Risk Management in ERP Implementation.

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Abstract
“There can be no great accomplishment without risk”, says by the Neil Armstrong. Risk management is very crucial and vital task in the current era of competitive business for any organization, who takes the various kind of risk in their respective business process and functions. As the organization ready to sustain in the fast processing world of business, many organization adopted technology-based or high-tech business processing. To obtain the all kind of advantages, most of the organization migrate their business process into ERP environment. But, big advantage can also comes with big risk and when there is risk, organization keep their eyes and ears open to indentify, analyze and overcome on the risks. The theme of the paper is to highlighting the importance of risk by organizational view. The research gives the risk management process and listed a variety of risks with their functional types like managerial, Operational, Technical, Financial etc. At the end of this paper, the authors tries to explore various countermeasures to over comes the risk and enlighten the Risk Management in ERP Implementation.

Keywords: ERP, ERP Implementation, Risk Management, Risk Management Life Cycle, Risk Treatment.

1. Introduction
The notions of Risk replicate the variation in the allocation of potential outcomes, their like hoods and their biased values (Arrow, 1965). Risk is used as a synonym for potential troubles in the project linked with the ambiguity of the possible outcomes. The ERP consists of strongly connected interdependencies of business processes, software systems, and process reengineering (Wright and Wright, 2001; Xu et al., 2002), that present exceptional risk things get created with software systems and its broad applications.

ERP systems provide significant benefits, and companies adopted them with the goal of replacing inefficient stand-alone legacy systems, increasing communications between business functions, increasing information processing efficiencies, improving customer relations, and improving overall decision making [4] The benefits from ERP comprise a packed set of statement and tools as apparatus across the organization with complete company using the same set of records. The coverage of benefits depends on how far across an organization it is taken and whether companies continue to upgrade their systems. ERP make stronger to the companies by providing a backbone for construction of enterprise-wide answer like sophisticated scheduling and customer association and administration. ERP also provides data uniformity and a universal view of data.

This paper is defining the notation of Risk and its management while dealing with ERP implementation. In introduction chapter, basic and fundamentals are get define and highlight the importance of risk in ERP implementation. In the continuity, its various phases for risk management get explore and various risk are get categorized according to various enterprise functions like managerial, operational, financial etc.

In the last section of the paper, we would like to magnify the different countermeasure can be possible to get the better risk management in ERP Implementation.

2. Literature Survey
The literature survey is mainly based upon secondary sources, mostly peer-reviewed articles published in either research journals or conference proceedings. These articles
are found in the databases provided by Science Direct (Elsevier), Springer, Emerald, and IEEE-Explore etc. A few publications by ERP vendors, consulting companies, and industry associations are also considered, including those in the form of case studies. According to [1] “Risk Risk not only contribute to the body of knowledge of information system risk management, but also can be used as an effective tool by practitioners to actively analyze, assess, and manage the risks of ERP system implementations within project-based firms”. Six main dimensions of risk in ERP implementation have been identified by [2] namely, 1) organizational, 2) business-related, 3) technological, 4) entrepreneurial, 5) contractual and 6) financial risks. In the [3] defines various risks in the organization face during the ERP implementation and their uniqueness in the organization. Henri Latvanen and Reetta Ruusunen provides the Socio-Technical Model of Risk Management which implies the four Risk interdependency on each other like actors, structure, task and Technology.[5]. By the [6] user involvement, training, project management, technology implementation, system design, integration and technology planning are the key Risk in the organization during ERP implantation.

3. Risk Management
The organization of risk is construed as mastering the surroundings and making belongings happen in the designed manner. Managers need to enumerate all the prospect of the promising end result, and appraise the benefit or the loss of that alternative in numbers. Then, they should choose the path that directs to the best estimated value. However theorists see that, it is never possible to have full amount control over risk. Top Level Managers and decision-makers recognize and arrangement with risk every day. For them, risk is the whole things that can make a project interruption or some time fail. Their achievement is connected with the success of strong-minded goals, within the accurate timeframe and resources. Consequently managers need a tool to investigate the risk in a project and have technique to deal with it.

4. Risk Management Cycle
• Identify the risk
  o Identifying and listing the threats, hazards, problems, and other negative issues that may affect the system;
  o List out the list of the risk with their sources of information.
• Analysis the risk
  o Qualitative risk analysis: documenting the characteristics of the risks, analyzing their effects on the system, and understanding their relationships;
  o Quantitative risk assessment: estimating the probability of occurrence of the risks, and numerically assessing their impact on the system;
• Design the Solution on risk
  o Planning and developing options and actions to prevent or reduce the negative impact of risks on the system, and enhance their positive impacts.
  o Keep multiple options available for keep ready for any other alternative situation comes in the frame.
• Deploy and Test the solution on risk
  o Implement the Possible countermeasure to avoid the risk.
  o Test and analyze the impact level of the solution on the risk for which the solutions are get design and deploy on the organization.
• Monitor and Control the risk
  o Risk management is the on-going process so it is necessary for the managers and decision makers to keep the eyes on the behavior of the ERP systems.
  o It is not possible for anyone to have complete control over the risk so, it is better to have optimal control over the risks to reduce the impact of them on ERP systems.

5. Potential Risks in ERP Implementation
1. Management Risk
   a. Ineffective project management techniques and practices
   b. Bad managerial conduct
   c. Inadequate change management
   d. Poor leadership
   e. Inadequate Strategy management
2. Technology Risk
a. Technical barrier
b. Inadequate IT system capability
c. Inadequate IT system maintenance and upgrading
d. Insufficient legacy system management
e. Lack of information distribution or incorporation with non-ERP systems

3. Operational Risk
a. Inadequate BPR
b. Inadequate guidance and training
c. Ineffective communication system
d. Ineffective consulting services
e. Inadequate IT purveyor dependability and performance

4. Financial Risk
a. Ineffective project cost and time management
b. Market instability
c. Government financial policies
d. Cash and fund flow

5. Other Risk
a. Ineffective strategic belief and strategic preparation
b. Inadequate ERP choice
c. Cultural and environmental issues
d. Legal and regulatory risks
e. Multi-site issues

6. Risk Treatment or Countermeasure process on Risk factors in ERP Implementation

A risk treatment is mandatorily a part of a successful risk managing plan. The plan here means how you react to the reported probable risks. It details on approaches on how to attempt with the various risks - low or high, satisfactory or undesirable. The plan also summarizes the responsibility and tasks of the team members. Risk treatment also known as risk control system, is that part of the risk management where conclusion are prepared regarding how to deal with risks either in the external or internal surroundings. Ahead of we go aboard on risk treatment there is something called as risk reply preparation that desires to be taken care of.

A successful risk management preparation may negotiate through following checklist:

a. Construct a List:
Before starting or make a decision on anything else it is essential to construct a list of potential risks. Even the minutest details need to be taken care of. Something that shows a miniature hazard now may change into a potential risk in the near prospect.

b. Prioritize the Risks:
Arrange the risk in order of priority. Those that need to be deal with first are listed first. Risks are prioritized on the origin of scale of blow and the probability of happening.

c. Developing and Action Plan:
Plans are intended to reduce the collision of the risk and to check the occurrence. In addition, an action plan in developed against each risk i.e. in occasion of incidence how do we react to the risk, who all will be accountable and what are the eventuality.

d. HR Deployment:
Now people are deputed at precise points with precise roles. They work in cycle with the whole team and are particularly organized to assume designed procedures in case the predictable risks come correct.

e. Announcement:
Finally, announcement of the plan to stakeholders (both internal and external becomes necessary). Present the plan to those who are supposed to make key involvements.

7. Risk Reply Preparation

Risks Reply Preparation no hesitation is an vital phase of risk treatment. The preparation covers converse and appraise inputs like risk register, risk profiles and cause control matrix. Strategies are devising and documented in this stage. The subsequent four various strategies are discussed upon.

a. Avoidance of Risk:
Risk avoidance requires identification of the risks first and foremost. This can be achieved through previous project experiences and histories. An analysis is then made upon those that have a tendency to arise upfront at project initiation. Then finally a course of action is arrived upon after assessing the relative impact of the risks.

b. Conveying to Risk:
Risk conveying is one of the superior means to reduce the collision of the risk. In project management as in finance a risk is frequently convey to a third party. It only means the collision of risk is diluted to a degree that event or project for that issue does not undergo a body blow.

c. Justifying Risk:
Risk Justification is a organize procedure that basically stops a risk sooner than it starts building an impact and transport it to a tolerable level. Often a contingency plan is put in place to prevent the risk.

d. Tolerating Risk:
Finally, there are certain risks that are manifest. This strategy is the best when the risk is small. But there has to be an owed preparation for the similar such as formative when the project will be showing to the risk and producing a small modification consequently. A risk
that is tolerable can be measured reactive since no act at all is taken upon the same.
As a result of the risk reply preparation a variety of risks and the equivalent strategies are acknowledged. A risk record is ready that contains all details time to time as their occurrence, priority and the people concerned in management the risk. The risks have already classified as either internal or external.

8. Conclusion
By the end of this research we have the importance of the Risk and Risk management in the ERP Implementation. The paper also explores the various categories of risk factors in the organization like Technical, Financial, Operational, Managerial etc. At the middle of the paper we have projected the Risk Management Life Cycle and different phase of the life cycle. At last, paper has enlightened the Risk Treatments called Risk Reply Preparation (RRP), which helps to mangers and decision makers to keep the control over the risks in ERP Implementation. The paper provides the wide scope in future to enhance the risk factors in various organizational function mentions in the paper like Operational, Managerial etc. with the same in future the study can help to keep the eye open for the top level and strategy management people to not control the risk 100% but , at the certain level which can reduce the impact of the risk on ERP system.

9. Reference
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