EMBEDDING CREATIVE INFORMATION SYSTEMS INTO CORPORATE CULTURE

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Foreword: In the course of doing research for PhD in International Business, I had come into contact with several Multinational and Transnational corporations and this paper is based on my observations as well as my experiences, as a teacher in Management Information Systems.

Introduction: Information systems form part of the imperatives in an organization. All information in an organization becomes useful, only when it is well assimilated by all related functions, for the purpose of decision-making. It is therefore necessary that information is captured in the right context, is stored in an appropriate form and accessed according to the relevant need. The objectives of this paper are:

1. To bring forth the need for all business organizations to fully assimilate the way in which information systems can be made use of by *all* the employees concerned,

2. To bring forth the importance of the role played by *employees* (and the source documents) who capture the data in the process of information gathering.

This paper has been organized in the following way:

1.1: Introduction to information systems, corporate culture and creating an information-based corporate culture.

1.2: The need for information systems and the critical success factors of information systems.

1.3: The need for flexible information systems in a global environment

1.4: The necessities for enabling creative information systems in a business organization and the management of change

1.5: Embedding creative information systems into the organization culture

1.6: Requirements for embedding creative information systems into corporate culture**.**

Key words: Corporate culture, critical success factors, Expertise Locator Systems, Creative Information Systems.

1.1 Information systems, Corporate culture and Creating an information-based corporate culture: "An information system is a work system, whose business process is devoted to capturing, transmitting, storing, retrieving, manipulating and displaying information, thereby supporting other work systems. A work system is a system in which, human participants and/or machines perform a business process using information, technology, and other resources to produce products and/or services for internal or external customers".[1]

"Organizational values are beliefs and ideas about what kinds of goals, members of an organization should pursue, and ideas about the appropriate kinds or standards of behavior organizational members should use to achieve these goals. From organizational values develop organizational norms, guidelines or expectations that prescribe appropriate kinds of behavior by employees in particular situations and control the behavior of

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organizational members towards one another". Improving services will always involve change. An aspect of change that causes problems is changing the way people behave and act. This is organisational culture - the sum total of an organisation's ways of operating and working together. It is the shared beliefs and the written and unwritten policies and procedures that determine the way in which the organisation and its people behave and solve problems.

Corporate culture makes certain patterns of behaviour very natural. Corporate culture becomes a way of living, which is hard to dismember once it is set up in a particular way. Orient the employees to an information-based corporate culture. Ensure that the employees are aware of their status in the organization. Formal documentation of processes will reveal the placement of employees. It is necessary to train employees to understand where to access the information available for their line of duty.

1.2 The need for information systems and the critical success factors of information systems: A business organization can be encapsulated into a set of business processes or functions. Each of these functions has to contribute to business itself in terms of added value to its internal and external customers. Information systems are basically enablers of business which keep the business informed about the status quo of all related functions and affairs. Information systems gain their importance from the fact that they facilitate strategic decision-making in a business organisation. The formulation and implementation of strategies encompasses the detailed study of the environment and this aspect is facilitated by information systems.

Information systems should therefore support all functions of management from the inception onwards. Every organisation that grows and prospers can do so, only on the basis of excellent sustenance from well maintained information systems. If information systems are not well structured or not maintained well, the very purpose

of having these systems is defeated, and therefore arises the need for the same.

Human contributors play important roles in performing various business functions by means of various technologies, methods, processes and compellingly utilize information systems for strategic, tactical and operational decision-making purposes. A business function can be performed without the enabling of information systems, but in the competitive world of business, especially that of international business, where the main aim is to provide value for customers and to perform the work efficiently and optimally, information systems become crucial.

A system consists of a subset of mutually dependent and interactive components. Each of these components can be considered in terms of small centres of information gathering, and the total input leads to some value addition to the business. Every employee who is involved in each business process needs to have up to date information about the processes involved and this forms the basis for an information system, that is all employee-based so that they function in a broad organizational environment. Whenever complex situations are faced it is obligatory to view the situation in a holistic way in the organizational context, for a solution, that not only helps resolve the conflict but also does not adversely affect any other business processes or functions.

The value chain is a concept used by Michael Porter to designate the importance of having value addition to each process in the business organization, by defining the processes involved in the in- bound logistics, the production process and the outbound logistics of the company. The value chain assigns the processes of actually producing the product as primary processes and the other processes involved as support processes. Steven Alter talks about the three types of processes that go into the formation of a business organization that make information technology imperative for value addition in each of these processes;

a. Processes that cross functional areas

b. Processes that relate to a specific functional area and

c. Activities and sub processes occurring in every functional area.

It is therefore evident that there are no stop-gap arrangements in business. Every function can be done only through processes. It is therefore vital for the business organisation to understand these processes and know the status quo of each of them for better performance. Computer based information systems provide the answer to all these necessities. Information systems are of different types and serve the organization in various capacities.

Every business today faces the strange problem of having to serve masses of customers, and still treat and customize products, in order to make the customer feel as if he is the only important person being served by the company. Every organization has to compulsorily have this policy implemented be-cause this is the only way to survive and thrive in business. It is not humanly possible to remember every customer's likes and dislikes, but information systems make this realisable. So the concept of Customer Relationship Management (CRM) comes to the fore in dealing with customer retention and loyalty programmes if proper information systems are sourced, maintained and accessed as per the need.

Outsourcing of the activities in which the organization does not really have a strong affinity to, and efficient management of the same is possible through information systems. Supply Chain Management (SCM) and its partnering of business relationships are entirely made easy by efficient information systems.

Another use of information systems is the database-management system which is a collection of interrelated data along with a compilation of programmes that help in accessing that stored data. The data in the data-base management system indicates the information regarding the functions of the business organization. The data-base management system encompasses both the definition of structures for storing information as well as the mechanisms for dealing with information. The structured part of the data that is required by every organization could be the responsibility of the data-base management systems.

The important step to take is to establish Knowledge Management Systems (KMS) for strategic decision-making purposes in the organization. KMS are systems which enable the creating, gathering, organizing and disseminating of knowledge throughout the organization. This knowledge is assimilated from the data and the information gathered in the organization. Knowledge Management mechanisms such as the Knowledge Discovery Systems, Knowledge Capture Systems, Knowledge Sharing Systems and Knowledge Application Systems aid the process of knowledge gathering and dissemination.

One of the information repositories under the knowledge sharing systems are the Expertise locator systems which locate intellectual capital and infer it in such a way that it later on lends itself to contextual query and answer in the organization. Most expertise-locator KMS begin with a self assessment of the competencies of each employee in order to identify their areas of strength so that they can later on be utilized in the search for specific knowledge areas. This self assessment of individual competencies helps the organization to build a complete repository of organization-specific competencies for further use. If KMS has to lend itself to enhanced business performance and efficiencies, it is necessary to divert from customized, planned and controlled information gathering to creative, spontaneous and revolution-ary type of information assimilation. The requirement for such a drastically different type of information integration arises from the business need for adapting to a vigorously changing, unpredictable environment in which all businesses have to survive.

The Critical Success Factors (CSFs) here for successful implementation and utility of Information Systems are the people involved. The role played by

the employees in information systems cannot be undermined for any other component of information systems. Information system components include hardware, software, data and human resources. Hardware can be installed, software can be programmed, data and the collection of it can all be done depending upon the people in the organization. Human resources may mean the people who are actively concerned with the management of data, yet it is necessary to state here that all the employees in the organization have to be actively involved in the collection of the organisation's data.

The extent of data access depends upon the nature and the amount of data present in the system. It is important to remember that the scope of decision making is restricted to the quantity and the variety of data in the entire database. It is not possible to base quantitative and quantitative based qualitative decision-making beyond the data that is found in the database. The data in the database and the structures of the database are determined by data base administrators with the end users of the data who are employees themselves, through the technique of systems analysis and design. During the phase of requirements analysis, employees have to communicate to the systems analyst as to the data that they find is necessary for the organization. This forms the structured part of the data in the database. The assimilation of data certainly should not end at this point. Unforeseen necessities in data due to unpredictable changes in the decision-making environment can arise. So comes up the importance of thinking, rational human resources in this whole process.

Employees have to realize and understand the role they play in the achievement of an organisation's goals. If the employees do not comprehend and identify with the achievement of the organisation's goals, then data gathering requires pre design and will become highly structured. In the constantly changing working environment, when the situations themselves are not the same as seen before and cannot be predicted, then structured

formats for data capture do not convey much meaning. Yet, it does not mean that all data captured should be unstructured. Part of data capture could be structured and pre formatted as per the requirement of the organization and part of it could be decided by the employees themselves.

1.3: The need for flexible information systems in a global environment: Businesses today work on an international level with global trading partners. A true transnational corporation is a melting pot of different cultures. The diversity in cultures begins from the employees themselves. They come from different backgrounds and bring with them their attitudes towards age, languages, religions, social structures, social mobility, ways of communication, and various other components of culture which are not yet well defined.

Culture is a peculiar factor to consider in business because of its very nature. It was once declared in the world of international business that culture determines the reason for consumers to buy a particular product. Therefore it was acknowledged widely that businesses have to customize their products as per the country of operations. Yet, there is a recent thought going about among international managers that a global product may be more acceptable. After all, what could be the incentive for a consumer to buy a product that is manufactured by a foreign company other than that it has some new, additional or unique features that are not seen in the product produced domestically? Therefore it may be necessary to offer the product in any country in the same way as offered in others. These are just some of the contradictory notions that are constantly decided on an individual basis in international business. The changing nature of the information systems needed in these cases are obviously of varying nature as well. This aspect does not restrict itself to just consumers but also to business partners.

This means that businesses have to deal with a variety of customers and business partners belonging to different cultures. Up to a point the dealings with business partners could be said to be

structured because their origins can be traced to a particular country and characteristics of their expectations and behaviour can be predicted up to a stage. Yet each person's approach to business related communications, their attitude towards business and their ways of dealing with business partners do not conform to any set pattern. Perhaps patterns can be set up for a cluster of similar cultures, but not for the entire gamut of operations.

To emphasise what is already said in this paper before, that up to a certain point the forms and data capture formats can be designed and structured, patterns set up for culture clusters can be matched with the structured part of form designs. As for the rest of the important information that could be gleaned from the interactions of employees with all kinds of customers, it is imperative that the business organization has proactive employees who have the ability to create their own information database and transfer it as a precedence for the other employees to follow by referring to the learning organisation's KMS.

1.4: The necessities for enabling creative information systems in a business organization and the management of change:

1. A change needs to be brought about in corporate culture.

2. Orientation needs to be given for employees about the need for information

3. Finally build up systems to capture data at every contact point

4. Proper data capture and data analysis, data mining: This needs to be done in order to develop business trends based on the information collected.

5. Develop a corporate culture that encourages innovation and creativity.

The management of change: To build an information-based corporate culture, a revolution of change is necessary in the organisation. The

management of change in the embedding of information systems into corporate culture entails;

a. Bringing about a proactive stance rather than a reactionary attitude among the employees in the organization.

b. Treating the source documentation of building the data in the creation of the database as an area of professional practice. Through Expertise-locator systems, make the employees do a self assessment of their own capabilities. Armed with this data, determine the different competency and skill levels among the employees who do the source documentation so that work can be assigned accordingly.

c. Creating a database that is flexible, which is partly structured and partly unstructured. Let employees have the facility of a system that enables feeding data that is structured and is necessary to be fed and also have the capacity of capturing creative data that the employee feels is necessary.

d. Establishing a control mechanism that will rule out overloading of unimportant data into the system but at the same time maintains rather bohemian type of data that is not the run of the mill kind of data.

1.5 Embedding creative information systems into the organization culture:

1. Orient the employees to the achievement of the objectives of the organization. The organisation's strategies should be made known to all the employees concerned in a training programme. The contribution of each employee towards the achievement of these objectives in terms of his job function should be assessed and conveyed to the employee. This will prepare the foreground for the employee in right thinking towards the organisation's goals.

2. Prepare a plan of operations in terms of data flows. Let all unstructured data flow operations be documented and displayed prominently where all employees can have access to the diagram. Formal

documentation structures business processes.

3. Break up this diagram into modules of smaller operations and display these modular diagrams in the concerned departments.

4. Build up a data base based on the structural diagram of entire operations. Build up an AEIS (All Employees Information System).

5. Give each employee an identification name or place so that everyone knows the area in which they work. They should know their place in the diagram.

6. The flow of data to and from the employee's work station should be made clear in the AEIS. Employees should be trained and encouraged to access data regarding their line of duty.

7. The AEIS should be built as Expertise-locator systems whereby employees should be encouraged to determine by themselves their individual capacities. A data base regarding the individual capacities of every employee and their specific capacities should be built up.

8. Employees should then be encouraged to be innovative and capture relevant data.

9. The database administrator should work in conjunction with the department head and if necessary, the employee to compile and upload the data into the AEIS.

10. Finally teach employees to access the AEIS, not only for problem solutions, but also on a regular basis for additional information regarding their work structures and responsibilities.

1.6 Requirements for embedding creative information systems into corporate culture:

a. Orientation for the employees in the organisation's culture as an information-based culture,

b. Enabling the type of database that lends itself to the necessary flexibility required of a system of this kind,

c. Conviction of the top management and commitment from them towards the system,

d. A proper plan of action that is documented.

1.7 Concluding remarks: Finally, it seems necessary to mention that if employees make creative information systems part of their corporate culture, it will be inevitable that they will be creative in the assimilation of information. Unstructured, flexible sort of information that is essential in particular contexts will be available for them. Such information as cannot be predicted as essential can be part of their information resource supply if employees themselves are creative in the sourcing of information. No amount of guessing and imagination on the part of the systems analyst or systems administrator will hold any value other than practical experience as that got by employees on the job. Added to the structured information the flexible information classified and recorded will enable the business organization to add immense value to its processes. The learning organization can then be an agile organization where the value addition from information systems is concerned.

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