The "Ecological Approach" to GIS Implementation in Low Income Countries' and the Role of Universities: Union of Municipalities of Joumeh Case Study

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Abstract : This paper explores the effectiveness of approaches used for the implementation of technology within central governments specifically Geographic Information Systems (GIS). It examines the extent to which various strategies to GIS implementation and its roll out to users within an organization is crucial for its long term assimilation. Depending on the contextual requirements, various implementation strategies exist spanning from the most revolutionary to the most evolutionary, which have an influence on the success of GIS projects and the realization of resulting business benefits within the central governments. This research compares between two strategies of GIS implementation within the Lebanese Municipalities. The first strategy is the “Technological Approach” which is focused on technology acquisition, overlaid on existing governmental frameworks. This approach gives minimal attention to capability building and the long term sustainability of the implemented program. The second strategy, referred to as the “Ecological Approach”, is naturally oriented to the function of the organization. This approach stresses on fostering the evolution of the program and on building the human capabilities. The Union of the Joumeh Municipalities will be presented as a case study under the “Ecological Approach” and the role of the GIS Center at the University of Balamand will be highlighted. Thus, this research contributes to the development of knowledge on technology implementation and the vital role of academia in the specific context of the Lebanese public sector so that this experience may pave the way for further applications.
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