Successful Product or Successful System-A Human Centric Approach Towards User Satisfaction of Enterprise Resource Planning System

Swati Sharma

Research Scholar, Rajasthan Technical University, Rajasthan

Swatiii.harit@gmail.com

Dr. Pramod Gupta

Research Guide, Rajasthan Technical University, Rajasthan

pramodietdms@gmail.com

Abstract: Most of the software projects are largely undertaken with a mythology of developing successful products rather than successful systems. Enterprise resource planning products are generally developed in isolation from other system components such as people, information or existing business processes. This paper tries to apply the human centred approach in studying the user friendly effectiveness of ERP systems. The objective of the paper is to explore the relationship between the human centric approaches like (processes, semantic, social and pragmatic) and satisfaction of the user of ERP Systems. The contribution of this paper is to address the need for the human centric approach as a basis of designing of an ERP system, to define user human centric model for measurement towards user satisfaction.

Keywords: Enterprise resource planning, human centric approach, User Satisfaction etc.

1. INTRODUCTION -

The commercial world in the 21st century is presented with unprecedented technological advances in computation and communication. It is facing the emergence of a system in which almost every human activity may be intimately affected, supported, monitored and sometimes even controlled. In such a technological emergence ERP is regarded as the most effective computer application to support the overall business objectives ignoring the constraint from hardware, software and human resource.

Enterprise Resource planning is considered as the most effective computer application to support the overall business processes. This software is meant to plan and manage the overall business resources in most effective manner. However it is not guaranteed to adopt ERP with success. One of the major reason for failure is not an appropriate design and implementation methodology of Enterprise Resource Planning. Failure of ERP implementation can be a result of improper planning, unclear objective or too much of customisation at customer end. ERP can make business more efficient but many ERP implementation processes fails due to improper implementation methodology. There is no denying the fact that ERP deployment is a major task to be undertaken but it does not need to be painful. With proper planning and execution implementing an ERP

should be a smooth process. The proper planning and execution for successful ERP implementation is called ERP implementation methodology of ERP implantation lifecycle.

II. DEFINITIONS & ERP CONCEPTS

Enterprise: The enterprise is any organization that has set of common goals.

Resource: Resources can be human resource (Manpower), Capacity (Machines, plants, warehouses, etc.)Inventory resources (finished goods and raw materials etc.). For any organization the biggest challenges is the utilization of these resources efficiently for creation of best possible value for its stakeholders.

Planning: For effective utilization of resources, an enterprise needs to plan and undertake number of planning activities like demand planning, capacity planning, financial planning, human resource planning, Quality planning etc.

ERP is defined as broad set of activities supported by multi module application software that helps organisations manage their critical business processes such as product planning , Human Resource Planning , Financial Management , interaction with customers and suppliers and utilising the overall resource in a best productive manner. Most software implementation are largely undertaken

with a focus on developing successful products rather than successful systems. These products are mass developed and they are developed in isolation from other system components like people, information and existing technologies and existing business processes. In other words, these products are designed and developed in the absence of direct involvement and active participation of end user especially ate the early phase of implementation. Things like user's initiative, evaluation and selection of a user friendly ERP system.

Existing researches states that ERP as a product are not designed in strong collaboration with its users. Some cooperative activities are required to shift a focus from ERP as a successful product to successful systems like it should be considered as a joint activity, mutual responsiveness and also a commitment to mutual support. Until now work is limited to user satisfaction in the accounting business function and does not cover users at enterprise level. End users are the people who have direct contact with ERP systems. User participation refers to the involvement of user in the system introduction, development and implementation process. There are two main areas of user participation when an organisation decides to implement an ERP system. The first area is when a user participates in the stage of definition of organisation's ERP system needs and the second area is user participates in the implementation of ERP systems. One of the major problem organisation's face in ERP implementation is incompatibility of process features with organisation's information needs. To address this problem users need to be allowed to participate in the implementation of ERP system since they are familiar with the business processes and the knowledge domain in their functional area.

III. OBJECTIVES OF THE STUDY

This paper tries to apply the human centred approach in studying the user friendly effectiveness of ERP systems.

To explore the relationship between the human centric approaches like (processes, semantic, social and pragmatic) and satisfaction of the user of ERP System.

To examine the need for the human centric approach as a basis of designing of an ERP system, to define user human centric ERP system for measurement towards user satisfaction.

To examine the importance of user participation at the time of ERP implementation.

IV. RESEARCH METHODOLOGY

This paper is based on secondary data, which has been collected from various sources as per the requirement of the research. Data have been searched out by different websites, research papers, books and magazines. Also the prior research studies on impact of ERP would give an ample amount historical data or decision making patterns.

Why ERP is required-

Increase the efficiency, productivity, flexibility and customer responsiveness:

By integrating all business core processes together in one single platform, organisation maximises the efficiency level of its overall business processes. Benefits like increase in productivity, Increase the ability to forecast the demand and supplies, Increase order capacity and improve customer relationship management.

Eliminate costs and inefficiencies:

Using an ERP system to standardize business processes can dramatically improve company's operation. ERP enable organisation to manage good relationship with vendors which results in lower cost for purchased items. Better resource management helps in more inventory turns and decrease the level of inefficiencies.

Provide Data consistency:

ERP system integrates all business management functions, it decrease the level of inconsistency in the information from different systems and improve the overall information and reporting system of an organisation and thus helps in taking right decision.

Explore new and extend current business opportunities:

Web enabled technology allow an organisation to access new business opportunities and extend current business process.

Why ERP Systems fails-

1. Lack of Management Participation:

One of the major reason of ERP implementation failure is lack of management backing, ERP needs active participation of people in the organization and until and unless management

doesn't make clear that ERP implementation is a priority there will always chance of delay or complete ERP implementation failure.

2. Lack of Planning:

Companies build a high level plan with broad assumptions or underestimate the amount of business change involved. Due to lack of planning many unforeseen problem may come which causes failure of ERP implementation. The plan for a successful ERP implementation needs to be specific, detailed and realistic.

3. Unclear business objective:

Business should clearly define on what is their definition of success. Having a clear destination means defining the important business processes, financial benefits, and deadlines up front and making certain stakeholders agree how to address them. Without a clear destination, the end point becomes a moving target and hence harder to reach.

4. Under – Estimating resource required:

Most common blunder to happen is with resources projected. Having a solid understanding of the internal and external resources needed to complete the project is critical. A correct estimation of the resources required is necessary to avoid ERP implementation failure.

Unrealistic Expectation

If ERP is successfully implemented it can make the business more efficient but realistic expectation should be set up, ERP should not be expected to perform miracles. Vendors should made management aware of what kinds of benefit should they expect after successful ERP implementation

5. Extensive Customisation:

Most business lack standard business practices ask for a lot of customization in the ERP system. Over customization can result in a lot of time and effort and makes installing the next release costly and difficult. Hence before beginning the ERP selection process, business process of the organization should be in place to avoid ERP implementation failure.

6. Lack of flexibility in ERP

Business realigns their business process continuously in response to ever changing market. Many ERP are not flexible enough to accommodate it and may result in failure

7. Insufficient Testing:

The purpose of testing in an ERP project is not to see if the software works, the purpose is to see if the system meets your business needs and produces the output you need. Reducing testing may not leave defects undiscovered, but it certainly increases the risk the ERP system will be missing important functions or not be well accepted by end users.

8. Lack of training:

Leaving training to a small phase at the end of the project makes it very difficult for users to get the training they need to understand the system. ERP covers different departments so all users must know ERP basics, overview of system and its working and how an action by an employee triggers a host of events throughout the organisation.

9. Lack of implementation services:

Going live is not the end of the journey. Business is ever changing and ERP have to be changed according to it. ERP implementation requires frequent reviews and corrections.

10. Poor management of the transition phase:

You will not see the benefits immediately. There could be a drastic change after ERP implementation in the organisation especially on the way people do their job. This can result in a temporary dip in performance but if the implementation is done right and transition phase is managed properly after some time organisation will become more efficient than ever.

Why ERP System and human centric approach-

The perception of involving the human centric dimension is to provide more complete models and analysis on the implementation success of ERP system. Three models invented in three different decades by Shanon & Weaver in 1948, by Mason in 1978 and by DeLone and McLean in 1992 and in 2002 have inspired the authors to create and examine a set of measurement for implementation success of ERP systems.

Human centric approach is about achieving the synergy between the human and machine. This synergism goes beyond human –computer interaction concepts, it takes in the loop each and every aspect of technology as well as human effectiveness.

This paper adopted the three criteria laid down in the NSF workshop (1997). The three criteria depicted in figure 1 are:

Human –Centric approach research and design is Problem /Need driven as against abstraction driven (although there is an overlap)

Human –Centric approach research and design is Activity centred.

Human – Centric research and design is Context Bound

The first criteria problem / need driven outlines a need for developing software systems that are modelled based on how people use various artefacts to solve problems in a field of practice. The modelling should include not only the normal or repetitive tasks but also exceptional and challenging. These exceptional and challenging situations can also be likened to breakdowns in problem solving. For example in accounting area, a head of accounting department while recruiting new accounting clerks or bookkeepers is faced in an exceptional situation in determining a benchmark for recruiting the new accounting clerks. Further this criterion also suggests the generic problem solving abstractions should be extracted from problem solving situation as people perceive and solve them, rather than employ abstract theories like graph theory or logic or other domain theories to solve problems in various fields.

Research by Vilpola on the C-CEI (Customer – Centered ERP Implementation) method suggested three analysis that can be used when an ERP system is selected, implemented and taken in to use namely operational analysis, contextual analysis and risk analysis. The problem / need driven criterion has been clearly consistent with Vilpola's operational analysis in terms of the focus on the critical business processes of a company (Vilpola 2009)

The second criterion Activity centred emphasis system development based on practitioners or users goals and tasks rather than system designer goals and tasks. In other words, this criterion emphasis the need for maximising the overlap between a user's model of the problem domain and a system's model of the domain. The focus is on how well the computer serves as an effective tool for accomplishing user's goals and tasks.

Finally the third criterion context bound emphasis that human cognition, collaboration and performance is dependent upon context. It particularly looks at the representational context. That is how the problem is represented influences the cognitive work needed to solve the problem. Problem solving is distributed across external and internal representations. Software systems based only on internal representations or models of a problem domain are likely to put a higher cognitive load on their users as against systems that are based on external or perceptual representations. Other contexts that need to be taken in to account are social/organisational context and task context as outlined in the second criteria. This criterion is consistent with Vilpola's contextual analysis that focuses on the organisational context such as users and their tasks, devices, and the physical and social environment.
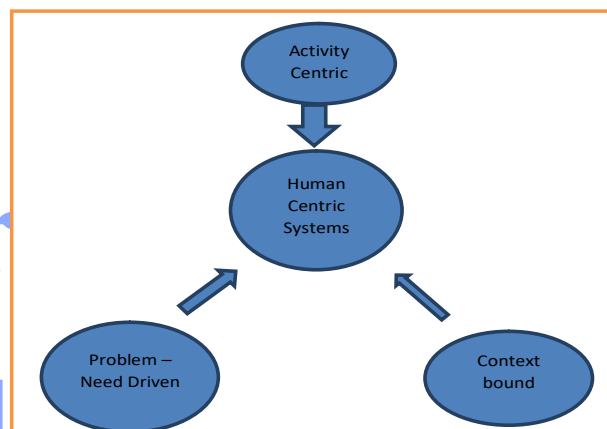

Figure 1. Human Centric Criteria

Thus no matter how muvh time and money you spend in your Enterprise Resource Planning (ERP) system, the success of implementation comes down to end users satisfaction rather than successful implementation of ERP systems. Even

'Best of Breed' solution will fail to deliver the expected results if human centric approach is not employed at the time of implementation of systems. Adoption of end users is necessary to complete the cycle of successful implementation.

To foster the implementation process, positive attitude of end users and for adoptability of the system, proper education and involvement is the key.ERP system is notorious for its complexity , as decision makers falls in to trap of focussing more on making successful product rather than making it a successful system.

Following are the keys to a successful system rather than only focusing on only implementing the product:

Proper Training: Organisation under values the importance of training, doesn't budget for it appropriately or waits until the system has been deployed to educate employees. Thus proper training at the time of implementation and post implementation is required to fill the gap of system and human effectiveness.

Involvement of Employees: The organisation does not involve end users while implementing, testing and thus preventing both employees and the implementation team from identifying the gaps in processes until after go live. Thus involvement of human at every phase of system implementation is necessary to make it a successful system.

Perceived Value: Management fails to justify the adoption of the new system to users. Employees does not understand the benefits out of this system and try to resist its implementation at every stage. Thus it's required to make end users, the benefits of the implementation of an ERP system.

Reengineering: Processes are restructured and new systems are implemented so the workload increases, forcing end users to learn new skills and adjust to the change in responsibilities. Thus it is necessary to balance the work and output level of end users at the time implementation of systems.

Thus achieving successful user adoption is not an easy task, especially when it comes to implementation of ERP systems. If you don't make end user acceptance and user satisfaction by moulding it towards more of a human centric approach then your project of ERP implementation will never get off the ground.

V. CONCLUSION

Thus Enterprise resource planning products are generally developed in isolation from other system components such as people, information or existing business processes. This paper concludes that application of the human centric approach in studying the user friendly effectiveness of ERP systems is necessary. It is necessary to address the need for the human centric approach as a basis of designing of an ERP system. So while implementing the system it is necessary to train, involve, prepare and value the end user's adoption and satisfaction level. Otherwise It is easy to implement the Enterprise Resource System but it is difficult to make it a practice of end users and to use it as a successful tool of increasing the efficiency level of employees and integrating the overall processes of the organisation.

References-

1   Petrus A, Usman ji, Khosla Rajiv, Successful Product or successful system? User satisfaction measurement of ERP software, Springer, 29th April 2012

2. Petrus A, Usman ji, Khosla Rajiv, Does the extent to which an ERP system is Human-Centered contribute to user satisfaction with that system , Accounting and Management system vol. 12 , No. 4 , pp. 595-625 , 2013

3. Vilpola Inka Heidi , A method for improving ERP implementation success by the principles and process of user centred design, Enterprise Information Systems , vol2 , 20th feb 2008

4. Samwel Matende , Patrick Ogao , Enterprise Resource Planning (ERP) System Implementation : A case study for user participation, Science Direct, Vol 9 , 2013

5. 7 Important reasons for ERP implementation failure in your institution, Fedena , July 3, 2015

6. Jerry Ledford, Reasons why ERP Implementation failures are still high, Enterprise Software

7. Angeline Christy, Rajan & Baral Rupashree , Factors Affecting the user acceptance of ERP and the impact on the individuals: A conceptual model: Springer

8. Spano Alessandro & Bello Benedetta, The Impact of using an ERP system on Organizational processes and individual employees:University of Caliari

ISSN - 2456-785X

http://ijirem.com/

http://ijirem.com/

ISSN - 2456-785X