



## Chapter XV

# Facilitating Community Processes Through Culturally Appropriate Informatics: An Australian Indigenous Community Information System Case Study

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## Introduction

This chapter discusses how community processes may be facilitated through the use of information systems (IS), developed via a highly participative methodology. It examines the utility of several approaches to modeling community information requirements. By way of illustration, it describes progress on the participative development of the Ieramugadu Cultural Information System (ICIS). This project is designed to develop and evaluate innovative procedures for elicitation, analysis, storage and communication of indigenous cultural heritage information. It is investigating culturally appropriate IS design techniques, multimedia approaches, and ways to ensure protection of secret/sacred information. Development of ICIS is being carried out in close cooperation with an indigenous community in Western Australia.

## Developing Culturally Appropriate Community Information Systems

Community Information Systems (CIS) are ways of utilising information technology to address some of the needs of communities. They build upon, and coexist with, complex informal and formal (non-computerised) preexisting systems of communication and information storage. Such communication is often oral and much information is stored only within the memories of community members.

Computer-based CIS are becoming much more common because of the increased affordability of powerful hardware and software and the greater availability of relevant data sets, especially as government agencies convert their records to digital form. There has also been a massive increase in the interconnection of computer systems via client-server architecture, local and wide area networks, and especially the development of the World Wide Web. Usability of computer systems has been greatly enhanced making them accessible to a much broader range of users. As well as these 'technology push' factors, there has been 'demand pull' through the desire of community members to have access to technology enabling them to play a more effective role in decision-making processes. This has, in part, been fueled by demands for greater equity of access to information and by developments in participatory democracy.

The Information Systems (IS) discipline studies the way individuals, groups and organisations use information. This is generally in the context of computer-based IS, which can be considered to consist of the following five aspects: hardware, software, data, people and procedures. IS analysts seek to assist organisations to fulfill their objectives through IS interventions (usually termed 'projects') which seek to identify information processing requirements and to design, implement and maintain a suitable IS. Such projects are usually executed in accordance with a particular set of procedures, techniques and tools, collectively referred to as a 'methodology.'

Jayaratra (1994, p. 35) defines a methodology as:

"... an explicit way of structuring one's thinking and actions. Methodologies contain model(s) and reflect particular perspectives of 'reality' based on a set of philosophical paradigms. A methodology should tell you 'what' steps to take and 'how' to perform those steps but most importantly the reasons 'why' those steps should be taken, in that particular order."

Although IS development methodologies have traditionally focused primarily on the design of hardware, software and data aspects, newer (so-called 'soft') approaches involve more consideration of human factors issues (Avison et al, 1993; Checkland, 1981; Crowe, et al., 1996; Finkelstein et al., 1990; Flynn, 1992; Mumford, 1983). Socio-technical methodologies combine hard and soft approaches (Eason, 1988; Travis et al., 1996). They incorporate a higher level of participation by system users and focus on identification of culturally determined user needs and constraints.

Socio-technical methodologies should be employed in the design of CIS. Whitley (1998) cautions that IS practitioners should not rely blindly on any one

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