2001

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Recommended Citation

Grant, Samantha and Neill, Bec, "Indigenous Community Information Preferences: An Interpretive Research Study" (2001). *ACIS 2001 Proceedings*. 27.
http://aisel.aisnet.org/acis2001/27

Indigenous Community Information Preferences:
An Interpretive Research Study

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Abstract

Communities should be able to select and develop technology that incorporates or even enhances their own communication traditions and cultures. Australia's indigenous communities typically have cultures based on oral traditions for communication. The location of information system design in the community context raises issues not usually considered in organisational information system design. It is important for indigenous communities to be able to apply traditional and indigenous knowledge and approaches to assist with their own community development and sustainability, and community knowledge is an important consideration in community development. This paper describes research in progress exploring the design and use of information and communications technology by remote and rural indigenous communities to support their efforts to negotiate native title.

Keywords

Interpretivist perspective, Cultural Differences, Information Flows, IS culture.

INTRODUCTION

For many years the Information Systems (IS) literature has been dominated by discussions about choosing the correct information system (IS) to fit a given organisation. Some have announced success but most have simply documented the lessons learned from an arduous process. The major focus in the literature has been on organisational IS with very few exploring community based information systems. The emergence of community based information systems as an IS research topic provides support for the majority of the world's population who are still looking for information systems that suit their individual community's culture and traditions whilst providing appropriate channels for information flow.

Recently at the IRMA 2000 conference Romm and Taylor defined this area as Community Informatics, "a technology strategy or discipline that focuses on the use of IT by territorial communities" (2000, p 1167). The authors of this paper believe that the dominance of Western tradition technology needs to make way for a new outlook. Communities should be able to select and develop technology that incorporates or even enhances their own communication traditions and cultures. Australia's indigenous communities typically have cultures based on oral traditions for communication. Stories, art and dance are used to maintain and pass on the community's history and customs. This is distinctly different to most non-indigenous Australians whose tradition for communication is more closely aligned to the Western reliance on text. Technologies such as facsimile, e-mail and the Internet make use of the fundamental need of western communities for written proof and legitimacy. These same technologies do not necessarily cater for oral traditions.

As the twenty-first century begins, Australian indigenous communities are faced with a number of challenges. Whilst for many the issues of native title and recognition of past wrong are key, for others access to basic amenities and social services take precedent. Making their voices heard among the majority is made more difficult by the remote locations of many communities and tenuous access to information and telecommunications technology.

This paper describes research in progress exploring the design and use of information and communications technology by indigenous communities to support their efforts to negotiate native title. The results of this research will provide a case study for future application of information technology within remote and rural indigenous communities.

SUPPORTING LITERATURE

Definitions of culture are continuously being debated but an extended debate on the specific concept is outside the cope of this paper. Briefly, it is undetermined whether cultural differences are genetically based and/or only learned behaviour. Many studies concerning 'culture' conducted in the Information Systems discipline are specifically related to 'organisational culture'. Although some of the findings from this research area can be useful for a broader outlook of culture the point being made is that differences exist between cultures. These differences are greater than the differences that exist within one organisational culture especially when the comparison is between a very modern western culture and one with an oral tradition. For the purposes of this research culture will be defined as "a measure of commitment to a set of shared values, moves meanings, and shared historical identity" (Etzioni & Etzioni, 1999, p241).

A recent cross-cultural study conducted by Linowes, Mroczkowski, Uchida and Komatsu indicated that a "particular attribute cannot be explained without reference to a whole set of related attitudes, meanings, and values that together constitute the 'mental maps' shared by the group" (2000, p 75). The authors believe that describing these 'mental maps' allows for a "deeper level of understanding of cultural differences" (2000, p 75). This outlook translates into a similar process as a comparison of groups 'modes of informing'. When these modes are compared with another group an approach is provided that may supply predictive power in the development of a culturally enlightened information system.

A study by Etzioni and Etzioni comparing Internet and Face-to-Face communication as functional alternatives found "community dialogues, a major source of sharing culture, seem to function most effectively when delay loops are built into the communication systems, and seem to function most poorly when they take place in real time" (1999, p 245-246). The process of sharing values draws on a prior sharing of history, communal identity, experiences, and rituals. Hence, there is the need for 'communal memory'. Although the authors agree with the later part of this statement, it can be argued that communities based on oral traditions have long held a 'communal memory' without the need of technology. So a consideration in the course of this research is whether the community requires the introduction of technology at all. Etzioni and Etzioni (1999, p 247) speculated communities that combine both face-to-face and computer-mediated communication systems would be able to "bond better and share values more effectively than communities that rely upon only one or the other mode of communication" as this would be seen as the ultimate communication situation. It is however, just this sought of assumption that this study proposes to test. For the 'ultimate' conditions do not necessarily lead from the theory to practice.

Cultural Differences

It is well recognized that modern communications technology has only one cultural form, Western. Up until recently other cultures have been forced to alter their own practices to adopt technology. Yet why should there be only one way forward? With the current rate of change effective within the technological world we now live in, it should be possible that other cultures can develop alternative technology to suit their own culturally based communication needs.

The logistical problems associated with indigenous information flows are closely linked to those identified for developing countries. The cultural differences found between developed and developing countries have similarities with the cultural differences between indigenous Australians and white Australians. White Australians have closely followed innovations and behaviors associated with Western technology. Indigenous Australians have a culture based on oral traditions, which differ to Western societies (such as white Australians) based on written traditions. These oral traditions should not be overlooked when adopting technology; in fact they should be encompassed and enhanced by the technology. To date this has been limited, and by and large frustrating for the communities involved. The evidence from recent developing country research has shown there is a need for technology to be more flexible to culture and tradition. "Computers are products of the Western world. They have been designed to work in a particular cultural environment. This environment does not exist in all parts of the world" (Kirlidog, 1996, p 57).

Although western societies have placed an emphasis on written communication it is more time consuming to undertake. As Couch states "all communication has a processional dimension, but not all information is dynamic. The written word endures in static form, but reading is a dynamic activity" (1996, p 1). In other words people can generally speak faster than they can write. Yet reading also can be done quickly. It is then the mechanics of accessing; processing and replying to written messages which is time consuming. So although individuals may have more time to consider and respond to written communications, there are questions raised as to the quality of the message conveyed. Oral messages are not limited by space, and provide instant feedback. For a negotiation process this would seem to be an important element. As Couch goes on to say "much communication, even communication based on dynamic information such as speech, contributes to the consistency of social relationships. Most communication, both that which employs a technology and that which does not, is contextualized by social relationships" (1996, p 1). So even the "written forms of IT can provide more opportunity to question motives and underlying worldviews than in traditional discussions" (Drake et al, 2000, p49). On the other side telecommunication technologies have extended the ability of human beings to associate with one another on the basis of affinity and rendered proximity less significant. As Couch argues "the development of a comprehensive theory of information technologies requires that attention be given to social relationships as well as the technologies used to preserve and transmit information" (1996, p 2).

Modes of Informing

Australian Indigenous communities have always used oral story telling, 'yarning', to communicate, and pass on elder wisdom as a means of maintaining and building the community's history, culture and ways of dealing with the world.

On the other hand Australian urban communities despite their multicultural make-up are very much westernized in their communication actions. Interacting via technology has become second nature, a way of life. Although face-to-face meetings with other community members are still sought after, it is no longer the dominant mode of informing. Westernised communities rely on written messages, such as letters, faxes and e-mail to communicate. In fact, formal modes of informing in business and legal requirements dictate that information must be written.

It has been recently acknowledged that an understanding of the context in which a system is designed is central to the study of information systems (Boland, 1987, Preston, 1991 and Walsham, 1993). Colebatch believes this requires "an understanding of organisations and the way they function" (1999, p 29). For a community based information systems this would translate into a requirement to understand the community's information flows and communication processes.

Research conducted by Preston (1991) studied the problem solving of middle managers in a factory itemising the various methods managers used to 'get the full story'. His research generated a discussion on the 'modes of informing' used by management and believed it was a concept worthy of more research. Colebatch (1999) undertook a similar study in an Australian Ambulance Department, again with middle managers.

Both pieces of research highlighted the process people use to select a method for gathering and distributing information. Both studies however, were located in an organisational setting, argued to be very 'Western' in its situation. This research is interested in the 'Modes of Informing' chosen by people within an indigenous community. The authors suspect that they vary markedly from people within a typical Western urban community or organizational setting.

If this premise is correct, the technological communication needs for indigenous community members are expected to differ from westernised community members. For the technology to be inclusive these differences need to be considered when new technology is being designed and selected.

Information Systems Design as Community Development

As previously stated recent research into the adoption of technology by developing countries has highlighted the lag between research into context sensitive information systems design and information systems practice. In many cases it is felt that these adoption projects assume that the only technology adoption available is western technology. Traditional ways and communication methods are replaced by the dominant modes of communicating inherent in technology developed and implemented from a Western cultural perspective. Australia's indigenous communities face similar problems in the adoption of technology.

This research suggests that in addition to preferences for modes of informing, taking into account the context in which a community based information system is being designed and implemented will be critical to the success of the resulting information technology solution.

The location of information system design in the community context raises issues not usually considered in organisational information system design. The act of developing and implementing a community based information systems can be seen as "the establishment of viable community-based structures ...(as)… a key component of strategies for change" (Ife, 1999) within community development. It is important for indigenous communities to be able to apply traditional and indigenous knowledge and approaches to assist with their own community development and sustainability.

Ife (1999) proposed "indigenous people themselves must set the agenda for development and have complete control over the processes and structures" where community development occurs within indigenous communities. This perspective is proposed with the aim of "legitimating and strengthening indigenous culture" and removing the structures of domination inherent in community development actions delivered from the dominant culture.

The process and results of information systems development for indigenous communities should accommodate these perspectives. The process and structures considered to be effective by a community are likely to be significantly different than those chosen by an Western organization. Furthermore, an indigenous community will be likely to prefer different processes and structures to a westernised community.

Community Information Systems

Additional research relevant to the perspective of information systems design as community development comes from the literature on community. Crow and Allan's (1995) model of multidimensional communities discusses the dimensions of place, social structure, meaning and time as key to concepts of community. These dimensions clearly align to aspects of Australian indigenous communities such as connections to place, kinship systems and extensive oral and living history within the Australian continent. Preservation and development of these cultural traditions will be key to information systems suited to indigenous communities.

The design of community based information systems, which support the sharing and preservation of traditional, and community knowledge is also an important consideration in community development. There is extensive research within the information system field on appropriate design of information systems to store, manage and disseminate organizational knowledge. There is yet more, which takes as its problem domain the transfer of knowledge from the individual, where knowledge is acquired into the organizational domain (Higgins & Dennis, 1999).

Of more relevance to knowledge sharing in a community context is that research which is focused on the use of technology to support of knowledge creation within individuals and subsequent sharing of that knowledge (McQueen, 1999). In order to support knowledge creation and sharing through the use of information technology it is essential to understand and model the processes used by individuals to create and share knowledge.

THE RESEARCH PROJECT

The research being undertaken focuses on three key perspectives:

1. preferred modes of informing,
2. information systems design as community development, and
3. knowledge sharing within indigenous communities.

The empirics of this study are generated by an interpretive research study to develop an information system that suits the indigenous claimant communities involved in South Australian Native Title negotiations.

In depth interviews have been conducted with all employees involved in the information systems development at the Native Title Unit. The authors have also observed several months of senior management meetings, general staff meetings and discussions with government bodies. A second round of interviews is currently being conducted with staff who have been immediately involved with the introduction of the new information system. The third phase of the study is planned to involve interviews with claimants residing in rural areas.

Project Background

Native title in Australia has had a long and varied history. It was established as a precedent in law by the Mabo case finally concluded in 1992 by the High Court of Australia. Since that time, the Australian government has passed the "Wik" legislation with the purpose of clarifying native title rights. The Wik legislation allows parties with title interests to negotiate native title as an alternative to legal judgment on native title claims.

In South Australia at the present time there is considerable public interest and therefore investment in determining the land rights (Native Title) of indigenous Australians. As part of this debate Government resources are being committed to the 20 claimant communities in South Australia to meet together to provide a common message of what rights the indigenous people seek. This large and complex issue requires the tribes to problem solve in a very public and open manner and be conversant with non-indigenous law, legal systems and cultural practice.

The claimant communities are geographically dispersed, making face to face meetings hard to organize, time consuming and costly. An example of this was displayed at the last attempt to assemble a meeting of all claimants. Due to the large community numbers it was necessary to restrict attendance to 4 or 5 per claimant community, which meant 100 people, sensitive they are only representing their tribe on a very important issue, with a cost of over $130,000 for a 3-day meeting. Much of this meeting was then taken up with introductions. The protracted process of the native title negotiations provides the time to design an information system to fit their requirements.

Challenges

The Native Title Claimant Committees (NTCC's) do not have a single physical location. Each committee may be comprised of individuals located across South Australia, New South Wales and Queensland. Their physical locations will range from remote rural communities to rural towns to urban environments. Familiarity with the English language, written communication forms and white Australian culture can not be assumed for all committee members

Their access to, and experience with, information technology and telecommunications infrastructure is varied. Some members reside in communities considered to be advanced users of Internet technologies, whilst other people have had no prior experience with this type of technology. The ad-hoc availability of basic telecommunications and power infrastructure has also been identified as impacting on the resulting design of information and communication systems for the NTCC's.

The nature of native title negotiations has impacts in a number of areas of the project and solution design. For solutions to be effective, they must resolve issues of privacy and intellectual property from both legal and cultural perspectives. Specific examples might include legal discovery for any future legal claims of native title and distinctions between private and public conversation between committee members.

CONCLUSION

Data collected in the research project so far has highlighted that as expected there are interfaces or boundaries between the distinct sets of cultural practices observed. It is at these interfaces the majority of issues for indigenous information systems design emerge. From preliminary interviews held with the employees of the Native Title Unit, several cultural interactions, which combined both indigenous and western traditions, became apparent. These mixtures of cultural practices hindered the planned progress of the project, which had not been foreseen by either the researchers or the participants. It was later discovered that historically the Native Title Unit had encountered these mixtures in other projects but they had never been identified as impacting on project success.

Whilst the researchers expected to see a number of disparities with interface and application design, a number of significant differences were met earlier in the project than originally suspected and a number of different approaches were required, e.g. for project management, user requirement analysis etc. The researchers found it easy to be guided by the community on appropriate approaches to working with them however; problems were encountered when translating these approaches to meet the requirements of regulatory organisations. As this research progresses it is expected that approaches that are more suitable to needs of both the indigenous participants and regulatory organisations will be discovered.

These preliminary findings have already highlighted the researchers' belief that context issues need to be considered more carefully than has been the practice in traditional organisational information systems design. However, the issue for the indigenous communities to be able to apply traditional and indigenous knowledge and approaches is must still be resolved.

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ACKNOWLEDGEMENTS

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