A Conceptual Model for Psychological Empowerment of Telecentre Users

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Abstract

The Information and Communication Technologies usage among rural communities can be promoted through community telecentres. To date, there is a lack of adequate knowledge in terms of civic participation and empowerment that are related to ICT programs evaluations. This paper proposes a conceptual model for evaluating psychological empowerment of telecentres users based on review of literature. The Zimmerman's constructs of empowerment theory that include intrapersonal, interactional and behavioural components form the basis of the model. Researchers in the area can used this model to examine the relationship among the components of psychological empowerment for different populations and settings, and create an avenue for understanding individual users of telecentre projects.

Keywords: Rural ICT, Psychological empowerment, Telecentre

1. Introduction

Today, Internet Communication Technologies (ICTs) offers the potential to empower individuals by giving people more power to consumers and more power to shape their own lives (Moore, 2003). According to O'Neil (2002), ICT has also been linked to the aspiration of community empowerment where dimensions include revitalising a sense of community, building regional capacity, enhancing democracy and increasing social capital. The concept of empowerment is seen important due to it being a prerequisite for competitiveness where IT facilitates business operations (Collins, 1995).

The question of the use of ICT for users' empowerment has been an issue for quite sometime. Shneiderman (1990) expressed his hopes on how users are empowered by new technologies and how they apply their growing power. He also believed that computer users can experience competence, clarity, control, and comfort and feeling of mastery and accomplishment that eventually the users can take pride in a job done well and appreciate the designers of the technology. In fact, the end-user computing (EUC) environment also emphasize on the importance of the successful of information systems in empowering users to utilize IT and to perform various functions in an organizational context (Torkzadeh & Lee, 2003). Relating to the issue of empowerment, Slater and Tacchi (2004) have pointed out that it is important to investigate the ways in which ICT projects have developed confidence and capabilities to the participants. Grunfeld (2007) also claimed that many ICT for development (ICT4D) project assessments often fail to answer key questions about how these ICT initiatives can contribute to empowerment, capability and sustainability. After all, ICT has long been recognized as a tool to empower people especially the rural communities in developing countries (Kwapong, 2007). The ICT usage among rural communities can be promoted through community telecentres. These community telecentres have been rapidly promoted as a vehicle to provide access to information during the past decade, especially for rural communities in developing countries.

The telecentres built in the Malaysian rural neighborhoods in the country are under-utilised as much as they could be in delivering socio-economic value (Harris, 2005). Most of the rural folks are reported to use these telecentres just for checking e-mails, browsing the Internet and using certain computer applications (Harris, 2005). Even though there are users who use telecentres for self-development, there are still users who use the centre for entertainment (Ezhar *et al.*, 2007). This could be due to the lack of motivation on self-development and social-relation enrichment. This shows that most of the users did not use the telecentres for more economical

and beneficial opportunities such as doing business through the Internet. This also indicates that the community does not realize the value of IT in improving their quality of life as well as their economy. In addition, there is also an unbalanced usage among the people in the communities. The telecentres are regularly visited by young users such as school children and university students who usually use the computers and Internet for doing homework or assignments, and other personal tasks such as looking for job opportunities (Ezhar *et al.*, 2007; Mohd Nizam, 2005; Zahurin *et al.*, 2007). The problems of under-utilization and unbalanced usage among the communities can be associated to the empowerment issue that has been identified as part of the telecentres implementation challenges (Harris *et al.*, 2007; UNESCAP, 2006).

Roman and Colle (2005) has stated that in-depth evaluation of telecentres is sorely needed since many of the telecentres established around the developing world as pilot projects are reaching a certain stage of maturity. Moreover, there is a lack of adequate knowledge relating to ICT programs evaluations particularly in terms of civic participation and empowerment (Grunfeld, 2007; Hayden & Ball-Rokeach, 2007). From the empowerment perspective, Beardon (2004) mentioned that, there are examples of very good and very poor practice of telecentres design and management. Empowerment is achieved by supporting individual use of technology for personal needs and goals (Hermano, 1996 as cited in Lee, 2005). In other words, empowerment through ICT means transforming skills into actions to produce a self-determined change. This paper proposes a conceptual model for psychological empowerment of telecentres users. The model can be applied to find the answers to the following research questions:

a. How can intrapersonal factors play a role in empowering users of telecentres?

b. How can interactional factors play a role in empowering users of telecentres?

c. How can behavioural factors play a role in empowering users of telecentres?

2. Telecentre and Empowerment

2.1 The Role of Telecentre

A telecentre is a public place where people can access computers, the Internet, and other digital technologies that enable people to gather information, create, learn, and communicate with others. Most importantly, it provides access to Information and Communication Technologies (ICTs) for people who cannot afford to own their own. While each telecentre is different, the common focus is on the use of digital technologies to support community, economic, educational, and social development; reducing isolation, bridging the digital divide, promoting health issues, and creating economic opportunities. Telecentres are often initiated by private or public business initiatives, which provide communities with information and telecommunication services, with the aim of achieving a variety of development objectives (Bishop & Bruce, 2005; Proenza, 2001).

Telecentre provides various ICT services, such as access to the Internet, to computers and software capabilities, to electronic commerce applications, and to many other public information services (Townsend *et al.*, 2001) with the aim of achieving a variety of development objectives (Bishop & Bruce, 2005). This centre also represent a community centre that is used as a place for social gathering activities and interaction, learning, and mobilizing efforts in dealing with community problems and needs (Delgadillo *et al.*, 2002).

These community telecentres have been rapidly promoted as a vehicle to provide access to information during the past decade, especially for rural communities in developing countries. They have been viewed as an efficient approach to decrease the digital divide between developed and developing countries. Various telecentre projects have been piloted around the world and experiences have been accumulated. These various ICT-based initiatives are developed to help in reducing the digital gap between the rural and urban communities. Hopefully, by creating community telecentres, the rural communities can eventually improve their economic productivity and social well-being.

Generally, the setting up of this kind of telecentre initiatives is to address the issue of digital divide -- economic and social impacts of the shift to an information society. It is also a community-based effort to provide computer access and training to underserved populations that would otherwise not have such access such as rural communities (Jinqui *et al.*, 2006; Lennie *et al.*, 2005; O'Neil, 2002; Servon & Nelson, 2001). Since, the economic activities of the rural communities are mainly farming, fishery, and small scale business, ICT initiative is important for their development. Telecentres have presented significant potentials to diffuse ICTs among the poor and to bridge the digital gap (Elijah & Ogulande, 2006; Hazita *et al.*, 2007; Lennie *et al.*, 2005). They are especially important to rural communities, where most of the poor reside. Due to the poor communication infrastructure, low levels of knowledge and limited incomes have put the rural people in a disadvantaged position, resulting in a huge digital divide between the urban and the rural (Jinqui *et al.*, 2006). The digital gap

has been broadly articulated as the troubling gap between those who use computers and the internet and those who do not. In casting the digital divide as important national problem, scholars, policymakers and the public recognize the tremendous potential of the internet to improve everyday life for those on the margins of society, and to achieve greater social equity and empowerment (Figueiredo *et al.*, 2006; Mehra *et al.*, 2004).

As access provider, telecentres allow community members to drop in and surf the Internet or engage in a variety activities such as e-mailing, doing homework or assignments, looking for job opportunities, preparing official letters, designing cards, developing webpages, and attending computer classes (Chow *et al.*, 1998; Lentz *et al.*, 2000; Servon & Nelson, 2001; Zahurin *et al.*, 2007). Besides providing ICT and Internet access Computer Technology Centres (CTCs) have the potential to empower rural communities and facilitate socio-economic developments in agriculture (Elijah & Ogulande, 2006). Likewise, Harris (2005) mentioned that one of the telecentre's operational targets is to empower communities with skills for fostering local development. He also stated that a strategy that can be used to scale up telecentres is by empowering the disadvantaged and underserved groups.

Besides the above challenges, empowerment of the communities seems to be one of the critical factors in ensuring the successful and sustainability of the telecentres. In fact, it is also timely that the telecentres be used to empower the rural communities so that health awareness, education and training, access to job opportunities, and income can be increased and improved (Norizan, 2009).

2.2 The Concept of Empowerment

The term empowerment has been widely used in the social sciences across a broad variety of disciplines, such as community psychology, management, political theory, social work, education, women studies, and sociology (Lincoln *et al.*, 2002). The term empowerment is most frequently used in the community psychology disciplines (Hur, 2006). However, there is no clear definition of empowerment across disciplines. In the literature, empowerment is defined and described in various ways, either as a term, construct, concept, or process. Usually, the empowerment concept is defined narrowly using only a specific scholarly discipline or program (Page & Czuba, 1999). Several empowerment definitions are presented in this section together with a working definition that will be used in this study.

The term empowerment is defined as the notion of people having the ability to understand and control themselves and their environments (including social, economic, and political factors), expanding their capabilities and horizons and elevating themselves to greater levels of achievement and satisfaction (Lee, 2005; Wilson, 1996). Chamberlain (1997), who views empowerment more in the perspective of mental health rehabilitation, refers to empowerment as a process that has a number of qualities such as: having decision making power, having access to information and resources, having a range of options from which to make choices. Empowered individuals are described as having high self-esteem, feelings of self-efficacy, feelings of control over his/her life, increased critical awareness, and increased civic participation (Perkins & Zimmerman, 1995; Zimmerman, 1995, 2000). From the perspective of ICT, empowerment is achieved by supporting individual use of technology for personal needs and goals (Hermano, 1996 as cited in Lee, 2005). In other words, empowerment through ICT means transforming skills into actions to produce a self-determined change.

There are three levels of empowerment: organizational, community, and individual empowerment. The first level of empowerment, organizational empowerment, refers to the organizational processes and structures that enhance member participation and performance and eventually improve the achievement of organizational goal (Clement, 1994; Perkins & Zimmerman, 1995; Wilson, 1996). The second level of empowerment, community empowerment refers to collective action to improve the quality of life in a community and to the connections among community organizations (Clement, 1994; Perkins & Zimmerman, 1995; Wilson, 1996). However, Perkins and Zimmerman (Perkins & Zimmerman, 1995) indicate that organizational and community empowerment are not simply a collection of empowered individuals. For the individuals, empowerment is concern with the transformation of individuals' lives in achieving goals and reaching targets, which they had thought impossible (i.e. to gain authority, skills, status, self-belief and image, progressing to greater things and increasing rewards) (Wilson, 1996). The individual empowerment is also referred as psychological empowerment (PE).

Based on the above definitions and descriptions of empowerment, the working definition of empowerment in this study refers to the ability of a person in acquiring technological/ICT skills and competency to be able to control oneself and the environment in making positive change in one's life.

3. Empowerment-related Research on ICT

Based on the information management literature, there are a number of researchers that focus on the issue of empowerment. Clement (1994) considers the issue of empowerment to be important to the study of the impact of IT on the workplace while Yat (2004) regards IT as an important tool for empowerment by studying the use of computers among senior persons. The findings in latter study indicate that the respondents changed quite substantially in terms of the three empowerment dimensions: self-efficacy, social awareness and skill building. Another study by Adams *et al.* (2005) showed how technology can empower or exclude its users, specifically on the used of digital libraries. The result of the study highlights the interaction between technologies and organizational norms as a greater factor in users being marginalized and excluded from technology. Poor technology design, training, and support produced a knowledge gap between those who could and could not use the technology. Mehra et al. (2004) carry out a study on the use of internet for empowerment of the minority and marginalized user. They used three case studies in their research to learn more about the constructive change of incorporating internet into the daily life of the marginalized community. One of the cases involves the Community Networking Initiative (CNI), computer training and distribution program for low-income communities in Champaign County, Illinois.

In order to ensure that ICT initiatives fundamentally address the issue of empowerment, Beardon (2006) has done a study involving the ICT project initiatives, which have been running pilots in Burundi, India, and Uganda. Her study is an attempt to show how attention to the human communication dimensions of ICTs can make applied technology more sustainable and appropriate for poor communities. Other researches discuss the issue of empowering the marginalized communities through ICT-based project initiatives (Beardon, 2006; Elijah & Ogulande, 2006; Gigler, 2004; Kwapong, 2007; Litho, 2005; Masi *et al.*, 2003; Mehra *et al.*, 2004; Morrell & Sterling, 2006; Nath, 2001; Norizan & Faridah, 2006; Pattanaik, 2005; Siddiquee & Kagan, 2006). From these studies, many focused on the used of ICT for women empowerment that brings about ability to make choices in the social, political, and economic arenas. In addition, it is found that technological engagement empowered the women through efficient and effective access to previously intangible information (Nath, 2001).

The above research are in-line with O'Neil (2002) study which concluded that there are five major outcomes theories used in telecentre evaluations. Those theories are democracy, social capital, sense of community, economic development, and individual empowerment.

4. Applying the Theoretical Framework: Zimmerman's Empowerment Theory

In terms of ICT programs evaluation, Gigler (2004) and Grunfeld (2007) applied the Amartya Sen's capability approach to determine whether ICT can play a role for the empowerment of marginalized groups. The finding indicates that there is no direct and causal relationship between ICTs and empowerment, but the relationship is being shaped by a dynamic, multi-dimensional interrelationship between technology and the social context. Siddiquee and Kagan (2006) utilize the grounded theory approach to understand refugee women's engagement with the Internet and its impact on their empowerment and identity. In addition, they also applied the Zimmerman's model of psychological empowerment which includes the three constructs; intrapersonal, interactional, and behavioural. From the study, it is found that technological engagement helps the respondents to develop their identity, resolve conflicts, and foster psychological empowerment in terms of actively facilitating their resettlement and integration.

Empowerment theory offers a model for understanding the process and the consequences of efforts to exert control and influence over decisions that affect one's life, organizational functioning, and the quality of community life (Perkins & Zimmerman, 1995; Zimmerman & Warschausky, 1998). The theory also provides principles and a framework for organizing knowledge. It suggests ways to measure the construct in different contexts, to study empowering process, and to distinguish empowerment from other constructs such as self-esteem, self-efficacy, or locus of control (Zimmerman, 2000).

Before defining the empowerment theory, one must acknowledge the difference between empowerment processes and outcomes (Table 2.1). Empowerment process attempts to gain control, obtain needed resources and critically understand one's social environment. It also helps to develop skills so individuals can become independent problem solvers and decision makers. Empowerment outcomes refer to the operationalisation of empowerment. The outcomes differ according to the level of analysis. The focus of empowerment outcomes is to study the consequences of citizen attempts to gain greater control in their communities or the effects of interventions designed to empower participants (Zimmerman & Warschausky, 1998).

Few individuals have presented a theoretical framework of empowerment at the individual level of analysis that will provide a basis for developing outcome measures (Zimmerman & Warschausky, 1998). Empowerment at

individual level of analysis may be referred as psychological empowerment (PE). Two studies suggest that PE is a combination of personal beliefs of control, involvement in activities to exert control, and a critical awareness of one's environment (Zimmerman, 2000). The first study, done by Kieffer (1984), uses qualitative approach to describe the development of PE among community leader. The other study, conducted by Zimmerman and Rappaport (1988), uses qualitative approach to examine the common variance among several measures of perceived control in student and community samples. In another study by Masi *et al.* (2003), PE is referred as an individual's ability to make decisions and have control over his or her personal life and characterized by a sense of perceived control, competence and goal internalization. It combines personal efficacy and competence, a sense of mastery and control, and a process of participation to influence decisions and institutions.

For this study, specifically, the psychological empowerment theory will be applied since it is focusing on the individual level of analysis in examining the empowerment outcome of telecentre implementation. Since individuals would be the level of analysis, the outcomes might include situation-specific perceived control, skills and proactive behaviours (Table 2.1). This theory is chosen based on Zimmerman and Warchausky (1998) suggestion that empowerment theory can be a useful framework for attaching rehabilitation research that focuses on control and involvement. In this case, telecentre can be regarded as having similar function to a rehabilitation centre which functions as a place to improve the well-being or the quality of life of individuals. Furthermore, Zimmerman (2000) recommended that research on PE requires attention to the development of a theoretical framework particularly to the constructs. In addition, he also suggested conducting research to examine the relationship among the intrapersonal, interactional, and behavioural components of PE for different populations and settings.

5. Developing a conceptual model for Psychological Empowerment of Telecentre users

The conceptual model shown in Figure 1 provides researchers with a theoretical guide to conduct a study on psychological empowerment of telecentres' users. This model is constructed to answer the following research questions: (i) How can intrapersonal factors play a role in empowering users of telecentres?, (ii) How can interactional factors play a role in empowering users of telecentres?, and (iii) How can behavioural factors play a role in empowering users of telecentres? These questions form the dimension of the empowerment constructs for the model: intrapersonal, interactional, and behavioural which are in-line with the PE theory of Zimmerman's.

Zimmerman (1995, 2000) describes intrapersonal empowerment as people's own beliefs about their ability to control their environment and achieve their goals. It is perceived as the emotional component of psychological empowerment, and focuses on a person's feelings about her inner world (Kasturirangan, 2008). Based on Zimmerman (2000), intrapersonal empowerment construct is indicated by one's perceived control, self-efficacy, competence, and motivation. For telecentre users in rural areas, perceived control concerns with their reactions towards improving their socio-economic well-being. Self-efficacy focuses on their performance after acquiring ICT skills and knowledge in achieving a desired goal. Competence relates to their understanding and capabilities on the technical aspects of ICT. Motivation concerns with the inner factors that drive them to use ICT in improving their socio-economic well-being.

The interactional construct of psychological empowerment describes how people analyze and understand their external conditions including social and political environment (Zimmerman, 2000). The interactional construct consists of critical awareness, decision-making, problem-solving and leadership skills. For telecentre users in rural areas, critical awareness refers their awareness level regarding the establishment of the telecentres in their neighbourhood. Zimmerman (1995) state that interactional empowerment could involve new insights, information, and knowledge, and could include being able to identify useful resources, knowing how to access these resources, and understanding barriers to resource access. With regard to telecentre users, these provide indications of their decision-making, problem-solving and leadership skills.

Behavioral empowerment reflects efforts made that promote an individual's strengths or competencies. Zimmerman (1995) emphasizes that actions associated with behavioral empowerment would vary with the goals and opportunities available. For telecentre users, this includes their participation and coping efforts to engage themselves in ICT-related telecentre activities to improve their socio-economic well-being.

The above indicators for the psychological empowerment (PE) constructs of telecentre users are depicted in Figure 1.

The variables that will be used from the intrapersonal constructs are perceived control, efficacy, competence, and motivation. For the interactional construct, the variables chosen are critical awareness, decision-making, problem-solving, and leadership skills. Finally, the behavioural construct, the variables chosen are participation and coping. In order to fully capture PE, these three constructs; interpersonal, interactional and behavioral, will

be measured. Those who score high on all three components are considered the most highly empowered. On the other hand, those who have high score in intrapersonal and low score in interactional and behavioral are considered less empowered or limited PE (Zimmerman, 2000). However, a significant barrier for studying PE is the development of appropriate measurement devices. Since empowerment differs according to context and population-specific, measure of PE need to be developed for each specific population with which one is working (Zimmerman, 2000).

6. Conclusion

Assessment of telecentre projects mainly focused on the success of the projects. Even though there are studies conducted to evaluate the impact of telecentre projects on the community, these studies tend to be focusing more on socio-economic aspects in general. In her review of methodological approaches, O'Neil (2002) concludes that individual empowerment is one of the key areas in measuring impacts of ICT projects. The proposed model for psychological empowerment of telecentre users provides an avenue for researchers in understanding individual users of telecentre projects. This is essential so that appropriate recommendation on the next course of actions be proposed to the stakeholders of the projects. Rigorous evaluative evidence of the performance of rural telecentres can provide information for more effective public policy and program planning (Beardon, 2006; Roman & Colle, 2005). This model is regarded as a contribution in applying the empowerment concept in ICT environment as suggested by Zimmerman (2000). The model can be a basis for researcher to examine the relationship among the intrapersonal, interactional, and behavioural components of PE for different populations and settings.

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Table 1. A comparison of Empowering Processes and outcomes across Level of Analysis

Level of analysis	Process ("empowering")	Outcome ("empowered")
Individual	Learning decision-making skills Managing resources Working with others	Sense of control Critical awareness Participatory behaviours
Organizational	Opportunities to participate in decision-making Shared responsibilities Shared leadership	Effectively compete for the resources Networking with other organizations Policy influence
Community	Access to resources Open government structure Tolerance for diversity	Organizational coalition Pluralistic leadership Residents' participatory skills

Source: (Zimmerman, 2000)

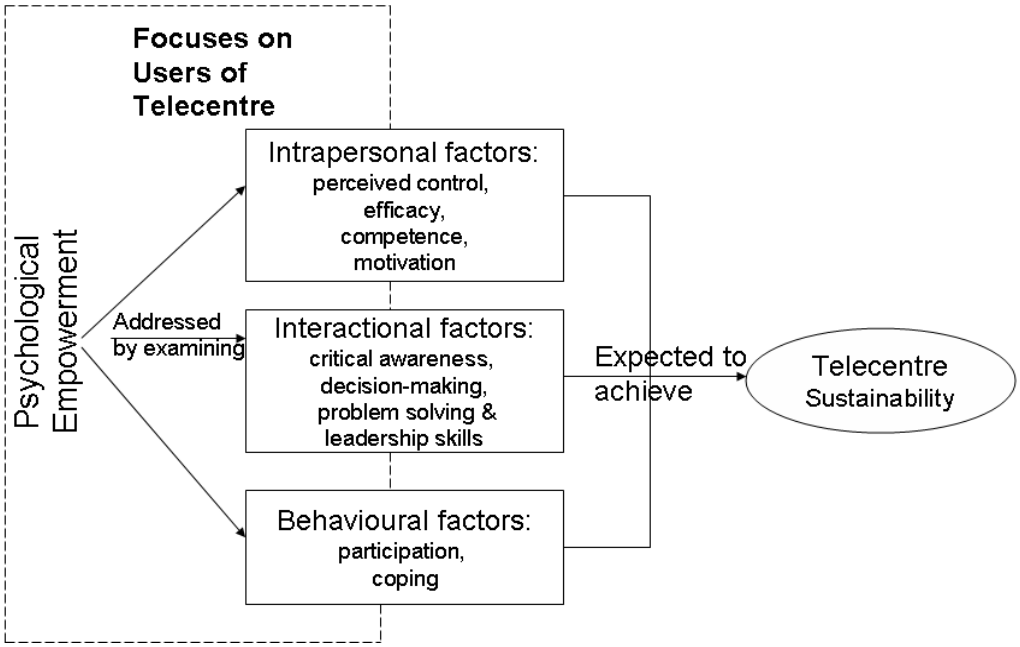

Figure 1. A Conceptual model of Psychological Empowerment for Telecentre Users