

Title: Economic Efficiency Analysis for Information Technology in Developing Countries

Author: Ghassan F. Issa, Shakir M. Hussain and Hussein Al-Bahadili

Source: Journal of Computer Science 5(10): 751-759 , 2009

Abstract: Problem statement: The introduction of Information Technology (IT) to government institutions in developing countries bears a great deal of risk of failure. The lack of qualified personnel, lack of financial support and the lack of planning and proper justification are some of the causes of projects failure. Study presented in this study focused on the justification of IT projects through the application of Cost Benefit Analysis (CBA) as part of a comprehensive Economic Efficiency Analysis (EEA) of IT Projects, thus providing management with a decision making tool which highlights existing and future problems and reduces the risk of failure. Approach: Cost-Benefit Analysis (CBA) based on Economic Efficiency Analysis (EEA) was performed on selected IT projects from ministries and key institutions in the government of Jordan using a well established approach employed by the Federal Government of Germany (KBSSt approach). The approach was then modified and refined to suit the needs of developing countries so that it captured all the relevant elements of cost and benefits both quantitatively and qualitatively and includes a set of guidelines for data collection strategy. Results: Selected projects were evaluated using CBA, most cases yielded negative Net Present Value (NPV) though, some cases showed some reduction in operation cost starting from the third year of project life. However, when the CBA was applied as a part of a comprehensive EEA by introducing qualitative aspects and urgency criteria, proper justification for new projects became feasible. Conclusion: The modified EEA represented a systematic approach which is well suited for the government of Jordan as a developing country. This approach was useful in dealing with the justification issue, evaluation of existing systems and the urgency of replacing legacy systems. This study explored many of the challenges and inherited problems of the public sectors of developing countries which can not simply be resolved by the introduction of IT projects, but rather require more comprehensive solutions.