User Technology Readiness in ICT for Social Development Initiatives

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Information and Communication technology (ICT) is fuelling the growth of global economy. Intelligent use of ICT is a key to transform societies and it can contribute to the development objectives of a nation mainly through three ways: (1) serving as a tool to tackle some of the real world issues like health, education, agriculture, poverty, etc. (2) acting as a medium for efficient delivery of government services, and (3) promoting techniques to tackle the problem of information asymmetry. ICT for Development (ICT4D) is one of the dominant themes in the domain of Social Informatics studies. It encompasses socio-economic research that examines the ways in which the technological artifact and the human social context mutually constitute the ICT ensemble (Kling, 2000). ICT4D is defined in this study as the design and use of ICT and e-Services that consider social context and socio–economic development.

The main factors which determine the success of a high technology project in a social setting are its acceptance and usage rate. The lliterature reports that the failure rate of ICT4D projects is generally very high especially in the context of developing countries (Heeks, 2002; 2008; Ray, 2012). A number of factors attribute to this which include lack of user technical skills, incompetent staff, insufficient information infrastructure, inadequate support from the top management, privacy/ security issues, awareness issues, lack of involvement of the users in the design phase, etc. The technology readiness and acceptance model theorizes that user technology readiness is the main determinant of use intention. Technology readiness refers to people's propensity to embrace and use new technologies for accomplishing goals in home life and at work. Extant literature, practitioner interviews and secondary data analysis using technology readiness indices indicate that participation of Indian citizens in the e-Services is relatively low when compared to its counterparts. The analysis also revealed that user technology readiness rankings for ICT4D in India had declined over the period from 2003 to 2013.

The lack of user participation in ICT4D initiatives and reluctant usage of its services are major concerns in the ICT4D project implementation and research studies have not focused on these issues. This gap led to the following research questions addressed in the

study: (1.a) What are the factors that contribute to the user technology readiness in the context of ICT4D? (1.b) How does technology readiness influence the use intention in ICT4D projects? (1.c) How does technology readiness mediate the relationship between these factors and the ICT4D use intention? (2) How do these factors contribute to the successful implementation of ICT4D initiatives?

The research started by exploring the various ICT indices and usage rankings published by agencies like ITU, WEF, UNPAN, UNCTAD, etc. exhibiting the problem of user technology readiness in ICT4D. A framework for User Technology Readiness in ICT4D was then developed to comprehend the underlying factors promoting user technology readiness. This framework was based on Diffusion of Innovation Theory, Theory of Reasoned Action, and extant literature on consumer readiness. The factors in the framework represent four dimensions: (a) the factors related to technology (b) user characteristics (c) project specific factors, and (d) macro environmental characteristics.

Structural Equation Modelling (SEM) was used to empirically investigate the proposed framework. Data for the study was collected from ICT4D users. The factors affecting user technology readiness and mediating role of technology readiness in the relationship between these factors and use intention are tested. The moderating role of age and gender in these relationships are examined in the study. The study also identified whether these factors discriminate between the success/failure of the ICT4D projects which is empirically tested.

The study makes a novel contribution to the theory of technology acceptance by building a model of user technology readiness in ICT4D initiatives. It emphasizes on the role of technology readiness construct in the personal settings compared to technology acceptance which is mainly used in work settings. For practitioners, the study provides a list of important parameters to be considered in the successful implementation of ICT4D initiatives.