Chapter VI

The Impact of Culture on the Development of Information Systems: A Case Study

Trevor T. Moores
University of Nevada Las Vegas, USA

Frank H. Gregory
Independent Consultant, Thailand

The development of an information system typically requires debate between interested parties. In particular, debate between users is meant to define a common set of functional requirements. The applicability of this approach depends, however, on the willingness of participants to enter into such an open discussion. However, while holding differing, perhaps conflicting views, is seen as acceptable in Western cultures, in Eastern cultures more importance is placed on social consensus and aligning one's views with that of the group. This paper reports on a case study that highlights the problems of using debate as an analysis tool in an Eastern culture, namely, Hong Kong. The case study involves the use of Soft Systems Methodology to guide a feasibility study for a marketing system within Hongkong Telecom. Three main problems were identified: 1) Group discussions were avoided; 2) Interviews were conducted in multiple languages; and, 3) High staff turnover made it difficult to develop and maintain mature stakeholder views. The study suggests that culturally sensitive development methods are needed to ensure culturally appropriate ways of developing an information system.

INTRODUCTION

Culture is often defined as a pattern of basic beliefs, assumptions, and values held by the people concerned (Deal & Kennedy, 1982; Hall, 1973; Hofstede, 1980, 1997; Parsons, 1951). In an organizational context, culture is also taken to include the control and exchange mechanisms inherent in the organization (Jones, 1983; Wilkins & Ouchi, 1983), that is, the "way things are done around here." Following Hofstede (1980, 1997), it is generally

accepted that Western cultures are more individualistic, tolerant of different behavior and opinions, and have a lower regard for status differences than Eastern cultures. Eastern cultures, on the other hand, tend to be more collectivist, have higher uncertainty avoidance, and have an acute regard for status levels.

These cultural differences are now being seen to affect the way people participate in the design, development, and use of information systems. At one level, software developers have been described as having their own intrinsic culture, where community is an important aspect of a successful team and debate is an integral part of the development process (Dube & Robey, 1999; Mackey, 1999; Sharp et al., 2000). Since information systems are developed with expectations of how end-users are meant to interact and work with the system, there are also potential conflicts when the values embodied within the system conflict with the actual culture of the end-users (Nissenbaum, 2001). The furore caused by Intel's Pentium III chip with its embedded personal serial number is one example.

At the national level, cultural differences in perceptions of information technology by end-users have led to a need to be culturally sensitive in the design of user interfaces (Evers & Day, 1997; Gando & Nielsen, 1996). The page layout, navigation, and information content of Websites have also been found to have a strong cultural dimension (Becker & Mottay, 2001). Culture has also been related to the relative effectiveness of Group Support Systems (Watson et al., 1994), and in the adoption of new technologies (Png et al., 2001).

Hong Kong is perhaps a unique place to investigate these cultural issues, since it had been Western-governed for more than 150 years but has remained an essentially Chinese culture. Although Chinese management is more group oriented (Lockett, 1988), where collective ideals are emphasized, Hong Kong comes relatively low in terms of uncertainty avoidance in Hofstede's model (Hofstede, 1980, 1997; Leung & Bond, 1989), suggesting they are willing to take risks. This suggests that Hong Kong, while having a basically Chinese group-oriented culture, has also adopted an entrepreneurial spirit, where business is as dynamic and high risk as in any other Western country.

The question, therefore, is whether the culture defined for Hong Kong by other studies also includes the willingness to carry out an open debate, as required by most system development methodologies. Furthermore, would there be any other features of Hong Kong culture that might create problems when attempting to develop an information system.

A case study will be presented based on a Master's thesis (Lau, 1996) supervised by one of the authors. The project attempted to apply Soft Systems Methodology (SSM) in order to assess the feasibility of developing an Executive Information System (EIS) for a marketing unit in Hongkong Telecom. SSM is a general problem structuring method devised by Checkland (1981) that requires the building of rich pictures, root definitions, and conceptual models of the human activity under study.

With the importance placed on identifying stakeholder viewpoints, Soft Systems Methodology (SSM) is a general problem structuring method that is capable of recognizing the cultural values that may be central to an organization. These cultural values would include the beliefs, assumptions, and values shared by members of the organization. The stakeholders are meant to build the root definitions and conceptual models themselves in an iterative debate organized by a facilitator. Therefore, it would seem that SSM would be an ideal tool to use for IS development since it can take account of the complexity of any given situation.

However, SSM also indicates that negotiation and debate are essential ingredients when discussing the feasibility of developing an information system and for the capture of information system requirements. The need for debate, and the expected conflict between

7 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/impact-culture-development-information-systems/4490

Related Content

How Can We Enhance Member Participation in Virtual Communities?
Won-Seok Yoo, Kil-Soo Suhand Moon-Bong Lee (2004). *Advanced Topics in Global Information Management, Volume 3 (pp. 253-271).*
www.irma-international.org/chapter/can-enhance-member-participation-virtual/4536

How Can Advancement in Information Technology Help College Students During the COVID-19 Pandemic?: Evidence From the Video Game Industry
Reza Gharoie Ahangar (2022). *Using Information Technology Advancements to Adapt to Global Pandemics (pp. 114-128).*
www.irma-international.org/chapter/how-can-advancement-in-information-technology-help-college-students-during-the-covid-19-pandemic/308858

An Empirical Study of the Relationship of IT Intensity and Organizational Absorptive Capacity on CRM Performance
Ja-Shen Chenand Russell K.H. Ching (2004). *Journal of Global Information Management (pp. 1-17).*
www.irma-international.org/article/empirical-study-relationship-intensity-organizational/3599

Methodological Issues in MIS Cross-Cultural Research
Elena Karahanna, Roberto Evaristoand Mark Srite (2003). *Advanced Topics in Global Information Management, Volume 2 (pp. 49-61).*
www.irma-international.org/chapter/methodological-issues-mis-cross-cultural/4511

IT Industry Development and the Knowledge Economy: A Four Country Study
Phillip Ein-Dor, Michael Myersand K.S. Raman (2004). *Journal of Global Information Management (pp. 23-49).*
www.irma-international.org/article/industry-development-knowledge-economy/3614