Chapter 2.3

An Information Technology Planning Framework for an Industry Cluster

Albert Wee Kwan Tan
National University of Singapore, Singapore

ABSTRACT

Strategic IS planning (SISP) has been found to be a key issue of concern for management across organizations in various industries. However, most SISP studies have been conducted in the context of large, for-profit organizations but not at the industry level. An industry approach to SISP has been found to be most effective in Singapore to develop the IT capabilities of each industry. This chapter introduces a framework for planning of information technologies (IT) for the industry cluster. More specifically, the different stages in planning and executing an industry scale IT project for supply chain management are discussed here based on an example from Singapore. This generic framework proposed can be used in any industry where IT plays a strategic role for industry transformation.

INTRODUCTION

According to Michael Porter, similar companies are not the only companies that tend to cluster together. It happens in virtually every business and it has to do with natural competitive advantages created by the clustering process (Porter, 1998).

When companies cluster together, they tend to have a mutual reinforcement and the flow of information is enhanced when these companies work in the same field. It is much more efficient to do business within a cluster because companies can turn to suppliers or other companies who are near them, rather than creating everything from zero. It is also easy to find people, new business partners and it is a self-reinforcing process that tends to feed on itself.

In fact, the government plays a strategic role to improve the performance of each key industry through the development and deployment of such project. Carlsson and Mudambi (2003) find that one of the primary challenges for policymakers is to create a favorable climate for private entrepreneurship, often related to the formation of clusters. This however cannot be directed, only facilitated. Furthermore, once clusters have been formed, a comprehensive set of facilitating policies, from information provision and networking to tax codes and labor laws, are necessary (Braunerhjelm and Carlsson, 2003).

As such, the deployment of innovation is important from the national development point of view, and in order to benefit the stakeholders in the national economy, the deployment should take place in industry level instead of supporting individual companies only. From the companies' point of view, industry level is a natural environment to enhance their opportunities to do business with the supply chain partners. Therefore it makes sense to examine the IT planning and deployment at an industry level than enterprise level for economic growth.

The purpose of the chapter is to examine existing IT planning frameworks that are applicable to industry and if none are found, extend or adapt the frameworks to meet the industry needs. The framework will need to address the following questions:

- Is there existing IT planning frameworks for industry cluster available from the literature?
- What are the key activities involved and their duration in each phase of the framework?
- How does each actor add-value during implementation and the key measurements of success in each phase?
- Are there potential risks that can be avoided when implementing such industry cluster projects?

After reviewing the literatures for SISP, we were not able to find any framework that is meant for industry. We therefore are proposing a new framework to provide a systematic approach to deploy information technologies within an industry cluster. This framework is adapted from Lederer and Salmela (1996) framework and applied to a few industries in Singapore. A case study is used to illustrate its application.

LITERATURE REVIEW

Strategic information system planning (SISP) has consistently been identified as one of the most critical issues facing IS executives and academic researchers (King, 1995; Lederer and Salmela, 1996; Segars and Grover, 1999; Teo and Ang, 2000; Li and Chen, 2001; Basu et al., 2002; Lee and Pai, 2003; Newkirk et al., 2003; Brown, 2004). From the surveys of information systems management issues conducted during the recent decade, SISP remains one of the major issues facing IT/IS executives and corporate general managers (Brancheau et al., 1996; Watson et al., 1997; Chou and Jou, 1999; Gottschalk, 2001; Pimchangthong, 2003). SISP has been described as a managerial and interactive learning process for integrating information systems considerations into the corporate planning process, aligning the application of IS to business goals, developing

Related Content

Exploring the Adoption of Sports Brand Apps: An Application of the Modified Technology Acceptance Model
Hyun Byun, Weisheng Chiuand Jung-sup Bae (2018). *International Journal of Asian Business and Information Management (pp. 52-65).*
www.irma-international.org/article/exploring-the-adoption-of-sports-brand-apps/193654

Effect of Brand Familiarity on Sponsor Recall: Evidence from Swimming Competitions
Ho Keat Leng, Xinran Wuand Deping Zhong (2019). *International Journal of Asian Business and Information Management (pp. 49-60).*
www.irma-international.org/article/effect-of-brand-familiarity-on-sponsor-recall/233577

The Perspectives of African History
 (2014). *Emerging Business Opportunities in Africa: Market Entry, Competitive Strategy, and the Promotion of Foreign Direct Investments (pp. 11-42).*
www.irma-international.org/chapter/the-perspectives-of-african-history/80139

Exploring Kapferer's Brand Identity Prism Applicability in Indian Political Marketing Aspect With Special Focus to Youth Voters
Subhajit Bhattacharya, Rohit Vishal Kumarand Anindya Dutta (2018). *Start-Up Enterprises and Contemporary Innovation Strategies in the Global Marketplace (pp. 136-152).*
www.irma-international.org/chapter/exploring-kapferers-brand-identity-prism-applicability-in-indian-political-marketing-aspect-with-special-focus-to-youth-voters/191344

Effect of National Culture on Development of International Business in the Sultanate of Oman
Neeta Baporikar (2016). *International Business: Concepts, Methodologies, Tools, and Applications (pp. 397-417).*
www.irma-international.org/chapter/effect-of-national-culture-on-development-of-international-business-in-the-sultanate-of-oman/147865