Panel Discussion: Global Innovative Design for Social Change

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Abstract. As designers, we are solution seekers and innovators. It is in our core to find the best method or design to meet the needs of the customer, or create a great intuitive product that brings the most revenue. However, most of the work is concentrated on designing products for the people in the developed countries who could afford luxuries like the iPod and alike. There is a great shift now towards reaching beyond borders, especially designing for the people at the bottom of the pyramid. In this panel, we will concentrate on two areas that the design can play a significant role in advancement of societies: (1) Design for improving socio-economic structure such education, health, food and shelter, (2) Design for creating commercially viable products that can create sustainable businesses. Our panelists will share their experiences on how we, as designers, can make a difference in the way people live their lives.

Keywords: Bottom of the Pyramid, innovation, design, social change, social advancement.

1 Introduction by Nuray Aykin

The struggles of the world's poorest populations have, until recently, only been on the agendas of a few Non-Government Organizations (NGOs), aid agencies, national governments, non-profits, and individuals. However, a recent monumental change in thinking asks the world to view those living at the Bottom of the Pyramid [1], not as passive victims, but as active consumers, capable of identifying opportunities and creating innovative solutions. Innovation, as the core emphasis of this movement, focuses on reinventing business processes, life practices, news ways of solving problems, and building entirely new markets that meet untapped customer needs. This way of thinking calls for people to become active participants in the movement towards improving their own lives and well-being in addition to advancing in the economic pyramid.

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Innovation leads to economic improvement, therefore to social change. Focusing on reducing the causes for diseases, improving socioeconomic life and supporting sustainable environments are becoming a strong mission for many designers. Designers without Borders, Massive Change are great examples of such kind. By concentrating on creating tangible outcomes would make this movement even stronger and would allow researchers and designers to more efficiently evaluate and measure the impact, and develop understanding of the complex relationship between people and their environment.

There are two areas that innovative design can play a crucial role:

1. Improving socioeconomic structure such as education, health and infrastructure. The design can aid solve water quality and supply problems, can bring a solution to agricultural issues, or can create ways to sustain the environment while providing the basic necessities to move the people into better conditions of living.
2. Creating commercially viable products to create sustainable economies. There are hundreds of examples of creative solutions that changed the lives of millions, including ultra cheap phones in India by Nokia, AMUL milk in India becoming a world brand creating millions of jobs, Unilever's project Shakti, affordable solar power units in Honduras bu Soluz Inc.

In order to succeed in this area, it is crucial to have strong ties with the state and local governments, NGOs, foundations and private organizations, and the people who are impacted by the social structure and are willing to participate in a long journey to move up on the economic ladder. As a designer, we need to educate ourselves to understand how multiple disciplines interact to create solutions to people's needs. We need to understand what the role of innovative design in social change especially related to environment, economic and health related issues.

In this panel, the participants will share their experiences and the lessons learned during their field studies.

2 Apala Lahiri Chavan's Statement

Even though Professor CK Prahalad pioneered the notion of companies targeting the lowest rungs of the market way back in the mid 1990s, it was after his book The Fortune at the Bottom of the Pyramid was published about a year back, that the concept gained increasing momentum.

His key argument: the so-called Bottom of the Pyramid (BOP) with an estimated 4 billion people who live on less than US$1,500 per annum, is a major market opportunity.

Not surprisingly, a number of Indian and overseas companies have tried to adopt this innovative business model. Hindustan Lever Ltd (HLL) has increased its market thrust behind Project Shakti, the low cost distribution model, which it already had, to target a wider base.

ICICI Bank has led a number of new initiatives to provide a host of banking services at affordable costs to the poor and lower middle class, including setting up a network of around 8,000 self-help groups.

ITC is banking a lot on its eChoupal system for targeting rural farmer-entrepreneurs aimed at improving the agricultural supply chain, cutting supply costs, upgrading the information base for farmers and doing e-commerce.

At last count, the initiative was estimated to target over 3 million farmers through 5,200 installations covering 31,000 villages across six states.

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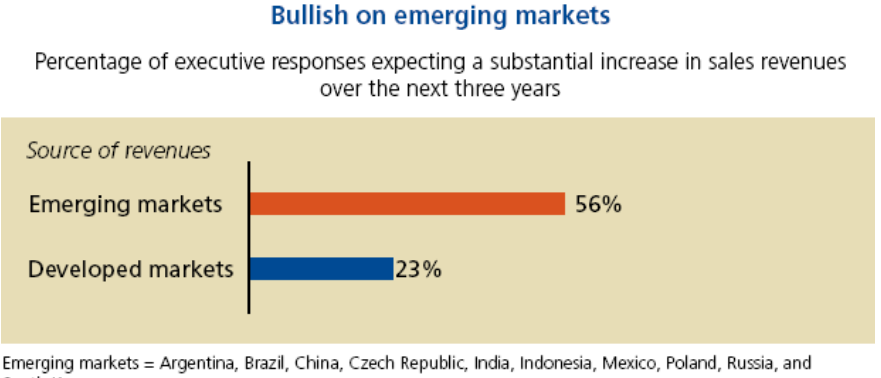
Developing countries (India, China, Brazil etc.) are well known for low-cost manufacturing and providing customer support. The same countries are now considered by global companies as emerging markets for selling their products and services. Targeting the emerging markets is looked at as a way to make the competition and saturation in the developed markets irrelevant. Two major factors provide an opportunity for growth in emerging markets. One is the large size of this market. India and China together had up to 457 million households in 2002. If urban and rural consumers are put together, India alone has 100 million households.[1]

The other factor is, though out of these 100 million households in India the urban population is just 24 million, and average annual income is less than $6,000 per person, the purchasing power of these people is relatively very high. The behavior of this large group of consumers, by Western standards, is unusually youthful, demanding, open-minded, and adventurous.



Emerging markets = Argentina, Brazil, China, Czech Republic, India, Indonesia, Mexico, Poland, Russia, and South Korea

Source: One or more member firms of Deloitte Touche Tohmatsu

To penetrate this market, companies will have to go beyond mere adoption and localization of their products made for developed markets and take a radically new approach for designing, developing and deploying their offerings. A growing number of such companies now acknowledge that taking a radically different approach is the only choice in emerging markets as the consumers and the contexts in which their products will be used are totally different from the one in developed markets.

This attention by major corporate giants to the 'bottom of the pyramid' in the emerging markets have helped propel the aspirations of a group of people from the "top of the bottom of the pyramid" to leap forward to the next level of the pyramid or create a totally new level in the pyramid which never existed before.

[1] National Council of Applied Ergonomic Research, India: 2001-02 projection.

In order to understand this phenomenon, a joint project was initiated by the Institute of Design, Chicago and HFI, Mumbai. HFI has continued to work in this space till date.

The joint project aimed to observe daily lives in the homes of the top-tier people of the BOP in India and create design solutions that would improve these homes**.**

We attempted to understand the:

- Needs, Motivations, Aspirations and Attitudes
- Choke points, Pressure points and Pleasure points

And hence profile the user population from the point of view of design solutions that would improve the space that was 'home'.

Since the completion of the joint project, HFI has continued with the *"the leap forward"* aimed to conduct deep dive observation of a specific segment of the 'top of the BOP' (in this case, the potter community who live and work in Dharavi, the largest slum area in Mumbai) and provide innovative "out of the box" solutions catering to the changing needs and attitudes of this particular segment.

The "leap forward" questioned the basic needs, identifying latent and unarticulated ones which are emerging gradually in a mobile and customizable world. This project also tried to look into various aspects of technology and how it could be humanized keeping in mind, the future orientation of the target users.

In this panel, we will cover:

- Methods used for the study including description of the families, homes and their daily activities, perceptual mapping of their activities, our disposable camera study, tour of the house, future oriented discussions, and our debriefing with the families.
- Key characteristics describing "Top of BOP" such as restlessness in wanting to climb higher, future orientation, lifestyle, status, inspiration, opportunity seeking, optimizing the use of limited resources
- Key attributes that were articulated by participants as being important dimensions towards success (acceptance/recognition, accessibility, adaptability, alternatives, aspirations, betterment, community, compromise, constraints, convenience, family, future orientation, stability, opportunities, optimization, permanency, security, survival, status and lifestyle)
- Impact of innovation in terms of facilitating upward move in status (Status), supporting transitory lifestyle (Mobility), supporting low cost value additions (upgradeability), supporting multiple use and sharing (flexibility), facilitating community engagement (Collaboration)

3 Susan Dray's Statement

Many companies and organizations want to create innovative designs that can have a positive social impact. Indeed, there are literally thousands of examples of well-intentioned people working to provide access, technology or services to currently underserved populations around the world in the hopes that, by providing these things, they will help to create positive social change by providing economic or social benefits to the ultimate users/recipients. With zeal and money, these organizations

have high ideals and wonderful goals. However, many of these efforts fail to deliver on the promise.

Why is this? I believe that it is because, however clever or ingenious they may be, they have failed to take the entire context (economic, political, physical, infrastructure, organizational, social, familial, educational, etc.) into account sufficiently. The key to truly innovative design for social change is to first deeply understand the context, in all its myriad forms. This should be obvious to the user-centered design community, although sometimes even we are too narrow in our own definitions of "context" and limit our own explorations and research to understanding individuals or small groups (e.g., families) without taking these other aspects into account.

One example of a break-through service which has succeeded, by their own admission, *because* they took time to deeply understand the context, is Cell-Life, an NGO in South Africa. (For more information, check out http://www.celllife.org/) Cell-Life describes itself as "a pioneering initiative that provides effective technology-based solutions for the management of HIV/AIDS" in South Africa. Specifically, Cell-Life has developed an infrastructure for supplying anti-retroviral (ARV) drugs to fight HIV/AIDS, for tracking side effects (critical in determining future doses), and for monitoring drug compliance by patients by providing HIV/AIDS home care workers in rural and urban areas with cell phones. These home health workers visit patients and use a menu-driven mobile phone interface enter data about the patient's reactions to the most recent dose of ARVs, including side effects and symptoms, as well as drug adherence, and send this data using short message service (SMS) to a central data base where it can be tracked by a doctor and a pharmacist. This provides direct information from those closest to the patient to medical staff, often located at a distance. This represents a significant breakthrough in the number of HIV/Aids patients who can effectively receive ARVs, even though they live in rural areas.

This may seem like an "obvious" solution in retrospect, especially since South Africa has one of the most extensive cell phone coverage in the world's.extremely widespread cell phone coverage. Dr. Ulrike Rivett, Cell-Life's founder, estimates that 99% of South Africa has cell phone coverage. However, other cell-phone-based systems have not been successful. For instance, simply using SMS to send messages to HIV/AIDS patients to take their medicines has been tried and has not been so successful. Why, then, is Cell-Life's approach such a success?

According to Dr. Rivett, Cell-Life has been successful specifically because they deeply studied the entire context of the HIV/AIDS problem in South Africa before designing a solution [2]. They quickly realized that there were complex systemic challenges, in legal, political, and medical realms, which had to be addressed for any new system to succeed. Specifically, South Africa's constitution mandates access to health care for all. So far so good. However, in a country where many people live miles from paved roads, "access" can be a significant barrier. In addition, all medications must be dispensed by licensed pharmacists, who are in short supply especially in rural areas. Plus, AVR drugs also are not "standard" medications: They require must be refrigerated and the doses vary depending on the patient's reaction to previous doses and their current symptoms. Therefore, to dispense future doses, the pharmacist needs hands-on information about the patient to determine the correct dose.

They also must know for certain that the patient has actually taken the drug as prescribed. Without this type of information, they cannot dispense the medications [3].

Enter the Cell-Life team. After spending significant time understanding this context, Dr. Rivett and her team developed the Cell-Life system to give to pharmacists the information needed to prescribe and to doctors, the information needed for long-term treatment. They understood the serious obstacles to data capture in rural Africa, caused by inadequate infrastructure (intermittent electricity, poor roads, low bandwidth, etc.), low computer literacy and the need for training, and of course, cost. In addition, they understood the needs of stakeholders from a variety of communities, including medical and healthcare professionals, home health workers, patients, government officials, and technologists.

The resulting system was first piloted successfully, and has been adopted by the government of the Western Cape where it is being rolled out extensively. This has resulted in significantly more patients getting effective ARV treatment. The team has received accolades from many places, and news coverage by the BBC and others [4]. But perhaps the most telling is that the HIV/AIDS home health care workers have become among the biggest advocates for the system, for it has not only made life better for their patients, but it has also empowered them to play a bigger and more satisfying role in this care.

4 Girish Prabhu's Statement

According to Wikipedia, social change is change in the nature, the social institutions, the social behavior or the social relations of a society, community of people, or other social structures. The term covers concepts as broad as paradigm shift, to narrow changes such as a particular cause within local government. Though research in sociology suggests social change is created by various agents such as direct action, protesting, advocacy, community organizing, revolution, and political activism, the primary agent of social change is technological advancement. The wide adoption of a new technology leads to imbalance in the economic relationship between economic agents, leads to changes in the social balance of power, therefore leading to social change.

I believe design innovation plays a major role in social change along with technology. It is a well known fact that technology adoption does not happen unless it is designed to meet user needs. In emerging markets, especially for BOP (Bottom of Pyramid) and MOP (Middle of Pyramid), design has much more significance as these needs are at a confluence of social, cultural and economical aspects of people lives. Various dissonances in each of these vectors can lead to a slower pace in social change. I define dissonance as the gap between the intended usage models of the technology and the actual usage model. My hypothesis is that by reducing these dissonances through design innovation, technology can be utilized to create social change at a faster pace.

We explored the value of design in technology adoption for social change in a recent project. The aim of this study was to understand the needs of current technology owners (PC owners) for the development new ICT platform for middle tier and top of the bottom tier population of India. The primary task was to find out what is it that makes people from emerging economy countries not only desire to

buy/own PC/Technology but also use it to make a difference in their lives. For example, people may buy/own a product/service as a status symbol but may not use it in its intended usage model. This was termed as Technology Dissonance. The study revealed a broad set of dissonances:

- Dissonance due to perception of technology: Perception of the PC is found to be one of the most important observed dissonances since it contributes directly to the mental model and technology adoption. The factors that feed into this are the issues of fragility, complexity, technology fear and the fragmented form of PC itself which creates operational problems as well.
- Design Dissonance: These included design issues that make the current PC platform a misfit for the emerging markets. For example we found that PC is not designed for ease of use like an appliance, suffers from lack of local language languages support, is not designed for group usage (which is extremely prevalent in India), provides low flexibility and does not sufficiently address the needs of mobility and connectedness.
- Usage Dissonances: The issues in this category speak of a varying pattern of usage among various household segments and work domains. The reason for the changing nature of usage can be traced to unique socio-cultural attributes of these sections. A closer look at the priority of usage indicates that various socio-economic segments of households and small businesses put different emphasis on the broad level needs. This indicates a high diversity in the functionalities that are probably needed in addressing the user needs.
- Cost and ROI Dissonance: The current product has high acquisition costs with perceived, frequent and substantial costs of software and hardware up gradation. Apart from the tangible costs it creates a fear among the users of emotional costs involved in future up gradation.
- Eco-System Dissonance: Ecosystem related dissonances arise from the factors in the surrounding environments that include lack of service & support from the PC sellers, poor power and internet infrastructure and lack of information among the general consumer about the available PC products and services in the market.

This research suggests that users at the BOP and MOP expect more from technology apart from design and usage congruence for technology to be adopted. Factors such as clear perception of the value, fit of the technology in the surrounding environment, and also business value proposition play a major role in adapting technology for change in their lives. And hence design innovation has a major role to play.

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