with other members of their fishing communities.

Podcasting was successful in testing an alternative learning path for fisher folk with literacy challenges and also in empowering local faculty through ICT skills development to create more adaptive and dynamic pedagogical approaches to subject matter. Although the pilot exercise revealed the burgeoning role that the mobile phone could play in outreach and information dissemination, it highlighted clear gaps in data and expertise. There was the need for richer technical input to explore mobile opportunities among fisher folk and to engineer, develop and deliver sustainable and relevant solutions. Approaches to local service providers proved fruitless but an approach to the Department of Electrical and Computer Engineering at UWI was met with prompt enthusiasm.

Indeed, the Communication Systems Group in the Department had a keen interest in development-focused mobile innovation for the poor. Engaged in discussions with the International Development

Research Centre (IDRC) regarding the possibility of support for a proposed Mobile Opportunities 2.0 project within a Caribbean ICT Research Programme, the Group was keen to select an optimum low-income target group as the focal point for its action research. The University Group recognized that it was imperative to partner with organizations which had a relationship with, and deep understanding of, the community of interest. It also recognized the advantage of partnering with organizations whose mandate included ongoing engagement with the community of interest. The proposition to partner with the DLS and CFTDI, around the focal point of small scale fisher folk, met these criteria perfectly. Thus was born the mobile fisheries, "mFisheries", collaborative project.

Whether the progression of post-boot camp activity took place intentionally or instinctively, the goals of the fellowship of stakeholders, united under the Mobile Opportunities 2.0 Project, speak directly to the greater mission of the VUSSC as well as the scalability, sustainability locally-organized and self-replicating criteria endorsed by COL with regard to technology frameworks for learning.

The formalization of the tripartite partnership allowed the absorption of the local m-learning pilot into a larger internationally-funded Research and Development (R&D) framework and, at the same time, provided an immediate target group for Mobile Opportunities 2.0. Most significantly, is the strategic gain of contextualizing the Online and Distance Learning (ODL) design within a rich R&D environment focused on a specific economically, socially and geographically disadvantaged group at the Bottom of the Pyramid (BoP).

LEARNING FOR DEVELOPMENT: WELCOME TO THE BOTTOM OF THE PYRAMID

COL, in consideration of the United Nations' Millennium Development Goals (MDGs), which aim to 'transform the condition of humankind in the 21st century', recognizes that 'achieving the MDGs will require a massive expansion of human learning.' Whether we like it or not, education organizations, leaders and subject matter experts have been engaging in ways to address needs at the Fourth Tier of the World Economic Pyramid.

In its first attempt at producing interactive Open Educational Resources (OER), the DLS had become acutely aware of the key role played by the educational, social, cultural and economic environment in shaping e-learning outcomes and 'that an understanding of this could 'explain why the same e-learning tool can produce different results in different contexts' (Nash, Dutton & Peltu 2004). 'Destiny X' the PC-based interactive video game for the teaching of Life Skills in Trinidad and Tobago, demonstrated at PCF5 in London, presented the disconnect between the curriculum content, mode of delivery and its largely Fourth Tier target audience, who did not have the capacity or means to interact with the OER (Rosemin & Sankarsingh 2008).

The VUSSC has been able to bring together subject matter experts from across the Small States to work on the content creation for the development of online courses. However it is the innovative, relevant and functional application of this content to the local environment that has gripped some e-learning professionals in Trinidad and Tobago. Was it not the narrow understanding of who and what lies at the BOP that posed the most challenges to ODL pilot initiatives and recommendations by the DLS? The partnership evolved as a result of the DLS' acknowledgement that 'the challenge is to create accessible and affordable solutions while fitting the local economic and socio-cultural preferences' (Rocchi 2006).

FACT FINDING METHODS AT BOP

Long associated with low-level income earners, illiteracy, low levels of participation in training or skill advancement, little or no practice of water safety, precaution or hygiene, the small scale fishing industry represented an ecosystem 'earmarked' for renewal. PESTLE and SWOT Analyses (Strategic Plan for the development of the Fish & Fish Processing Industry 2005) showed the need for new and decentralized training, ODL initiatives, new business enterprises, improved technology in all areas of operation, updated legislation and regulatory frameworks, health and safety procedures, advocacy for free flow of information

within the industry as well as multi-stakeholder collaboration.

The alliance which began in November 2009, had the objectives of executing a combined qualitative and quantitative survey in order to develop insights into the information and communication needs and related challenges faced by fisher folk in the small-scale fishing industry; analyzing the survey findings in order to identify opportunities for which the mobile phone can be used to meet identified training and ICT needs, and capturing all relevant information necessary to formally and fully specify the requirements for mobile applications. The strategy pooled together a host of research methodologies to feed into the 'think tank' for the contemplation of meaningful mobile interventions at the BoP. From the outset, the Alliance was clear that 'Creating products for emerging and developing markets require a clear understanding of the needs and the context of the people within. Researchers and designers should engage with the local culture directly. Understanding people's needs and interactions with the materials, economic and socio-cultural world is a basic starting point for successful product innovation, especially in the BoP.' (J.C. Diehl and H.H.C.M. Christiaans 2007).

Desk research yielded insights into the categories of local fisher folk, associated job-related activities, operations, terminology, common communication modes, levels of training, literacy and cultural practices. This introductory knowledge was used by UWI researchers to build an initial awareness of the target group and its environment, to forecast and contemplate the type of data required to achieve the overall project objectives and thus inform the development of a comprehensive survey instrument.

A combined quantitative and qualitative survey investigation, targeting 500 respondents, was conducted in Trinidad and Tobago to better understand and assess the needs and challenges of fisher folk. This information represented key inputs to contemplate meaningful mobile opportunities for improved livelihoods.

Additional critical research methods included naturalistic observation and immersion in the operational environment of the fisher folk. These observations were digitally captured using video, photo and audio in order to provide greater authenticity and to efficiently inform the subsequent design and development phase of the Mobile Opportunities Research project. This multi-media footage documented existing ICT user profiles within the fisher folk communities and its public, clients and customers of the sector, cultural practices and idiosyncrasies, geographical locations, accessibility and operational challenges, critical products as well as the larger machinery of the fishing ecosystem and its economic activity.

FROM ASSUMPTIONS TO REVELATIONS: UNDERSTANDING BOP NEEDS

Many social mobile projects fail in the early stages. Lack of basic reality-checking and a tendency to make major assumptions are lead culprits (Niti Bhan 2009). To succeed in the BoP [market], the most important factor is the willingness to listen carefully to local people and local stakeholders and understand what they need, not what product innovators think they need (Chang 2006). Truth be told, there are many early assumptions that have now been dispelled. Indeed, prior to the mFisheries field studies, the UWI development team anticipated that priorities for small scale fisher folk include information services (weather updates, tidal information), GPS services, mobcasting, m-gaming etc. Information gathered from the target community via a number of channels revealed very different priorities.

It was found that 93.7% of the interviewed own mobile phones. Not surprisingly, this 'trojan horse' is not a 'smart' phone model. Generally the nature of their work and low earnings determined the choice and purchase of a basic mobile phone. 96.4% of 446 interviewed fisher folk used pre-paid mobile plans with an ironic 58.8% of them spending in excess of US$16.00/ month in cards. For these users, the mobile phone is essentially a tool for voice communication, and less so, sms communication with vendors, other fishermen and family. Although respondents had knowledge of GPS, 93.9% did not own or have access to one and relied on other traditional methods (compass, lunar study). Access to fisheries-related information was attained through inter-personal peer-to-peer networking, 79.9 % indicating that fisher folk were culturally more comfortable with face-to-face sessions and less inclined to embrace impersonal

communication or independent interaction with resources such as the Internet and newspapers.

Mobile phone ownership among fisher folk in Trinidad and Tobago is for the most part, dual purposed. Firstly, this is an instrument for personal safety while at sea even in light of poor cell reception. What the qualitative study revealed further to this was the fact that the phone itself was not on the person of the fisherman but rather safely stowed away, refuting the idea that he would listen to training podcasts while on the waters. Secondly, the phone is an important marketing tool on land, allowing fisher folk to buy and sell not only fish but critical products necessary to their livelihood. This is the path that the 'trojan horse' must journey as it is wide open for meaningful innovation.

What the partnership discovered during the field research is that fisher folk face bigger challenges than those previously perceived and have more immediate needs that are critical to their survival. Significant among these are the lack of storage facilities and severe problems accessing bait, ice and gas resulting in catch dumping, wastage, loss of potential earnings, as well as, very limited knowledge of financial life skills and the inability to access credit in the traditional banking system resulting in financial mismanagement, gambling and squandering of earnings. While they are open to the suggestions of a possible GPS mobile application, such conveniences within their economic 'tier' froth with other priorities, are luxuries and signal low usage or minimal impact on real development or empowerment. This has often been the pitfall of past OER design and it is for this reason that the project is to design a system that demonstrates in quantifiable economic terms its impact on its intended audience through use. 'In addition to sustainability benefits there must be added value created in the products from which the benefits can be recognized by consumers at the BoP' (Chang 2006). This assertion also resounds with operating beliefs of the partnership that the intended application will be measured by its use and this can only take place if users see value in the product.

'GOT FISH /NEED FISH' A SUPPORTING SYSTEM FOR ADULT LEARNING

The research provided insights into the physical, social, economic and cultural machinery, the players and their operations. The ability to build out an intricate web of user profiles within the small scale fisheries ecosystem and to uncover formal and informal operators and idiosyncrasies has allowed project stakeholders to contemplate a mobile training solution that is responsive, functional and relevant to the human beings that need to be reached.

At the philosophical core of the training model developed by the Partnership is the location of learning experiences within a compelling mobile application environment such as relates to livelihoods or entertainment. To start with the former, a very basic "GOT FISH / NEED FISH" mobile notification scheme has been identified as a means of reducing waste and price dispersion, the most pressing challenges articulated by surveyed fisher folk. The application will enable fishermen to inform registered vendors and other potential customers of available catches of fish, its location and price. There are many dimensions to this scalable mobile service 'virtual marketplace' as it may be leveraged by the CFTDI to offer courses in financial life skills and effective money management, which already exist in the VUSSC. Can this approach provide a more pragmatic learning model aligned to the local culture and lifestyle of the target group and truly connect learning access to human development? The Partnership is convinced that this is so. C.K. Prahalad speaks of the needed 'shift in mindset in which the poor becomes an 'active market.'' What if fisher folk could associate the benefits of training with evidence of revenue-earning activity and vice versa?

THE WAY FORWARD

The ability to successfully engage innovation with learning access and human development is crucial if e-learning pioneers hope to facilitate seamless integration of more empowered learners into modern society (Sankarsingh 2009). By exploring innovative pathways through research on marginalized fishing communities in Trinidad and Tobago, the partnership has been able to propose a livelihood-focused mobile application and related open learning schema which strengthen and validate each other. It now

seems undeniable that use of the mobile phone as a 'Trojan [horse] innovation needs to be incremental and appealing enough to be understood and owned by all those directly involved, while also delivering clear and immediate learning gains. The cumulative impact of these kinds of incremental choices could be transformational as they seed the spread of new ideas' (Dutton 2004).

The project itself is progressing into its first phase of design, development and deployment. Subsequent phases will involve engagement of the local business sector. The role of commercial activity in exploring and sustaining ODL has often been underestimated by education practitioners who have difficulty in viewing knowledge management in business terms. If we wish to truly explore innovative pathways for marginalized communities, then it is in our best interest to ask what role can inclusive capitalism play in the ODL mix? The commercial entities themselves also stand to gain as increasingly the 'real source of [market] promise is not the wealthy few or even the emerging middle-income consumers…It is the billions of aspiring poor' (C.K. Prahalad and Stuart L. Hart 2002). It is estimated that focus on the Fourth Tier, include 'growth, profits and incalculable contributions to humankind' (Manuel Bueno 2009). The BoP community offers opportunities for radical innovations to benefit the development and business communities. Such a partnership model is of interest to the e-learning community, particularly in Small States.

Acknowledgment

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