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Assessing the contribution of information technology to development: A social systems framework based on structuration theory and autopoiesis

by

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Abstract

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One of the key challenges in information and communication technologies for socio-economic development (ICT4D) is that the contribution of ICT to development is difficult to describe and assess. This is particularly true when looking beyond the immediate context of an ICT4D project, to its impact on the larger social system within which the project is introduced.

This problem can benefit from a systems approach. Systems thinking is concerned with the performance of the total system, when changes are made to a part of the system. Systems thinking recognises that the performance of a subsystem relative to its own goals does not necessarily lead to increased performance of the larger system. However, in the field of ICT4D, systems approaches are seldom used, and appropriate ways to describe and assess a social system are lacking. The study aims to contribute theoretically as well as empirically to the social systems body of knowledge in ICT4D. A particular social systems approach or framework is developed, based on structuration theory and autopoiesis. The framework is attractive because it provides a way to describe and assess the sustainability and state of development of the total system.

The theoretical component of the thesis concerns the development of a social systems framework. This is done in a conceptual study that draws on systems literature and social theory.

The empirical component concerns the application of the systems framework in an ICT4D case study. A descriptive, longitudinal case study is performed in a rural settlement in KwaZulu Natal, South Africa. Data is collected by means of interviews and participant observation during several visits to the settlement. Data analysis is done making use of the concepts in the systems framework. The result of the data analysis is a description of the larger social systems where the ICT4D project is implemented, as systems served, and the ICT4D project, as serving system. By studying the mutual influences between the serving system and systems served, the contribution to socio-economic development of the serving system is assessed.

The study's research contribution is to indicate how a social systems framework can be used to assess an ICT4D project's contribution to the socio-economic development of the social systems it serves.

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