The Possibility of One-Size-Fits-All in ICT4D Design: A Case Study of the Day-Labour Organisations

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ABSTRACT

This paper presents design experiences for two Non-Governmental organizations and one day-labour organisation working for the informal job seekers and employers—day-labour market. The authors present the three design architectures implemented for the organisations and show that, even when users are portrayed as similar in the way they work and what they do, their Information Management Systems (IMS) functional software requirements remain contextual up to the details. The authors argue that, although non-functional requirements may be the same for seemingly similar users, there is need to focus on the different functional information needs, including the ones that may seem insignificant. They noted that designers need to know more about their users beyond the “about us” information. The authors conclude that there exists no “one size fits all” IMS, even for seemingly similar organisations.

INTRODUCTION

Designing systems in an ICT4D context is challenging. It involves making compromises in an effort to compensate for scarce resources (Brewer, Demmer, Ho, Honicky, Pal, Plauche, & Surana, 2006); Agarwal, Kumar, Nanavati, & Rajput, 2009). Worse still is designing for NGOs in the developing world. Most NGOs in underdeveloped regions usually have limited funding and limited capacity. For example, in our experience with two NGOs working for the informal job-seekers and employers—Day-labour Market (DLM), we found that their Information Management Systems (IMSs) were donated by a well wisher. As the NGOs evolved, they acquired fragmented software applications, which made it challenging to understand and, hence, design any other system or improve the existing systems. When we critically examined the systems used by the NGOs, we noted that, as the NGOs evolved, their functions changed. However, the overall descriptions of what the NGOs did and how they operated remained similar. As a result, at first, we thought that the different NGOs having similar functions (and another one being a spin off from the first one)
may require the same IMS. However, that was not the case, as is shown in this paper.

In this paper, we present design experiences of designing for two Non-Governmental organisations and one day-labour organisation working for the informal job seekers and employers in the DLM. We present the three design architectures implemented for the organisations. In presenting these design architectures and experiences, we show that even when users are portrayed as similar in the way they work and what they do, their IMS functional software requirements remain contextual to the details i.e. they still have small important differences which needs to be considered during software design. We show that, although non-functional requirements may be the same for seemingly similar users, there is need for different functional information needs. We noted that designers need to know more about their users than what is given by “about us” descriptions. The key lesson drawn from this work is the need to pay attention to specific functional details of each organisation regardless of how similar it is to other known organisations working in seemingly similar contexts. We argue for the absence of “one size fits all” in the IMS by describing the designs and showing their perceived organisational similarities, actual similarities and the differences as seen from the field work and engagement with the organisations.

The rest of the paper is organised as follows: Section two is a summary of the related work while section three is an overview of the day-labour market (DLM). Section four details why we needed to build applications for the NGOs while section five gives the design process. We present the design architectures in Section six and discussions in Section seven. The conclusion is presented in section eight.

**RELATED WORK**

Material on Information systems requirements have had mixed reactions. However, the current trend and agreement seems to have been that context is an important factor though in different perspectives. Other researches in this area generally support our arguments. In their work, McPhail, Costantino, Bruckmann, Barclay & Clement, (1998) showed that computers and computer applications must be considered in the context of their workplace. Wilson (2000), pointed out the need to put the Information Systems design process in the wider context of the user. Similarly, way back in 1981, Wilson (1981) had brought out the importance of context in information needs of a user. Avgerou (2008) has advocated for Research development towards considering context in Information Systems where he has shown the risks of paying relatively little attention to developing theory on the interplay between IS innovation and its socio-economic context. In their research focusing on the need to balance standardization and local flexibility/localization, Braa & Hedberg, (2002), acknowledged that there exists tension between standardization and localization. Walsham & Sahay (2006), confirmed this and pointed out that, although there is need to standardize for efficiency and comparability, it makes it difficult for the same standards to be applied to diverse local contexts.

In terms of work closely related to this, many studies, for example Chang, Liao, Wang, & Chang. (2010); Raman, Ryan, & Olfman. (2011), used single case studies or single NGOs. Studies such as Chang et al. (2010); have given good insights on how to use action research and participatory methodologies to introduce e-services in NGOs working for disadvantaged groups. Medhi, Sagar, & Toyama (2006) describe work to design job search and a generic map for a community of illiterate domestic labourers. Medhi, Sagar, & Toyama key objective was to study user interface for illiterate or semi-illiterate workers. Ghayur (1994) describes how a Labour Market Information System (LMIS) can be developed for the Informal Sector (IFS). Medhi, Menon, & Toyama (2008) described work done in implementing a paper-based system that provides the intended functionality of helping match low-income domestic workers from an urban slum with potential middle-class employers in Bangalore, India. Kishore (2009) gives very
The Impact of Personal Electronic Communications on Work-Life Balance and Cognitive Absorption
www.igi-global.com/article/impact-personal-electronic-communications-work/41721?camid=4v1a