An Investigation of ICT Project Management Techniques for Sustainable ICT Projects in Rural Development

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By

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Abstract

Poverty alleviation by means of rural development has become a priority among developing countries. In turn, rural development may be significantly enhanced and supported by Information and Communication Technologies (ICTs), the use of which is highlighted by the emerging importance of information and knowledge as key strategic resources for social and economic development. An analysis of rural case studies where ICTs have been introduced, suggests that there are a number of barriers and constraints that are faced when taking advantage of these technologies. These include access to infrastructure, limited formal education, insufficient training and capacity building, financial and political constraints, and social and cultural challenges. These challenges threaten the success and sustainability of rural ICT projects. Sustainability is key to the effectiveness of a rural ICT project; therefore it is important to understand the concept and categories associated with ICT project sustainability in rural areas. The categories of sustainability which include social and cultural, institutional, economic, political, and technological, reveal critical success factors that need to be considered in the implementation and management of rural ICT projects.

The project management discipline acknowledges the importance of understanding the project’s environment, particularly environmental factors associated with rural communities. The complexity of the environment therefore implies the need for a project to be undertaken in phases comprising the project life cycle. Project management practice for rural ICT project sustainability can therefore be examined, adapting the traditional project life cycle to a rural ICT project. A Rural ICT Project Life Cycle (RICIT-PLC) that is sensitive to the critical success factors of sustainability is therefore proposed. In order to further investigate the phases of the life cycle of a rural ICT project, two case study investigations are explored: the Dwesa ICT community project, and the Rhodes University Mathematics Education Project (RUMEP) (MathsNet). A multiple case study analysis confirms the practices associated with the RICIT-PLC model, and identifies additional characteristics, phases and practices associated with rural ICT projects. Finally, an enhanced RICIT-PLC model is developed, that sets sustainability guidelines for ICT project management in rural areas and identifies the people, environments, technologies, systems, and requirements for ICTs to support rural development activities.