The Role of Organisational Culture in the Success of Computer-Based Information Systems (CBIS)

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Abstract

Organisational culture plays an important role in the success of information systems (IS).There are many examples where computer-based information systems (CBIS) were failed due to the non-compatibility of organisational culture with IS. There is a widespread recognition by IS professionals that social and behavioural factors are more important aspects of IS failures than the technical.

Keywords: Organisational Culture, Information Systems (IS) Computer-Based Information Systems (CBIS), Strategic use of IS, Resistance to Change.

1.0 Introduction

This article discusses the importance of organizational culture in the success or effectiveness of CBIS. It describes that culture in some organisations would either render the use of IS impossible or render their results of little or no value. Many examples are given where CBIS were failed due to the non-consideration of organisational culture at the time

of development or implementation of IS. The structure of this article is as follows. Section 2.0 describes the relationship between IS and organisational culture. Section 3.0 provides some examples of IS success and failure and also highlights causes of failure. As an example two different types of the cultures are explained in Section 4.0. Section 5.0 indicates need for the alignment between IS and business. Finally, Section 6.0 provides summary of the article and some concluding remarks.

2.0 IS and Organisational Culture.

The importance of organisational culture stems from its direct impact on such issues as individuals' expectations and perceptions, and group behaviour and leader characteristics (Sethi and Lederer, 1997).

Organisational culture plays an important role in information systems (IS) success (Sethi and Lederer, 1997). (A general discussion of IS success and failure is included in Section 3.0). The culture in some organisations would either render the use of IS impossible or render their results of little or no value (Remenyi, 1991). For example, this may be the case in a high-power distance culture (see Section 4.0) where individuals with status or position in the hierarchy yield considerable power, and where lines of authority and responsibility are clearly defined. When an application introduces new methods and procedures, these relationships (between organisational personnel) are often challenged (Shore and Venkatachalam, 1996). Applications that impose new work practices and require independent actions may directly conflict with the existing culture. As a result, subordinates may be as culturally unprepared to accept new authority relationships as their bosses. In a high-uncertainty avoidance culture (see Section 4.0), employees may show concern over the uncertainty of new methods and procedures

associated with new applications, and particularly resist the abandonment of systems with which they are familiar and feel secure.

The above paragraph highlights that the process of IS development and implementation must be supported by the organisational culture in which the IS are to be embedded, so that they have a greater chance of success. Some examples of IS success and failure are given in Section 3.0.

3.0 IS Successes and Failures

IS now touches every business activity of a product or service industry, from initiation, design, and production, to marketing, distribution and support (Cash et al., 1988; Zwass, 1998). The remarkable improvement of the market positions of some users via the effective use of IS has set a precedent for others to follow (Wysocki and Young, 1990; Remenyi, 1991; Neumann, 1994; Ward and Griffiths, 1996). For example, American Airlines provided travel agents with terminals, which enabled access to multiple airline timetables and reservation systems. By doing this, the company substantially increased its market share, making it easier for the agent to book seats on its flights rather than on its competitor's flights. Furthermore, the company increased the non-flight revenue by charging a small fee for reservations on other company's carriers made through its computer. American Hospital Supplies, a retailer of general medical supplies, gave their customers terminals by which orders could be entered. Later, they allowed suppliers access to the database and thus directly connected demand to supply. There were several advantages to this arrangement for all parties, one of which was that these electronic connections reduced the delay between placing an order and receiving the goods (Remenyi, 1991). Thomson's Holidays was the first

tour operator to offer on-screen booking to high street agents via its on-line view data system, which has become known as the most efficient in the business. McKesson Corporation provided pharmacists and druggists with hand-held data entry terminals to record replacement stock details. The information is then down-loaded over telephone lines direct to McKesson's computers. McKesson fills any orders overnight and delivers them on the next day. Because of its short and reliable lead times, buyers began to rely exclusively on McKesson.

However, not all IS are as effective as mentioned above. A large number of IS can be classified as either complete or partial failures because they are either excessively over budget, or many months behind schedule, or of poor quality, or failing to adequately satisfy user's requirements (Doherty and King, 1997; Doherty et al., 2000). Further, Doherty and King (1996) have found that 60% of senior IS professionals perceive that social issues are of more importance than technical issues in determining the successful outcome of IS development. Fisher (1999) further says that the system may meet the functional and design requirements but it may not meet user expectations and therefore fails. In fact, there is a widespread recognition by IS professionals that social and behavioural factors are more important aspects of IS failures than the technical (Sauer, 1993; Roepke et al., 2000). One of the causes of IS failure is considered by many researchers (for example, Markus and Pfeffer, 1983; Hirschheim and Boland, 1990; Sauer, 1993; Walsham, 1993; Doherty and King, 1994; Bussen and Myers 1997; Doherty and King, 1997; Doherty et al., 2000) to be the lack of consideration given to the social dimension of IS. For example, IS, which are not properly examined and justified, may result in failure such as the IS developed for the London Stock Exchange (Liebenau and Smithson, 1993) and the

London Ambulance Service (London Ambulance Service, 1993; Doherty and King, 1994).

Fidler and Rogerson (1996) state that vital (substantially human) factors were not properly evaluated and justified in these cases. Specifically, it is stated in the report of the inquiry into the London Ambulance Service (1993) "that neither the computer aided dispatch system itself, nor its users, were ready for full implementation on 26 October 1992." This is further elaborated by Doherty and King (1994) - "the computer aided dispatch system was implemented against a background of poor industrial relations and mistrust by staff: the management of the London Ambulance Service had hoped to make highly ambitious changes to the working practice of staff without adequate consultation and consequently the majority of users failed to accept 'ownership' of the system."

However, in January 1996, the London Ambulance Service introduced call taking on-screen as a full computer aided despatch system and an automatic gazetteer which identifies the location of a call with a map reference. This has replaced the manual system which had been reinstated after the 1992 system failure. Valuable time is saved here as locations do not need to be looked up in an A-Z map of London. The computer aided dispatch system is still under trial and it will be fully implemented once the trial has been successfully completed (London Ambulance Service, 2000). Section 4.0 provides some discussion on the behaviour of employees in two different types of cultures.

4.0 Power Distance

The first dimension of national culture proposed by Hofstede is Power Distance. This examines the extent to which unequal distribution of power is expected and

accepted by the less powerful employees of organisations. In "high-power" distance organisations there is greater reliance by the less powerful employees on those who hold power. Conversely, in "low-power" distance organisations, decentralisation of activities is more likely, and subordinates expect to be consulted by bosses. Greater differences in power are associated with greater differences of rewards, privileges, and opportunities between bosses and subordinates (Hofstede, 1984).

The second of Hofstede's dimensions is Uncertainty Avoidance. This is defined as the extent to which human beings respond to threats they feel from uncertain or unknown situations. (The way in which employees deal with uncertainty in organisations is by following understood and trusted rules.) In a more uncertainty-avoiding environment, employees feel a great need for safety by following rules. The need for alignment of IS and business (organisational culture) is discussed in Section 5.0.

5.0 Alignment of IS and Business

As IS development moved beyond merely providing operational support for the existing activities of the organisation, to supporting strategically both the business processes and business performance, so organisational structures and styles had to move in concert. Thus there had to be an appropriate alignment between the organisation and its IS. As Robson (1994) has stated, IS can either be valuable tools when correctly aligned to business needs or a heavy cost burden when inappropriate.

The task of aligning IS to business needs, can best be achieved through the development of an integrated IS strategy (Avgerou and Cornford, 1993). Successful IS planning and implementation needs close integration of the

IS strategy with business strategy. If there is no co-ordination between business planning and IS planning then it would be very difficult for the IS function to adequately support business objective and strategies or to contribute to the achievement of competitive advantage. The quality of IS planning is dependent on the integration of business planning with IS planning (Teo and King, 1999). Teo and King (1999) further state that the integration between business planning and IS planning helps in increasing IS contributions to organisational performance. The poorer alignment the less successful the organisation (Baets, 1992). Ward and Griffiths (1996) argue for the need of integration between business and IS planning so that the resources of the business can be allocated in a coherent manner to those plans that collectively will deliver benefits to the business. This view of alignment of IS strategy with business strategy is also supported by Hackney and Little (1999) on the grounds that technology is not the only ingredient of success; techniques, options and approaches to IS planning linked to business strategy are also needed. Alignment between IS and business is essential (Earl, 1996C; Lederer and Salmela, 1996; Lau et al., 1999; Teo and King, 1999). The benefits of integration between business planning and IS planning can be better achieved by facilitating activities, such as, IS managers' involvement in business strategy planning, management's understanding about IS strategy, users' participation in IS planning and top management commitment to IS (Choe et al., 1998). Roepke et al. (2000) argue that the key to success of IS lie in their ability to be adaptive, responsive and aligned to business needs. Hence it is concluded that alignment between organisational culture and IS can ensure the success of IS.

6.0 Summary

This article has described the importance of organisational culture for the success of CBIS, and highlights a need for the alignment of IS with the business. Effective IS are important for the success of the business. Planning for development and implementation of effective IS be undertaken by both IS and management personnel; aimed primarily to facilitate alignment between business plans, objectives and IS plans.

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