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Towards a Conceptual Framework for Social Wellbeing through Inclusive Frugal ICT innovation in Postcolonial Collectivist contexts

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Abstract

Information and Communications Technologies for Development (ICT4D) researchers regard ICT innovation as critical to the social wellbeing of the marginalized in developing countries. However, an understanding of how various political, economic and socio-cultural contexts enable or constrain the influence of inclusive frugal ICT innovation on the marginalized in developing countries remains inadequate. Inclusive frugal ICT innovation refers to increasingly popular approach of creating goods and services using ICTs under constraints specifically to enhance the wellbeing of marginalized millions in developing countries. While Sen's capability approach (SCA) is widely praised for its human centric view of wellbeing, it has been criticized for being individualistic as well as over-optimistic about human wellbeing in the context of disempowering sociopolitical contexts. This research proposes a conceptual framework that provides a holistic perspective of collective social wellbeing based on the pan-African concept of Ubuntu (shared interdependence). This framework makes use of the philosophical perspective of critical social research to better explain the interrelationship between inclusive ICT innovation aimed at empowering the marginalized through inclusion and the context and social wellbeing, particularly the pervasive postcolonial context.

Keywords

ICT4D, wellbeing, capability approach, collective capabilities, collective action, Ubuntu, postcolonialism.

1. Introduction

Development agencies, policy makers and scholars of Information and Communications Technologies for Development (ICT4D) regard ICT innovation as critical to the wellbeing of the marginalized in developing countries (Walsham & Sahay, 2006; Kleine, 2010).The developing world currently faces multiple challenges such as the lack access to resources, skills scarcity, low technology infrastructure investment, competing socio-economic needs and other various capacity

constraints (Heeks, 2008). These challenges, combined with the tough global economic conditions significantly impede technological innovation, prospects of economic growth and ultimately human development (wellbeing) particularly in developing countries.

Despite this disempowering context, there has been a rise in the phenomenon of using various ICTs to design, redesign and deploy goods and services with minimal resources (frugality) in order to address critical societal needs specifically for the benefit of the marginalized (Brem & Wolfram, 2014; Heeks et al., 2013; Watson et al., 2013). It is understood within the ICT4D domain that the use of ICTs can improve the wellbeing individuals as well as social groups, particularly those marginalized and excluded from mainstream development (Alsop et al., 2006). More critical studies are still required to help explain how ICTs achieve this goal as well as better explanations that incorporate the realities of the macro and local contexts (Avgerou, 2008).

In the 1980s Amartya Sen conceptualized the Sen's Capability Approach (SCA) to develop a human-centered view of wellbeing as a critique of the dominant utilitarian concept that viewed wellbeing in terms of economic maximization of utility (Alkire, 2002). The SCA views human wellbeing in terms of functionings − 'the various things a person may value doing or being' (Sen, 1992), capabilities − 'the substantive freedoms one enjoys to lead the kind of life he or she has reason to value' (Sen, 1999) and agency −'the ability to pursue goals that one has reason to value' (Sen, 2002). While Sen's capability approach (SCA) was fundamental to the promotion of the human centric view of wellbeing, it has also been criticized for being individualistic as well as being too optimistic about wellbeing in the context of disempowering sociopolitical contexts (structures and institutions)(Deneulin and McGregor, 2010). This research proposes a conceptual framework for collective social wellbeing to provide a holistic perspective of social wellbeing based on the pan-African concept of Ubuntu (communal interdependence) and makes use of the philosophical perspective of critical social research (Ngwenyama, 1991) to better explain the interrelationship between ICT innovation aimed at empowering the marginalized through inclusion and the context and social wellbeing, particularly the pervasive postcolonial context.

The rest of the paper is structured as follows: Section 2 will explain the constructs related to collective social wellbeing and inclusive frugal ICT innovation. The conceptual model is proposed in Section 3. Section 4 presents the conclusion of the discussion.

2. A discussion of the related constructs

ICT4D researchers such as Avgerou (2008) have challenged researchers to apply contextual approaches critically to ICT innovation as well as to develop theory capable of addressing the interrelationships between innovation and the context. This research rises to this challenge by developing a conceptual model for collective social wellbeing and critically investigating the intersection of the SCA, social construction of collective wellbeing and the pan-African

philosophy of Ubuntu to explain how inclusive frugal ICT innovations are influencing the wellbeing of marginalized communities particularly in the African postcolonial context.

2.1 Inclusive frugal ICT innovation

The movement towards innovation that is inclusive towards marginalized communities in terms of knowledge, processes and outcomes began in the 1960s (Smith et al., 2013) and formally became known as the Appropriate Technology movement after E.F Schumacher's influential collection of critical essays entitled: "Small is beautiful – A study of economics as if people mattered" (Schumacher, 1973). This movement, influenced largely by the criticism of perceived social injustices and environmental problems perpetuated by profit-driven conventional innovation models, successfully resulted in the achievement of "low investment cost per workplace, low capital investment per unit of output, organizational simplicity, high adaptability to a particular social or cultural environment, sparing use of natural resources, low cost of final product or high potential for employment" (Jecquer and Blanc, 1983).

This is consistent with Schumacher's maxim of: "Instead of mass production, we need production of the masses" (Schumacher, 1973). Heeks (2008) and Heeks et al (2013) argue that since the era of Schumacher and appropriate technologies, alternative emancipatory models of innovation for and by the poor have been studied in academia and practiced in society such as "pro-poor innovation" or "inclusive innovation". The notion of inclusive innovation is defined as "the development and implementation of new ideas which aspire to create opportunities that enhance social and economic well-being for disenfranchised members of society" (George et al. 2012).

Inclusion has two dimensions that can be described in terms of the process by which inclusion is achieved and also in terms of the problems and the solutions the inclusion is related to (Cozzens & Sutz, 2012). Inclusion can either be passive or active. Passive inclusion refers to 'reducing income inequality and bringing the poor out of poverty through raising their income' while active inclusion focusses on 'giving rights, voice, capabilities and incentives for the excluded to become active participants in processes of development and innovation' (Johnson & Andersen 2012). This research is confined to the active inclusive innovation dimension.

Kaplinsky et al (2011) define a class of innovations in the developing world for the poor whose collective significance is poorly recognized by policymakers, practitioners and researchers who dominate the innovation discourse and call this "below the radar innovations". Prahalad (2005, 2006) makes a case for new business models for the provision of goods and services to the fastest growing new markets and the associated entrepreneurial opportunities found among the billions of poor people found at the bottom/base of the economic pyramid, called "base of pyramid (BoP) innovation."

Immelt et al. (2009) as well as Govindarajan and Trimble (2012) make a case for reverse innovation, a phenomenon whereby 'no-frills' goods and services originally designed or created for the developing world enter the developed markets, as opposed to glocalisation, where goods and services traditionally designed by richer countries are sold to developing countries with a few adaptions to local conditions. Seyfang and Smith (2007) argue for a concept of community-led grassroots innovations which emphasizes environment friendly and sustainable sociotechnical innovations developed by the locals for the locals.

There has also been a rise of low-cost innovation under adverse constraints, encapsulated in the Indian maxim of "striving to do more with less" which is called jugaad innovation (Krishnan (2010) and Radjou et al., 2012). The same phenomenon is also called gandhian innovation (Prahalad and Mashelkar, 2010). The main concept of behind jugaad innovation is that of thrift, no frills and frugality. Rao (2013) traces the origin of the term frugal engineering to Renault's CEO, Carlos Gohsn when he described the achievement of Ratan Tata, chairman on Tata Motors for designing and manufacturing the Tata Nano motor vehicle at a price considerably below current market - with minimal frills and good enough quality, an approach which he then later used successfully at Renault (Economist, 2011).

More formally, Puranam (2011) and Zeschky et al (2011) describe as frugal innovation; the development of products and services that have high cost advantages compared to existing solutions. The products developed through frugal innovation processes typically do not have sophisticated technological features, but meet the basic needs at a low-cost level by comparably high value for the customer (Agarwal & Brem, 2012). Van Beers and Knorringa (2012) define frugal innovation as "the (re-)designing of products, systems and services at very low costs, without sacrificing user value, to reach low-income consumers either in low, middle or high income countries". Bhatti (2012) posits a theoretical model that defines frugal ICT innovation as the intersection of social, technological and institutional innovations.

Watson et al (2013) argue that frugal engineering is the precursor to frugal innovation and then derives a class of systems that emanate from frugal innovation called frugal information systems (IS). Frugal IS is then defined as 'information systems developed and deployed with minimal resources to meet the pre-eminent goal of the client.' Watson et al (2013) goes further to define a consumer-centric criteria from marketing literature which identifies four constructs ('information drives') that are fundamental to understanding the success criteria for frugal IS i.e. what consumers expect from it, namely; Ubiquity, Uniqueness, Unison and Uniqueness (Junglas & Watson, 2006).

This research views frugal IS innovation as a subset of the broader category of frugal ICT innovation. When the focus of frugal ICT innovation becomes the emancipation of the marginalized of society, it is referred to as inclusive frugal ICT innovation.

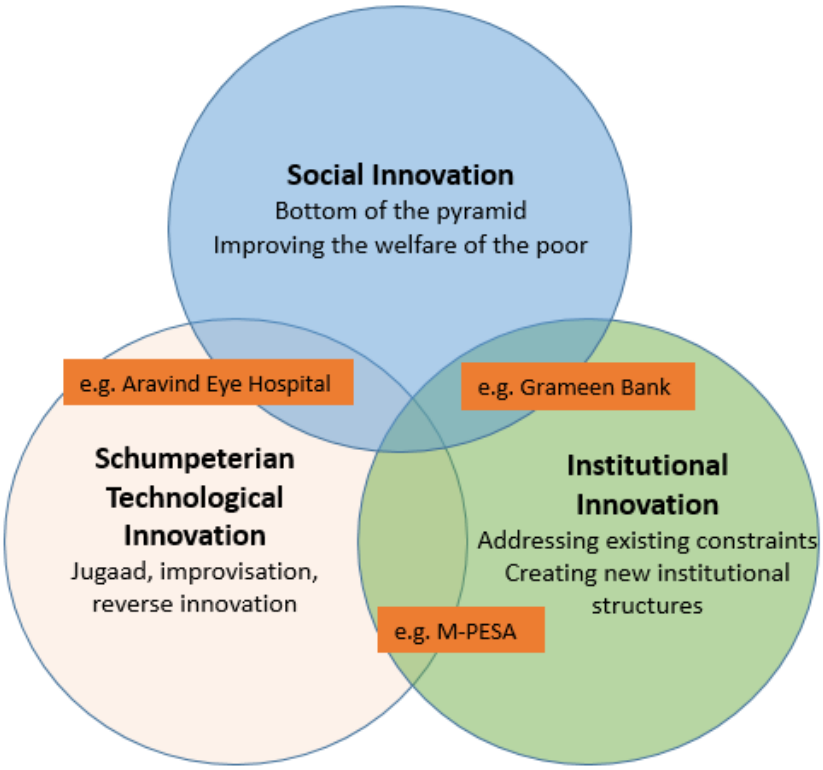


Figure 1: Frugal ICT Innovation (Sahay & Walsham (2014), adapted from Bhatti (2012)

2.2Sen's capabilities and collective social wellbeing

Researchers have pointed out that the SCA is too individualistic and fails to consider the social realities (structures and institutions) which make people seek individual wellbeing in consideration of the collective (Deneulin and McGregor, 2010). The SCA only acknowledges 'societal arrangements' in as far as they enhance individual wellbeing and freedoms (Sen, 1999). Comim and Carey (2001) contend that collective capabilities are achievable through a process of social interaction while Evans (2002) argue that individual capabilities are actually a function of collective capabilities. Stewart and Deneulin (2002) suggest that the centrality of social structures (group/collective capabilities) is critical to any conceptualization of social wellbeing and further suggest an extension of the SCA to reflect this reality.

Deneulin and McGregor (2010) provides a critique of the SCA that is key to this study's interpretation of wellbeing. While the SCA successfully resituates human wellbeing as the end and not the means of economic and social processes, its meaning of wellbeing that is rooted in the telos (aim) of 'living well' is too individualistic and fails to consider the social realities (structures and institutions) which make people seek individual wellbeing in consideration of others. Using the social construction of meaning, the new telos for human wellbeing should rather be conceived as

'living well together' as this meaning recognizes both the social and psychological constituents of wellbeing in specific social, political and cultural contexts.

Ibrahim (2006) argues that collective capability is not merely the sum of individual capabilities but rather "capabilities that an individual would neither have nor be able to achieve if they did not join a collectivity". In this conception, collective action lead to collective freedoms and collective capabilities. Through their study of an ICT initiative in a remote Mountain Region community of Nepal, Thapa et al (2012) builds on the Ibrahim (2006) understanding and develops a conceptual framework to demonstrate how ICTs can increase collective social wellbeing through enabling collective capabilities as a result of collective action.

The missing link between collective social action and collective social capabilities is the required joint commitment and agreement to act (Gilbert 2006). In order to bridge this tension between individual agency and group goals, Thapa et al (2012) envisions that the needed glue is social capital – "goodwill, fellowship and social interactions among individuals of a social unit" (Ostrom, 2000).

The resulting conceptual framework is as follows:

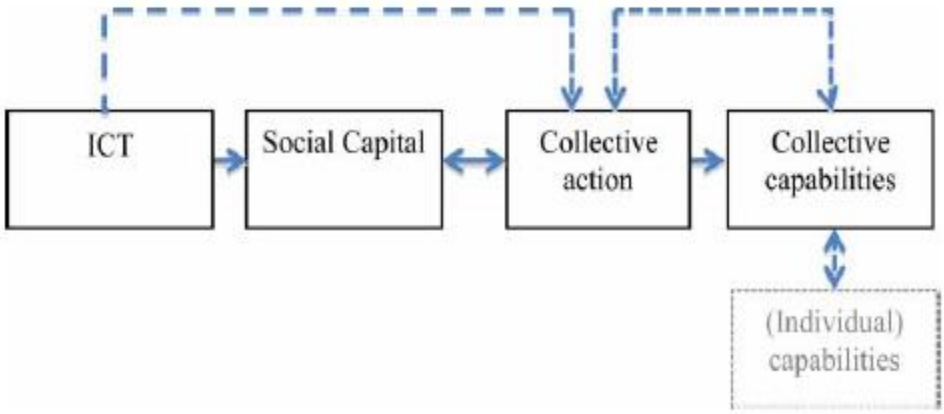


Figure 2: Theoretical framework: linking ICT (wireless internet service) to social capital, collective action, and collective capabilities (Thapa et al, 2012).

2.3 The postcolonial context and Ubuntu

The notion of collective social wellbeing is complementary to the pan-African notion of Ubuntu which primarily focusses on human dignity and social wellbeing (Bhengu, 1996) from the viewpoint of collective 'sharedness' and interdependence (Kamwangamalu, 1999). Ubuntu further views wellbeing as collective solidarity where the individual is perceived primarily in relation to

the perception of others, less as independent of the collective, but more as interdependent of the whole (Laden, 1997).

While the concept of Ubuntu is closely related to the concept of social capital, they are not the same (Piazza-Giorgi, 2002). Mbaya (2010) contends that social capital is a "western concept that revolves around socioeconomic benefits that the members of the corporate organizations yield, while Ubuntu is about African hospitality and mutual support that benefit Africans and those who interact with them. Where social capital emphasizes individual benefit due to group cooperation, Ubuntu emphasizes "fulfilment within rather than versus the community" (Mbigi (1997), Mbaya (2010)).

The persistent legacy and effects of colonialism (inequality, marginalization, poverty etc.) are still pronounced in many African states long after colonial powers ceded political power (Young, 2003). Postcoloniality, among others, provides us with theoretical tools to understand the postcolonial aftermath as part of a process to decolonize and emancipate the marginalized by restoring self-understanding (Gandhi, 1998). It is for this reason that this study that this study therefore adopts Ubuntu and not Social Capital as the theoretical glue between collective action and collective social wellbeing in African postcolonial contexts. In ICT4D, postcolonial theory has been employed as a lens through which researchers can explain and respond to colonialism and imperialism to emancipate the marginalized and oppressed (Lin et al, 2015). It has also been used as a type of critical research method that explains interrelationships between the macro and micro socio-political contexts (Richardson & Robinson, 2007).

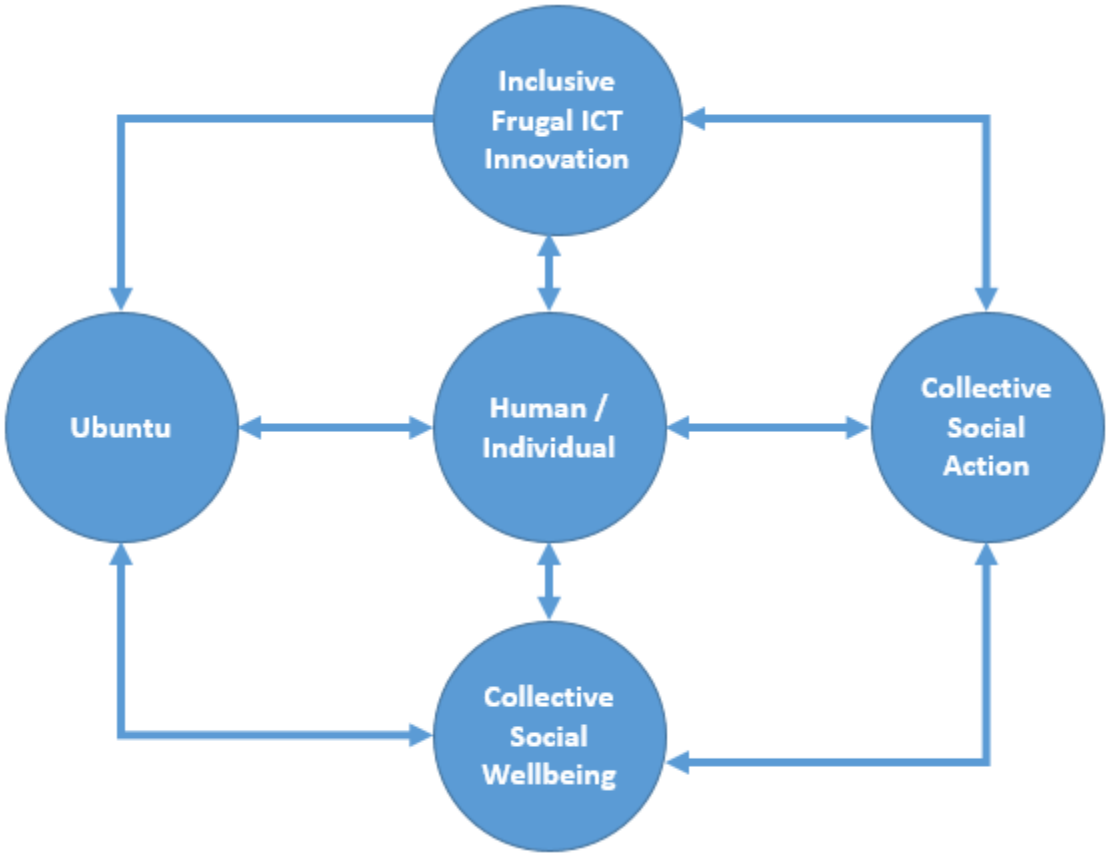
3. Proposed Conceptual framework

In the proposed conceptual framework below, the multidimensional relationship between ICT innovations and collective social wellbeing, the relationship between individual and collective wellbeing as well as the role played by Ubuntu as a social glue and basis for collective action is demonstrated. The glue between collective social action and social capability (wellbeing) is the Ubuntu - social interdependence.

In the conceptual framework below, collective social wellbeing is a collective capability only attainable collective cooperation (collective social action) due to disempowering social structures that exists in marginalized settings (diminished individual agency). Similarly, communities can be brought to act when they have an established sense of social wellbeing.

Thapa et al (2012) recognizes that collective capabilities not only foster development but also influence the beings and doings of individuals. The framework below builds on this understanding and argues that collective social action also directly influences individual capability.

In order to develop collective capabilities, collective action is required. But in order for collective action to be initiated, there should exist a driving essence which is embedded in the strength collective sense of community interdependence, Ubuntu. While Ubuntu is manifested in collective sharedness, it also has to be acted upon at an individual level until the entire collective develops a capability. Inclusive frugal ICT, with its developmental and emancipatory focus towards the marginalized, can promote and develop a sense of Ubuntu.



. **Figure 3:** Theoretical framework: linking ICT innovation to collective social wellbeing

4. Conclusion

Theoretically, the research aim was to construct a conceptual framework that seeks to better explain the link between ICT (inclusive frugal ICT innovation) and human development (social collective wellbeing) for marginalized groups in developing countries using the postcolonial lens. Social collective wellbeing was viewed through Sen's Capability Approach. The research recognized that the SCA is individualistic and was therefore extended to include collective capabilities. In the proposed model, these collective social capabilities are a result of collective social action. What makes collective social action possible in the context of a postcolonial African setting is the social interdependency ethic of Ubuntu, which transcends the concept of social capital due to the shared connectedness of the individual to the community, particularly among the

marginalized groups. This conceptual framework needs to be empirically tested to assess if it helps to better explain the interrelationship between inclusive frugal ICT innovation and collective social wellbeing.

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