Critical Success Factors for ERP Implementation towards

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Abstract— Over the past few years, Enterprise resource planning systems (ERP) have become successful in information technology. The implementation of ERP is large. It includes large number of people to solve the problem of complex project .ERP system basically used to control and organize all the resources, information and function of the organization. ERP systems firstly work with the planning and determine the resource usage in the business. ERP contain large amount of resources and describe how these resources utilized. In spite of the success in ERP system implementation there is high failure in ERP implementation. The major problem are people related. All the users of the ERP system should be trained properly. The success of the organization depends upon the package if the package is not right then it will create a lot of trouble. The package covers all the function of an organization. The cost of implementation depends upon the size and complexity of the projects. The ERP implementation system can help in provide better service to the customer and the organization and deliver good quality products to the customer. The direct benefits of an ERP system are flexibility, business integration and so on. The very essential step of ERP implementation is the phase called GAP ANALYSIS which is the gap between requirement of the company and the functions.

Keywords— ERP, Tacit Knowledge, Explicit Knowledge, Critical Factor, TCO.

I. INTRODUCTION

Critical Success Factors is the major reason which helps to success of the ERP implementation in organizations. The ERP system is not a good approach to implement and success in the reengineering process. But it is required a plans to implement successfully. However there are three major factors in critical success factors that are top management, client and user. As an initial Success factor with top management play a very critical role. Because of the entire organization must be changed with the permission of the top management. There are some major success factors which always being as CSF in ERP implementation.

- Clear objective, goals and strategies towards the organization
- Commitment by top management
- Excellent implementation project management
- Trained implementation team
- Updated technical support
- Appropriate training and education to the users

There are some failure factor when deliver the benefits to the customer in the ERP implementation.
- Lack of Top management
- Improper planning and budgeting
- Lack of training
- Use of wrong ERP tool

Enterprise resource planning system guarantee to greatly change the size like business structure, management process and so on. In management process ERP automates much internal business transaction such as order receipt, entry, paying suppliers, employee benefits, and status change and so on and it can improve management reporting and decision making. ERP systems integrate all business management functions, including planning, inventory/materials management, engineering, order processing, manufacturing, purchasing, accounting and finance, human resources, and more. The biggest benefit of an ERP system is with its real time capabilities and the ability to see what is going on with your company as it happens. It is helpful when you deal with large volume of business process. With an ERP system, your company will never have inventory shortages or wasted time spent transferring files. Organizations around the world are adopting the enterprise resource planning system to make the functional units perform better by integrating all the functions of the businesses in to a single database. It is very critical for the organization to have the business functions integrated with each other to be competitive in the ever demanding and changing business environment of the modern world. The enterprise resource planning system helps aligning all the business functions with latest technological developments and helps the organization enhance the customer confidence with timely completion of projects with great efficiency.

The following are the benefits of an enterprise resource planning (ERP) system:

- Enterprise resource planning system brings in the efficiency and improvement of business processes by facilitating timely availability of information and resources.
- It helps enhance the customer satisfaction by providing the right feedback in time and also by facilitating the products and services within the specified time with great quality.
- Helps utilize the resources optimally by conducting the analysis of the available resources and ensuring the resources are not wasted.
- It helps streamline all the business functions in to a unified system and facilitates easy and effective decision making.
- It ensures transparency within and outside the organization, free flow of information and extremely effective reporting within the organization.
- It helps in effective decision making by providing the right information at the right time in the right manner.
- It helps optimize all the resources of the organization right from the physical assets to the human resources. It also improves the free functioning of supply chain management.
- Enterprise resource planning system ensures that the data is extremely safe and secured. It ensures high data security and also enables the organization in scaling up the processes in the form of expansion. It helps the organization adapt to the changing business needs and technology.

Proper and planned enterprise resource planning system implementation would be extremely beneficial for the organization to achieve its entire target and be extremely successful for a long time in the modern business world.

II. CRITICAL SUCCESS FACTORS FOR ERP IMPLEMENTATION

Critical success factors are frequently used to recognize and decide the key elements which are essential for the achievement of business operation [1].It is based on the review of literature (Grover et. al. 1998, Kotter 1995, Benjamin and Levinson 1993, Hall et. al.1993, Slevin and Pinto 1987) and the experiences of the organizations in the study. It can explain as a small number of simply particular operational goals, which are determined by industry, business, managers and environment that ensure success for organization. This paper will analyse CSF in ERP implementation from the point of operational strategy, because incorporate of vendors who accumulated business practice knowledge from past implementations in many different organizations into ERP systems. In this paper we understand the success factors and cost of ERP implementation.

Defining and measuring success

The success of ERP defines and measure in terms of executing and completes the project on time and within budget. Then users who use system underline the significance of execution of operations without any difficulties in ERP systems and accomplish business improvement[2] Companies who have taken benefits from ERP implementation system must achieve success in the long run, not just at the time of implementation [2]. To achieve the success of organization here it is important measurement to adopt the goals, expectations and perceptions of companies who define standard for measuring success. But in this scenario the people criteria to adopt the system is used to determine the actual level of success. But this subjective appraisal may be not reliable because of internal measures and targets that cannot be suitable in other organization.

Cost of ERP implementation

The important factor is Total Cost of Ownership (TCO) who affects the strategies and decisions of ERP. The cost of ERP implementation depends upon size of the company, number of users, and functionality of ERP. If we have large volume of business then we require a large volume of transactions on that case cost of ERP implementation is large. Aberdeen Group performed analysis in 2006 [1], within 1100 enterprises of various sizes, about total cost of implementation. Based on this study they review three different elements of the total costs depends on ERP implementation these are the software cost, the external services and internal costs. The software cost depends upon the license of the software and the price of license depends upon the number of end users who will use the system. The service cost describes the flexibility and complexity of the system and also describe advanced functionality. The price of internal services depends upon the companies and their projects. The most important factor is productivity which is gained by team members. The internal cost is implemented by Full time Equivalent (FTE) and FTE depends upon the size of the project and the team members. The company trained the employees about the software and give proper knowledge how to use the process. The major problem is not estimate the actual size of internal cost.

Definition and classification of critical success factors

In this paper we have study various CSF and their various classification. In many paper we read the success and failure factor of ERP implementation and they mainly focus on strategic, technology of the organization[3] In this paper, we define ten factors that are important for the successful implementation of ERP systems: business plan and vision, top management support, change management program, project management, implementation strategy, project team, business process modelling with minimum Adjustment, monitoring and performance evaluation, software development, testing and troubleshooting and legacy systems. Pinto and Slevin presents the classification CSF and describe the exact criteria for better understanding. Pinto and Slevin was first dissatisfied with the project managers who use the strategic and tactical aspects of ERP project management to successfully manage them [4]. The Critical Success factor is separated into two phase strategic and tactical phase. The Strategic part is associated with the project goal, support of the top management and project plan with detailed individual project activities. Tactical elements related to communications between all stakeholders, including the necessary personnel in the project team and acquire the necessary technology and

expertise for technical activities. In which we select classification of their types when dividing critical success factor in strategic and tactical for better understanding and underline their differences. In order to fulfil the integration of three main managing processes we must drive their planning, execution and control. In implementation of ERP system the culture of organization is grouped into three layers and these layers are inner layer, middle layer and outer layer. The outer layer describes the strategy; mission and the organization goals. In the middle layer represent the topics that are talked with the employees. The inner layers include assumption that are taken for granted, and representing those aspects of organizational life that is difficult to explain.

To consider all classifications and experience on projects of ERP implementation, we parts critical success factors into strategic categories are support of top management, plan of the business and vision, program of change management, project management and implementation strategy; and tactical categories are team of the project, business processes modelling with minimum customizations, project controlling and evaluation, software development, testing and troubleshooting, legacy systems.

III. STRATEGIC FACTORS OF ERP SYSTEM IMPLEMENTATION

Strategic factors which are used for long-term, objectives of strategic business, are critical to the success of ERP implementation top management support, business plan and vision, change management program, project management and implementation strategy

Top management support

Support of top management is an essential part of critical success factor of ERP implementation. For the Success of the organization a project ought to include top management support. But it is not necessary for top management is always connecting with the project; they just give valuable resources for the implementation of ERP project [5]. An Organization hands of the responsibility for ERP implementation to the technical department and create a big mistake that leads to project failure. In this we just know that the IT department is not good for ERP implementation, but the top management should support it, in which IT specialists and top management have to work together and maintain a company for the success of ERP implementation. The top management just sponsor the project either it is large or expensive projects. Sponsor management has to the responsibility for the success of ERP implementation.

Business plan & vision

To achieve the success of the organization a person has a good knowledge of business plan and good vision towards organization [6]. Rosario specify the requirement of a business plan, and it describe that the business plan include the benefits of strategic and tangible, resources, cost and so on[7] These goals are mandatory for tracking the order and measured during implementation cycle. For Changes in business process organization must have a good reason for asset in ERP systems.

Change management program

In which we specify the change towards the people, organization and so on and also specify that when change is large there is large involvement of top management and the change is depends upon the users so we consider user must involve in the design and implementation of business process. In this user play major role to satisfy the need of customer.

Project management

In this we study how to manage the project and to achieve this we plan the project within the budget and time in which project managers must have sound knowledge of technical and business and manage the expectation of users and provide good profits to them. To achieve a successful project we complete the project on time and within budget.

Implementation strategy

The implementing ERP systems are achieved using two approach Phased and Big Bang approach. The phased approach is slower than big-bang approach. The phased approach is related with functional area of company and the big bang approach is used by companies for delivery the solution of the company to the customer. The big bang approach is mainly used for small companies. An implementation strategy specifies the time, resources and budget of their project and this depends upon the size.

IV. TACTICAL FACTORS OF ERP SYSTEM IMPLEMENTATION

The tactical factors of ERP system implementation consist of three main management processes planning, execution and control.

Project team

The success of ERP implementation depends upon the team and their end users. Good team members have good technical sound so that they design and redesign the business process but the problem is that they do not provide good knowledge and training to their team members so that they have limited knowledge to the specific companies.

Business processes modeling with minimum customization

The business processes modeling describe the process of business and their development and the most important part to achieve the success of ERP Implementation is business rules. ERP Implementation software contains many changes in business processes and after that companies have to want to accept the model of their processes, whenever it is possible. In business process modeling we reduce the redundant activities and easily upgrade software to new version. Before to precede this we identify the business process from the start of the project [8].

Project controlling and evaluation

The project controlling and evaluation we study the status of project and maintain the project on right way. Due to the complexity of ERP system there is constant risk and delay that will main issue during implementation cycle. To

achieve this we track the impact of ERP implementation on performance of overall business and companies design the regular reports that include progress of the project. Each issue should be cleared and classified by priority, and the most critical issues should be marked as 'show stoppers' and escalated. The success of project depends upon the team members and their members should have to spent time on large project.

Software development and troubleshooting

ERP system which is built by customization is avoided but in business we required for sometimes. Some Functionality problem occur during the development of software and to remove the error and bugs some testing should be conducted [7].The system of ERP associated with systems developed in the company with specialized software products for serving the exact industry needs, in order to achieve the full benefits of implementation, is essential for companies to build up their own interfaces to accomplish such integration [9]. To solve this problem user's required quick action Therefore it is necessary to hire active cooperation of users, vendors and consultants to solve this complex problem.

V. CONCLUSIONS

For Successful ERP implementation system we include different task and is not easy to concentrate uniformly in all directions. This paper describes the importance of the different factor and also describes how to assign limited resources. In which we describe the critical success factor and categorize according to strategic and tactical factor. The strategic factor is used for long run and the tactical factor is used for short run. In strategic factor overall responsibility is on top management to success the ERP implementation. Because only the top management sponsors the project in which we required users who have a good knowledge of business and recruit those managers whose technical knowledge is good. In tactical factor we know that it is used for small business so all over responsibility is based on team members in which reduce the duplicate activities to solve the complex problem. With the implementation of ERP systems, customer satisfaction can be improved, along with that there will be improvement in business. If the dealer is content with the existing customer relationship, then acquiring of new customers becomes easy. In order to implement ERP, new system in production is required, so that, improvement and maintenance of the system can be adapted to the changing needs of business.

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