

Information Technology and the Structuring of Organizations

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<<< Abstract

A lot of money is invested by organization to develop a meaningful information system that can serve their purpose. But the status of end user and their information required present a set of unique and different problem that need to be overcome. The environmental success of this kind of information system model is affected by various factors like people, activity and system involved in development cycle, apart from the rest of element used in their development cycle. This paper is prepared to develop effective computerized information system model by displaying how the people, activity, and system can influence the model by associating or non associating with the model. This paper also highlights the relation between these factors. The element making up the framework can be summarized in 3 words: people, activities and systems. These elements form the main components of the information system model. They are the elements within an organization, which have an effect on and describe the development and usage of information system model. The framework is described using set theory. Each of these 3 components is assumed as sets containing element present in an organization during system development.

1. INTRODUCTION

Computer Based Management Information System is designed to be operated directly by layman user up to senior managers without the need of intermediaries. The aim of computer based management information is to provide fast and easy access of information from variety of sources

This is the information through which managers takes the effective decision hence this is essential to consider all the attributes while developing an computer based MIS. This is also true apart from computerized information system association or non association organizational attributes can affect the success of Computer based MIS model. In the literature very few Computer based MIS model failures are documented, in the context of failure information system is generally ill defined of system is shown. This is shown through this paper that apart from all working of computer based management information there are main three elements mentioned above can influence the success of model. Lyytinen and Hirschheim in, cite work discussing situations where Information Systems have been found to fail. As follows (a) when the potential benefits of the system are not realized (b) when the system is not used] and (c) when there is substantial user resistance. Lyytinen and Hirschheim put this as the concept of expectation failure, which senses system is unable to fulfil one of its user's expectations.

The organizational literature recognizes the value of information technology because of reducing power of organizational uncertainties like incompleteness, irrelevance, indeterminacy, incommensurability

2. BROAD OUTLINES OF WORK

As part of research done in both the academic and professional communities, a number of frameworks describing the computer based information systems development process has emerged. Four such frameworks are briefly reviewed here to determine their strengths and weaknesses in identifying and classifying elements of computer based information systems development and usage that can influence the success. Once useful features of each framework are found and is updated with the next framework and new modified information system is obtained.

The first of this framework is ESPRIT. This is based on the installation of a commercial information system package. It was developed after experience gained from installing resolve-2 in respect to successful information system projects. This framework was failed because not much emphasis is placed on to the method of extracting the information requirements for the system. No relation to other procedures or systems operational in the organizations is made explicitly.

The second framework is put forward by Watson, Rainer and Koh. It originated as a way of classifying the results of a study on CBISs practices conducted in the US in 1988. It consists of three components. The first is a structural perspective of the elements involved in an CBISs development project. The second part considers the development process in more detail and the third looks into issues relating to the user-system dialogue. Although this framework makes the distinction between the development process and system usage, the two are kept separate from the part that describes the structure of the process. Consequently, despite the interesting results that emerge from the study this framework supports, the relationships between the three parts of the framework are not considered in much detail.

The third framework is proposed by Millet et al, and approaches CBISs development from yet another perspective. It looks into aspects of timing and decisional maturity in organizations, and the transition path followed to develop an CBIS from an MIS infrastructure. Although it presents an interesting and useful view of the process, the level of detail that it goes into is not very high. The focus of this framework is not on features of development at an individual's level but rather on an organizational-wide level. This perspective, although not very appropriate to the level of detail of this research, helps highlight issues that are of importance. The relations of CBISs with other organizational systems and time considerations are important features of CBISs development that this framework addresses. The need for research focusing on social and organizational problems has led to the use of Anthony Giddens' structuration theory in relation to information systems.

The final and fourth framework reviewed here is an application of structuration theory in the area of information systems. It is put forward by Orlikowski and Robey and tries to interpret social processes that go on during the development of an information system. The framework has been used for the analysis and interpretation of the installation of a CBIS. It provides an integrated, coherent way of linking the various elements of CBISs development to human action. However, there are inherent limitations associated with attempting to model social processes specific to each individual situation. Although this research will not go into any great depth in exploring the interpretation of social relations in the context of CBISs development, this framework is important in indicating that there are relations between the various groups of people involved in CBISs development and use.

3. PRIMARY WORK DONE ON THE LINES

We can see from above that no single framework describes CBISs development and use adequately. It has to be stressed that the deficiencies identified for each framework are only with respect to the purpose of this research. These are inevitable

since they are inherent from the different perspective each framework adopts and the original purpose for which each framework was proposed. However, despite the shortcomings identified above, each framework displays a number of features that are useful in describing CBISs development and use. We now go on to propose an alternative framework which attempts to integrate most of these useful features and at the same time overcome the shortcomings of each individual framework.

Such a framework will constitute a useful tool for a coherent classification for further analysis of elements involved in developing and using a CBIS.

The elements making up the framework can be summarized in three words: PEOPLE, ACTIVITIES and SYSTEMS (PAS). These elements form the main components of the framework. They are elements within an organization, which have an effect on and describe CBISs development and usage. The framework can be described using set theory. Each of the three main components can be considered to be sets containing elements present in an organization during systems development. These three sets are:

P = Set of People in an organization.

A = Set of Activities taking place.

S = Set of Systems present in the organization.

The first and most important component of framework is people.

The first and most important component of the frame work is people. During development and subsequent usage, of the system people are the main element who determines the access of the system..Success does not only depend on people who are involved directly with the system. Other people who are not involved in the system might also be stakeholders in the system's success. Like group of people who might not involved directly with either the development or the use of the system, and yet could influence its success According to the framework, people within an organization, can be classified according to their membership in one of the four mentally disjointed systems making up the set of people

P1 = set of people in the organization that are not involved in MIS development activities and are not uses of security MIS.

$$= P - [(P \cap S) \cup (P \cap A)]$$

P2 = People involved in development process but are not the uses of the system.

$$= (P \cap A) - (P \cap S \cap A)$$

P3= People activity involved in the development of system and also uses of the system.

$$= (P \cap A \cap S)$$

P4 = People not involved in the development process but are the uses of the system.

$$= (P \cap S) - (P \cap S \cap A)$$

4. CONCLUSION

Conclusion- 1

Activities Hence various people outside the boundaries of the organization can also affect the success of MIS model Information systems development can be viewed as a project. This is necessary for a project to be completed a set activities need to be undertaken. This is the second part of the framework includes all activities of procedures that take place in an organization. The same concept as applied for people involved in MIS Development, activities directly or indirectly may also effect the success of MIS model. Activities are also classified into 3 subsets. These subsets represented organization activities.

A1 = Represents organizational all activities not directly related to the MIS which could nevertheless influence the development.

$$= A - (P \cap A)$$

A2 = this area represents the MIS development efforts. These are the activities which directly contribute towards the development of an MIS.

$$= (P \cap A) - (P \cap A \cap S)$$

A3 = these are the activities that take place to expand or enhance the initial MIS system.

$$= (P \cap A \cap S)$$

Conclusion-2

System Hence there exists the activities which

associated or none associated may influence the success of model. This is the last main element of the framework. This comprises any information system that the Organizations utilize to carry out its operations. There are many systems available, but this is identified by managers that which system can be associated or none associated with MIS development for the success of the model. [13]

Sa = Represents various system available in organization but could not influence the development.

$$= S - (P\check{c}S)$$

Sb = Represents available into system in the system.

$$= (P\check{c}S) - (P\check{c}A\check{c}S)$$

Sc = System involved in MIS development process.

$$= (P\check{c}A\check{c}S)$$

Conclusion-3

Hence system available in organization association & none associated can affect the MIS model development. This paper effectively makes system success depend not only on the way the development process is managed but also on various factors relating to the use of the system. When developing an MIS model, we must have a clear knowledge of the mechanism by which these factors influence success in order to minimize risk of the failure.

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