

Technology to Toilets: Can Microfinance and IT Help Solve the World's Sanitation Crisis?

Karl Dayson, University of Salford, UK

Jack Sim, World Toilet Organization, Singapore

ABSTRACT

Approximately 2.5 billion people do not have access to a toilet; instead, they have no choice but to practice open defecation, having a potentially detrimental effect on their health. This paper asks whether microfinance and IT can play a role in tackling the problem. By drawing on experience from Grameen Telephone, the authors argue that this is analogous with attempts to promote the purchase of toilets, in particular the technological leap where expensive infrastructure is bypassed. Based on three case studies, the authors show that such a process is underway. Although a limited number of microfinance institutions (MFIs) are engaged in this market, it is insufficient to address the myriad of both organizational and cultural problems. However, the use of a prospective web portal may help create the environment for a viable market to emerge.

Keywords: Grameen Telephone, Health, Information Technology, Microfinance, Microfinance Institutions, Sanitation

INTRODUCTION

There's probably nothing bigger than the sanitation crisis. According to the 2006 United Nations Human Development Report 40 percent of the world's population do not have a toilet. In the developed world the toilet is a convenience, a necessity, and a basic right; and when nature calls the biggest worry is whether we will encounter an unpleasant stench or a lack of toilet paper. But for 2.5 billion people the call of nature becomes a threat to dignity, safety, income, and health (UNHDR, 2006). But what role can microfinance and IT play? We will

argue that it is analogous with mobile phone technology which has found a market in the developing world, in particular in Bangladesh, where Grameen Bank used microfinance to sell these new products. Furthermore, through the use of three case studies and examples of microfinance providers engaged in this area we will highlight the elements preventing the establishment of a viable market, ultimately suggesting that an interactive web portal along with MFIs committed to social objectives could play a crucial role.

Within MFIs there has always been a commitment to improvements in health. From the work of Freedom from Hunger to the social impact work of CGAP there is extensive evidence of microfinance interventions improving

DOI: 10.4018/jeco.2010070105

the health of service users (Littlefield et al., 2003; Dunford et al., 2007) and contribute to the United Nations' Millennium Development Goals (Simonwitz, 2002). However Littlefield et al.'s (2003) bibliographic summary of micro-finance's social impact confirmed that they had not found any studies showing a connection between microfinance and sanitation, though some programs did offer loans for toilets. They noted that partnership between private sanitation infrastructure providers and MFIs was a 'promising option' for exploration. It is a topic that will be explored later in this article, but first it is necessary to understand why there is still a problem.

BACKGROUND: OPEN DEFECATION: SCOURGE OF THE POOR

In 'Clean: a history of personal hygiene and purity' (2008) Virginia Smith details the evolution of cleanliness from the Neolithic period. Though the book is a social and cultural history Smith reminds readers that human waste is a chemical reaction. However, it is one thing accepting that the body excretes 'toxins' and 'poisons' (Smith, 2008), quite another to change behaviour, or increase the supply of loos. Yet in most societies there is cultural avoidance of human waste, thus those involved in working with this material invariably have a low social status (McLaughlin, 1971; George, 2008; Smith, 2008). It would seem that our responses to human waste are both a product of nature and nurture. Elias (2000) describes the latter as a civilizing process in which habits of cleanliness are first imposed from without before being internalized through self-compulsion.

Today in the developing world there is a preponderance of open defecation, that is, answering the call of nature behind a bush or in any other open area where they can minimize the likelihood of prying eyes. Open defecation attracts flies, spreads pathogens, and contaminates water used for drinking, washing and bathing. The health statistics are stark: poor sanitation, hygiene, and water supply

lead to diarrheal diseases that cause 1.8 million deaths a year, of which ninety percent are children under the age of five (UNDP Report, 2006). What's more, up to 400 million school children suffer intestinal worms that rob them of their nutrition, worms that often propagate through fecal contamination. In total diarrhea kills more children under five than HIV, malaria and tuberculosis (George, 2008).

Clearly, poor housing and availability of land are serious barriers to the construction of more toilets. In addition, there are cultural barriers around sanitation that have long been recognized by anthropologists in which available provision 'affords a set of markers within a temporal and spatial frame' (Douglas, 1996). Open defecation is a humiliating and dangerous experience, especially for women, who as they undress and relieve themselves have to suffer the gaze of men. In fact, access to the privacy of toilets has been shown to be a big determinant of school attendance, particularly for young girls during puberty (Rukunga et al., n.d.).

All this has an economic cost. Those with access to toilets have fewer days off work and use health services less. According to Hutton et al. (2007) every dollar spent on sanitation brings \$5-12 of economic benefit in the developing world (an average of \$9). Globally universal sanitation would cost \$95 billion but save \$660 billion (George, 2008). The UN has set its Millennium Development Goal (MDG) for water to halve the global proportion of people without access to improved sanitation by 2015. The cost of not meeting this goal is estimated to be US\$38 billion a year, with sanitation accounting for 92% of this (Frost 2007). This comes from money spent on health care, reduced productivity, and premature death, as well as environmental degradation and social impact.

A MARKETPLACE-BASED SOLUTION

Given the health imperatives attached to the provision of toilets it should be possible to create a market. At the current rate of progress the world will miss its Millennium Development

9 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the product's webpage:

www.igi-global.com/article/technology-toilets-can-microfinance-help/44914?camid=4v1

This title is available in InfoSci-Journals, InfoSci-Journal Disciplines Business, Administration, and Management, InfoSci-Digital Marketing, E-Business, and E-Services eJournal Collection, InfoSci-Select. Recommend this product to your librarian:

www.igi-global.com/e-resources/library-recommendation/?id=2

Related Content

A Study on the Price Decisions of the Dual-Channel Composite Decision in B2C Mode

Haixiong Yang and Wen Wang (2014). *Journal of Electronic Commerce in Organizations* (pp. 46-56).

www.igi-global.com/article/a-study-on-the-price-decisions-of-the-dual-channel-composite-decision-in-b2c-mode/124076?camid=4v1a

User Disposition and Attitude towards Advertisements Placed in Facebook, LinkedIn, Twitter and YouTube: A Decision Tree and MANOVA Approach

Janarthanan Balakrishnan and Jeevananthan Manickavasagam (2016). *Journal of Electronic Commerce in Organizations* (pp. 17-34).

www.igi-global.com/article/user-disposition-and-attitude-towards-advertisements-placed-in-facebook-linkedin-twitter-and-youtube/160308?camid=4v1a

Towards a Framework for Web 2.0 Community Success: A Case of YouTube

Joshua Chang and Clifford Lewis (2011). *Journal of Electronic Commerce in Organizations* (pp. 1-14).

www.igi-global.com/article/towards-framework-web-community-success/53195?camid=4v1a

Experiencing Quality: The Impact of Practice on Customers' Preferences for and Perceptions of Electronic Interfaces

Kyle B. Murray (2008). *Electronic Commerce: Concepts, Methodologies, Tools, and Applications* (pp. 1716-1732).

www.igi-global.com/chapter/experiencing-quality-impact-practice-customers/9581?camid=4v1a