ABSTRACT

In Malaysia major information technology transfer in public sector agencies is usually due to policy implementation. This policy-led technology transfer involves central government directives to implementation agencies. The technology transfer process usually not only involves multi-organizations that consist of many public agencies and private sector organizations but also involved many phases. Each organization plays certain roles and contributes to the achievement of the technology transfer objectives. Each phase serves a different purpose and each role during each phase has different requirements. Coordinating and encouraging multiple organization participation in each phase is complex and a challenge that may at least result in project delays or technological decision-making based on non-technical considerations. In such a case understanding interactions between stakeholders is important in designing activities and strategies for effective technology transfer processes suitable to the local environment. This is especially true for technology that requires further development to adapt it to the local environment. [Article copies are available for purchase from InfoSci-on-Demand.com]

Keywords: Actor Network Theory; Information Technology Transfer; Multi-Organizational Interactions; Policy-Led Technology Transfer; Technology Transfer Stages

INTRODUCTION

Malaysia is a developing country in the process of transforming her economy from manufacturing to a knowledge-based economy. Malaysia believes that information technology should be a catalyst to this transformation process. It is not surprised that government has put serious focus on IT not only in using IT for development but
also to develop the IT industry. One of the important IT related policies is developing the Multimedia Super Corridor (MSC) launched in the Seventh Malaysia Plan (1996-2000). This covers a designated area in Selangor state. In order to develop the MSC a number of MSC Flagship Applications such as Smart-School, E-Government, Telemedicine, Government Multi-purpose Card, R & D Clusters, Worldwide Manufacturing Web and Borderless Marketing were launched. The MSC development was extended into the Eighth Malaysia Plan (2001-2005). In the Ninth Malaysia Plan (2006-2010) the coverage of the MSC area included several of other states in Malaysia. Implementation of this policy involves IT technology transfer from overseas suppliers to local IT industries and from local IT industries to local users which include public sector agencies, private sector organizations and public individuals. Thus issues related to information technology transfer are important to Malaysia. They are critical to Malaysia as investments on the seven Flagship Applications are costly. At the same time technology progress in IT is very fast, any delay in the technology transfer progress will make the application less effective. The policy-led technology transfer process is complex as it involves many stakeholders from both public and private sector agencies. Thus information technology transfer involved in the IT policy implementation cannot be taken lightly in order to achieve maximum benefit from it. This article explores issues related to multi-organisation interactions in a case study of smart-card technology transfer in a public sector agency of Malaysia. Analysis of the case study makes use of an approach that combines technology transfer stages and actor-network theory. We found that ignoring issues that emerge from interactions between stakeholders not only delays the transfer processes but also does not fully achieve the original project objectives. The experiences may be useful in the implementation of any E-Government applications as they also involve information technology transfer.

**LITERATURE REVIEW, CONCEPTS AND FRAMEWORK OF THE STUDY**

All Technology transfer is a complex and difficult process, especially where secondary uses of innovations are involved (Buxton et al 1991; Frutkin 1975). Technology transfer usually requires collaborative activity between two or more individuals or functional units that are often separated by a range of structural and cultural barriers (Gibson et al 1995). According to Kahen (1997), technology transfer is multi-dimensional and multi-factor. It involves economic, social, political and organizational dimensions (Buxton et al 1991). Previous studies also show that there are many factors that affect technology transfer effectiveness, such as technical, human resources and technology transfer processes (Madu 1992). Buxton and Malcolm (1991) found that the process of transfer is complex involving many roles and phases. Each phase serves a different purpose and each role, during each phase, has requirements for a different type of information. If any role is mishandled or any phase is inadequately carried out, it is probable that the effort will not succeed. This article gives a focus on the technology transfer process and how the interactions between various stakeholders including the technology involved affect the process.
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