ORGANISATIONAL CULTURE AND INFORMATION MANAGEMENT SYSTEMS IN PUBLIC ORGANISATION – A STUDY IN MALAYSIAN GOVERNMENT ORGANISATIONS

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INTRODUCTION

The concept of organisational culture also referred to as corporate culture influences all kinds of management strategies (Baron and Walter, 1994). In managing information systems attitudes toward the value of various types of information, information system and communication technology are likely to vary across culture; culture differences need to be understood before such systems can be migrated between cultures (Leidner et. al, 1995). Within the government organisation, the scope of information management is considered to be an internal activities which include how information is collected, stored, analysed and utilised. Thus the transformation of IT in these organisations is impacted by the nature of culture inherited by the organisations. This paper will discuss the influence of organisational culture in deploying information management system within the Malaysian public organisations based on the case study conducted.

CULTURE AND IT’S ROLE IN ORGANISATIONS

Culture plays an increasingly important role in information system management (Baron and Walter, 1994). Hofstede (1991) defined culture as the collective programming of the mind, which distinguishes the members of one human group from another. An interactive aggregate of common characteristics influences a human group’s response to its environment. As people’s behaviour is determined by their beliefs, they will react differently to what they experienced in the society. In relation with society, culture is a collective phenomenon shared by people who live or lived in the same social environment.

As the effect of globalisation, there are an increasing number of IS applications which are implemented across national culture and cultural boundaries (Shore and Venkatathalam, 1996). Culture can affect the implementation and success of IS and it is also true that the IS can result in culture changes (Hackney and McBride, 1993). This requires the work of understanding of culture and its effects on managing IS within the organisations. There is a relationship between culture and organisational management and in particular IS organisations.

ORGANISATIONAL CULTURE IN INFORMATION SYSTEMS (IS) FIELD.

Information systems (IS) can never be seen separated from their social context, in the context of human action, within the framework of cultural reality. Erik De Man (1988) proposed the basic environment of IS as shown in Figure 1. Three major and interrelated complexes can be recognised as the environment of an information system: bureaucracy, culture and legislation. Bureaucracy can be regarded as a complex system of decision making and information processing and it influences the organisational setting of the information system. Culture provides a basis for giving meaning to information. Legislation not only regulates handling of data and information, but may also create new authorities and consequently information needs. When exploring the environment of an information system, two views seem to be of particular
interest. Either we can understand information systems as an integral part of a network of information utilisation or alternatively we may view an information system as the result of design process.

Figure 1: The Environment Of Information System (Erik De Man, 1988)

From the cultural perspective, the nature of IS organisations recognizes the important interaction between the human actions that manipulate the systems and the internal and external elements of the IS organisations. What is the relationship between IS and the management of culture? The relationship between IS and culture is extremely complex. It is a question of mutual influence (Tibosh and Heng 1994). The culture context determines in the end what the system will look like and in what form it will be used. Cultural characteristics are always found in the IS organisations. Information systems ultimately remain a representation of the reality and therefore also a culture. In order to analyze the role of culture in IS, one of the important aspects is the relationship between human factors and the system that constituted the IS. People's actions can be interpreted as collective ways of life and activities. They may be influenced by culture and at the same time culture influence the IS.

NATIONAL CULTURE AND ORGANISATIONAL CULTURE

There is a relationship between national culture and organisational culture. National culture represents the highest level of cultural differentiation between the nations, organisations or groups. Individuals of a national culture have many things in common, such as language, religion, education, beliefs and attitudes, ways of thinking and reacting (Holstius, 1995). National culture has a different influences on the IS organisations between nations. National cultures influence an information system design. The complexity of cultural influences eludes easy understanding (Emerson et. al, 1995). This paper will emphasise the national cultural roles in the information management and the exploitation of public information. Since this paper discusses the interaction of national culture that is presented as organisational culture, it is important to discuss the basic concept of national culture and the relevant cultural model which lead to the formation of this research framework.
NATIONAL CULTURE MODEL

In organisational culture studies, several national culture models have been developed. These models discussed the nature of the national culture dimension and have been used in the cross-culture comparison work including the information system field. Hofstede (1991) analyzed national value systems and the kind of influence nationality is likely to have on organisational system. He found five components that influence the national culture which are:

- **Power distance** - The extent to which members of a society accept that power in institutions and organisations is distributed unequally. In high power distance organisations, there is greater reliance by the less powerful employees on those who hold power.

- **Uncertainty avoidance** - the degree to which member of a society feel uncomfortable with uncertainty and ambiguity. Thus leading them to support beliefs promising certainty and to maintain institutions promising conformity. In a more uncertainty-avoiding environment, employees will have a greater need for the authority of rules.

- **Individualism/collectivism** - A preference either for a loosely knit social framework in which individuals are supposed to take care of themselves and their immediate families only, or for a tightly knit social framework in which individual can expect their relatives, clan or other in-group members to look after them in exchange for unquestioning loyalty.

- **Masculinity/femininity** - A preference either for achievement, heroism, assertiveness and material success, or for relationships, modesty, caring for the weak and the quality of life. In a masculine society even the women prefer assertiveness (at least in men) and in a feminine society even the men prefer modesty.

Another theory on the differences in national culture is given by Trompenaars (1993). He argues that the explanation of national culture is based on two dimensions: Egalitarian/Hierarchical and Person/Task. **Figure 2** shows the different dimensions in this model.

![Figure 2: Egalitarian/Hierarchical and Person/Task Dimension of National Culture.](image-url)
Using this dimension, the national culture can be categorised in terms of four types: the Family culture, which is characterized by a strong sense of hierarchy and is based on the power; the Eiffel tower culture which is highly structured and well defined roles; the Guided Missile culture, which is egalitarian and relies on intrinsic motivation; and the incubator culture, which has no formal structure and is characterised by values that stress fulfilment and self-expression. Under this model national culture explains preferences for types of organisation. For example, Eiffel tower culture, prefers bureaucratic organisations with a strict division of labour and specific jobs and tasks.

National culture also has significant impact on the information system development. Based on case studies of computer-based information system for development planning in India, Madon (1992) found that information technology is a vehicle for cultural persistence in development administration and it identified six major factors:

- The culture of bureaucratic inefficiency;
- The culture of highly politicised decision-making;
- The culture of leadership;
- The culture of roles, status and hierarchy;
- The culture of secrecy built around information; and
- The culture of preference for informality.

It was suggested that information technology is a vehicle for cultural transformation in an organisation and that the cultural transforming in development administration occurs by modifying practices, attitudes and pattern of behaviours. The interaction of culture and the effect of adoption of information technology and IS organisational changes in cross-cultural setting remain elusive.

CASE STUDY/RESEARCH WORK IN MALAYSIAN ORGANISATIONS

Qualitative or interpretive research method was used in this study. The research work and data collection were conducted in the Malaysian Government organisations. The data were collected via on-site, face-to-face interviews with relevant officers in those departments. Semi-structured interview questions were used and focused on the patterns and issues on information management in the organisations. More than forty respondents were interviewed from the selected organisations. The respondents were mainly top level managers, head of the units and IS executive or professionals. Most of them were responsible for information technology management units or some other related unit. These respondents were involved in formulating the organisational policies or directly responsible on information management. The wide range of background of the respondents is significant in this research since they may give diversified views and perceptions on the issues.

Data Analysis Stages

The qualitative analysis was carried out on the data collected during the study. The tape-recorded interviews were transcribe into text. The numerous emerging issues regarding the implementation of information trading and IS within the organisations are abstracted and interpreted. The concept of intentional and contextual analysis are applied in order to address the research questions. There are several stages in the analysis, which is based on data analysis method suggested in the interpretative research work (Willcock et al., 1996). The analysis of data also involves evidence from other sources. The analysis of all sources of evidence is the way to evaluate the issues or themes raised in the study. In this contextual analysis excerpts from the transcribed interviews is used as part of the discussion to help the validity of the
analysis. The summary of research findings according to the identified themes is shown in Table 1.

**Table 1: Main Issues and Related Matters on Information Management in Malaysian Government Organisations**

<table>
<thead>
<tr>
<th>Concept and Issues</th>
<th>Number of respondents ( n = 46 )</th>
<th>Example of Interview Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsystematic information management</td>
<td>38</td>
<td>...I think in government information management is not really efficient. why, our system, or our culture, attitude (Research Officer)</td>
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<tr>
<td></td>
<td></td>
<td>... We still have difficulty in information management, although we have IT but still not fully used, generally I think in government information management is not really efficient (Head of Planning Unit).</td>
</tr>
<tr>
<td>Lack of standardisation of procedures</td>
<td>32</td>
<td>...Other problem is we don’t have structure. In that sense everybody will decide what information we want some body want some information but no body can do it (information Officer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I found that each departments has it own style of management of information. sometime it is difficult to get data or information. they may collect the information by their own means. (System Analyst)</td>
</tr>
<tr>
<td>No collective or co-ordination in information management</td>
<td>34</td>
<td>...I think in government organisation it is difficult to have good data flow and co-operation, this is human factor (Head of IT Unit).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>... we have to control and monitor all of the data, but because the system of the agencies are different and working procedures are not same, we have difficulty on this, we have to follow up every time if late, we have standard form (Head Research Unit)</td>
</tr>
<tr>
<td>Under utilisation of Information</td>
<td>34</td>
<td>Yes ...not all information is utilised... strategic information as well operational information (Head of IT Unit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We still do not see the trend in government, they don’t see the use of information in planning, forecasting and economic use. (Administrative officer)</td>
</tr>
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<td>Concept and Issues</td>
<td>Number of respondents n = 46</td>
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</tbody>
</table>
| Redundancy of data collections | 30 | *We have several agencies and each agencies have their own functions and objective. Because now in every agencies has computer now... all the information data is kept by the agencies in their own computer there...* (IT Manager)  
| | | *each agencies has their own system... so they can collect their data... store and update the server... so we don’t control the information management in the agencies* (IT Manager) |
| Under utilisation of IT | 28 | *I doubt about that... we still use computer for ordinary works only... so our information management system still questionable* (IT Manager)  
| | | *This because out IT is not fully utilised and not use properly. We still depend on hard copy data from our branches and still not good.* (Information Officer) |
| Not well planned of IT development | 24 | *we are busy with IT programmes without realise the ‘people ware’ to me IT is the tool...* (IT manager)  
| | | *we change... every 10 years we need new... or upgrade or systems. every time we carry out our census* (Administrative and Financial Officer) |
| Lack of IT skill, shortage of staff | 30 | *we have shortage of budget... and the most important one is people to use IT... expertise* (IT manager)  
| | | *we are still shortage of staff... money... facilities... and government policy* (Head of Information Unit) |
| Level of IT acceptance | 32 | *we have a lot of problem in government... Attitudes to service. inefficient... we have a lot of weakness... government servant is not ready to change... if we see computer usage... still not many staff can use computer* (Head of IT unit)  
<p>| | | <em>right now we face some difficulty in our organisation, some officer can use the technology and some still in process of learning and some don’t want to know,</em> (Head of information unit) |</p>
<table>
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<th>Concept and Issues</th>
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</thead>
<tbody>
<tr>
<td>Top Management support</td>
<td>27</td>
<td><em>as in other organisations top management will make policy, we should follow, in most cases the idea may come from the bottom but it difficult to practice (IT policy officer)</em>&lt;br&gt;&lt;br&gt;<em>we have idea is but still did not exploit, what data we can sell,..., we are very concerned about this. only top management can decide on this.(Information officer)</em>&lt;br&gt;&lt;br&gt;<em>I think if we know the spirit of the law we can do it, maybe we are afraid to make decision. This is common, so we just depend on the superior to make decision (Information and documentation officer)</em></td>
</tr>
<tr>
<td>Awareness of information importance</td>
<td>38</td>
<td><em>our awareness of the importance of information is still low... I don’t know the reasons but... maybe our culture... and attitude .. present management style have caused this.. (Head of information unit)</em>&lt;br&gt;&lt;br&gt;<em>I think we are not really using the right data in policy making. It is more into political aims and information is seen not important. (Information officer)</em>&lt;br&gt;&lt;br&gt;<em>Yes not all information is utilised... strategic information as well as operational information... some times they don’t have the information, due to no system.. or the culture problems (IT Manager)</em></td>
</tr>
<tr>
<td>Reluctance to Share information</td>
<td>31</td>
<td><em>some departments are reluctant to give their data although under a same department.. (Information Officer)</em>&lt;br&gt;&lt;br&gt;<em>most people are not particular on information.. may be they like to keep it only... this is the problem.. maybe common attitude.. (Head of Information Unit)</em>&lt;br&gt;&lt;br&gt;<em>I think in information management, it is common that some department like to keep their own information, they keep, keep , it difficult to give other, (Research and Planning Division)</em></td>
</tr>
</tbody>
</table>
INFLUENCE OF CULTURAL FACTORS ON MANAGEMENT INFORMATION SYSTEMS IN MALAYSIAN GOVERNMENT ORGANISATIONS

As shown in Table 1, some of the issues of information management in the Malaysian government organisations are related to the management style and organisational structure. This is as an outcome of the organisational culture which rooted from the national culture. In the following part of this paper the discussion will focus on some relevant questions in relation with the role of organisational culture in the Malaysian government. The questions are: do national culture characteristics explain the nature of information management systems and how far it influences the government information management?

Culture Factors and Information Management

The study suggested cultures impacted levels of the utilisation of information resources and management behaviour. Under resource management, two main aspects will be discussed mainly the information management and IT utilization. Stair (1992) suggested that organisational culture could have a significant impact of the development and operations of information systems within the organisations. The culture of organisations embodied in the behaviour and values of its members and cultural factors inherently set them apart from others (Applegate 1994).

Several information management aspects can be highlighted in relation to cultural factors. Firstly, the use of information as an operational versus strategic resource. It was suggested that information has not been fully utilised in operational and management purposes in Malaysian departments. This may be related to the extent to which information is utilised by the organisations (Hall, 1976). This refers to the amount of information that explicitly required

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### Table 1: Concept and Issues

<table>
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<th>Concept and Issues</th>
<th>Number of respondents n = 46</th>
<th>Example of Interview Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted flow of information</td>
<td>30</td>
<td><em>is not really well managed, the share and flow of information between the division are still not good and systematic, most of the research information is not disseminated</em></td>
</tr>
</tbody>
</table>
| Interdepartmental conflict  | 28                           | *the is also the problem of co-ordination and co-operation within department. in our government.. some department said this is our data.. we cannot give to others...(IT Manager)*  

*the issue here is more on co-ordination among the parties involved, we have to control and monitor all the data, but because the system of the agencies are different and working procedures are not same, (Research and Planning Officer)*
by member of organisations. It maybe suggested that in Malaysia, which is considered as high-context country, there is lesser use of information as an operational or strategic tool. Information is not an important element within the organisation and there is less reliance on explicitly stated facts and figure.

Secondly, the study revealed that information management among Malaysian is still unsystematic and problematic. There may still be a lack of aggressiveness, innovation and positive attitudes towards information. This has resulted in less utilisation of government information. This may also indicates that Malaysian departments take a low project-oriented attitude and high uncertainty avoidance attitude toward this aspect.

Thirdly, the Malaysian organisations are characterised by high uncertainty avoidance and femininity culture. This may relate to disclosure of information, less aggressiveness in information utilisation, less aggressive competitive postures as well as more conservative dispositions towards innovations. On the other hand, under the present government leadership, there is some changed aggressiveness towards the development of major IT project such as Multimedia Super Corridor. There will be a positive impact on the government IT programmes in public service.

It Utilisation And Cultural Behaviours

The level of utilisation and readiness to accept the IT programmes in Malaysian government organisations may be influenced by the national culture. The strong role-oriented and power-oriented culture has resulted in centralised autocratic structures for formulating IT policies. There is still no clear policy in implementing IT project in public organisations although some guidelines were introduced by central agency. Furthermore the far power-oriented and role-oriented culture in Malaysia lead to less emphasis on IT deployments and control structures. The IT facilities may still not contributed to more effective information management.

Some of the departments have low motivation in using the IT facilities and are less progressive in their views of IT for management and competitive advantage. Low exploitation of IT in Malaysia may be influenced by the existing of low fulfilment-oriented culture as suggested by Trompenaars (1993). Furthermore, low utilisation of IT may be due to less emphasis on the value for organisation achievement and the benefits from the technology. Framed within the Hofstede’s cultural dimension, it may also be related to the low level of masculinity and high level of uncertainty avoidance that may lead to the aggressiveness of IT exploitation (Grover, et. al, 1994). Some of the interviewees fully agreed that there is still no awareness of importance of IT in departments.

It Knowledge And Acceptance

The study also found that IT acceptance may be influenced by the IT knowledge and skill and organisational attitudes. Lack of IT skill and knowledge are the main issues in Malaysian IT management. The status of knowledge may be as the result of differences in education systems (Grover, et .al. 1994). In Malaysia, the IT subject is relatively new in national education curriculum (Tengku Azman, 1994). Within the government, most of the government officers are not well equipped with IT knowledge. Bensaou and Earl (1996), argued that since information technology is an innovation born in the West, it is not easily diffused in eastern countries. This can be considered as an influencing factor on low acceptance of IT in developing countries. In Malaysia, low acceptance of IT and reluctance to change may be result from the high uncertainty avoidance culture (Hofstede, 1991). This assumes that the
members of department feel uncomfortable for any changes and prefer the present situation.

The issue of low acceptance of IT is influenced by the culture of leadership (Madon, 1992). The leadership factor suggested that the success of the organisation depend on the nature of leadership, which influences the willingness of the subordinates to accept the changes. The concept of a power-oriented cultural dimension may also shed light on this leadership effect (Trompenaars, 1993). Some of the interviewees argued that in public organisations, less success in the computerisation program may be the result of lack of support from the top management. It is also pointed that in some cases there is no encouragement from the head of the departments or senior officers who lack IT knowledge and are not really interested on computers.

THE ROLE OF CULTURAL FACTORS ON ORGANISATIONAL STRUCTURE OF INFORMATION MANAGEMENT

The organisational structure aspects may be directly influenced by the cultural factors within organisations. The attitude to information is related to the culture of bureaucratic inefficiency (Madon, 1992) and the role oriented culture (Trompenaars, 1993). The role-oriented culture is characterised as a highly hierarchical structure with well-defined role organisations. The Malaysian administration still follows the style of colonial bureaucracies and strong hierarchical administration, which tends to be elitist, inflexible, authoritarian and paternalistic. The impact of these characteristics has inevitably been carried over into departmental management especially in the public services resulting in the inefficient government service.

In information management and IT exploitation, these characteristics may influence proper IT planning and development, resulting in unsystematic and disorganised information management. The bureaucratic culture in Malaysia has discouraged the exploitation of government information by departments and has influenced resource management. Besides that, the high uncertainty avoidance culture in Malaysian organisations may create complex, detailed role and instructions in the organisations and more formalisation of strategies. These aspects have created a unfavourable environment in developing good information management in departments.

Redundancy of information collection, lack of information sharing and interdepartmental conflict in information management may be influenced by some cultural factors. As argued by Madon (1992) these issues are influenced by the culture of roles and status. This may concern the power and authority, held by the person or organisation. Similarly these culture factors can be related with the individualism and power distance (Hofstede, 1991) and power oriented dimension (Trompenaars, 1993). In Malaysia, high power distance, roles and status encouraged departmental reluctance to divulge information to other departments for fear of eroding its information power. Interdepartmental co-ordination problems indicated that Malaysian government departments are still concerned with their own allocation of rights, information, status and power. The study showed that the existence of these cultural factors resulted in organisational conflicts and a low success in achieving systematic and efficient information management in most government departments.
REFLECTION OF THE CULTURAL DIMENSIONS IN INFORMATION MANAGEMENT IN MALAYSIAN GOVERNMENT ORGANISATIONS

The empirical study carried out has examined the interaction of the cultural context of organisational practices, information management and IT utilisation. It suggested that the nature of information management in the Malaysian government organisation is greatly influenced by the national culture dimensions.

The existence of high uncertainty avoidance, less project-oriented, and power-oriented culture in the Malaysian government organisations may contribute to difficulties encountered in changing the style of government management. The high uncertainty avoidance and less project-oriented may influence the willingness to exploit information value and utilisation of IT facilities. Organisational conflicts such as restricted information sharing or less departmental co-ordination is related to the culture of role and status. Furthermore the culture of leadership may influence the readiness of the departments to play a role in exploiting information resources.

From cultural perspectives, the research findings suggested that recognition of the importance of IS, aggressive initiative of information utilization and good organizational management and information sharing/collaboration across parochial groups, would tend to influence success in information management and practices. Specific approaches to information planning, policies for information and patterns of technology implementation and diffusion were few factors, among others, that may vary among cultures and contributes to different levels of success of the strategic information utilisation.

It may be suggested that cultural aspect should fit the aspect of organisational environment, information management, IT management and organisational business strategy. The environmental culture that encourages innovation, progressive and aggressive use of IT in information management will encourage the success of systematic information management.

Furthermore, the existence of awareness of importance of information may encourage departments to give more priority on information handling and utilisation. Management commitments such as the top management support and interdepartmental coordination lead to effective information management. Inefficient and ineffective information management found in some of the Malaysian government departments may be due to lack of cooperation between the departments.

The study suggested that IT contributes to the success of information management. High IT skills and knowledge can be considered a main success factor in IT programmes implementation. Attitudes and lack of IT skills and knowledge had been identified to influence technology acceptance and had contributed to the under-utilisation of IT in the Malaysian departments.

CONCLUSION

This paper has discussed the role of cultural factors in influencing the management of information in the Malaysian government organisations based on the case study. It was illustrated that the nature of information management, IT facilities exploitation and organisational practices are impacted by organisational culture which are rooted in national culture. The discussions mainly looked into the use of national culture models such as Trompenaars (1993), Hofstede (1991) and cultural dimensions in developing countries (Madon, 1992) to shed lights on the nature of information management in Malaysian organisations.
Inevitably the national culture has markedly influenced the organisational practices particularly in government organisations. Consistent with national cultural profile, the Malaysian government organisations are still at the initial stage in realising the importance of information management and gaining the impact of technology diffusion. Setting the right organisational culture within the organisations is considered to be the right platform for the future information management success.

REFERENCES


(This article is based on the writer's PhD Thesis 'The Implementation of Tradable Information Function In Government Organisations: A Cross cultural Study', De Montfort University, Leicester, UK, 2002)