Risk Management for Enterprise Resource Planning System Implementation

1.0 Objective:

The overall objective of this project is to identify the risk in ERP system implementation and develop a new approach to analyze these risks and their impact on ERP system implementation.

2.0 Scope:

The scope of this risk assessment is to develop an innovative approach to analyze, assess, and manage the in ERP projects. The approach can be utilized before ERP adoption to assess the risks of ERP projects.

3.0 Responsibilities:

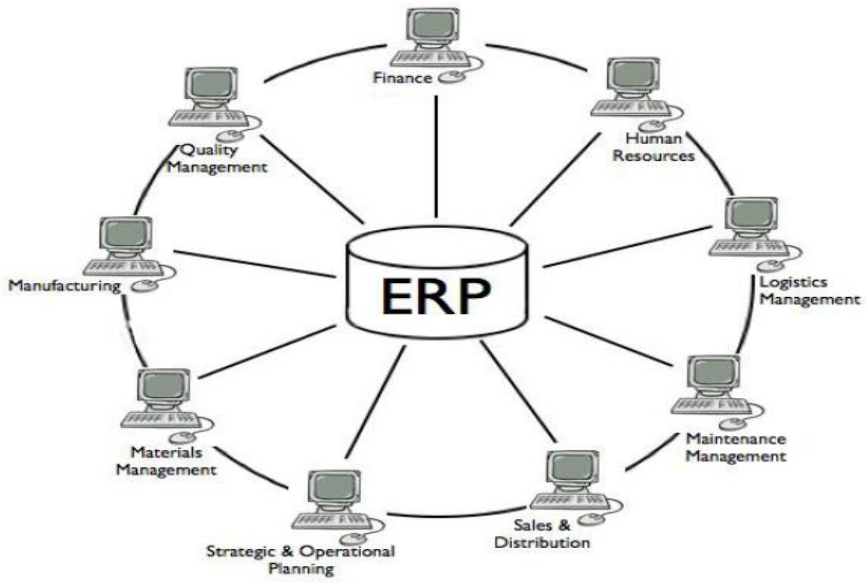
IT In-charge:

- The IT In-charge is responsible for implementation of ERP system
- To ensure that the project is run as per the project management methodology.

Head QA:

- Conduct risk assessment for ERP system.
- Approval of risk assessment and establish better controls wherever required.

4.0 Overview of ERP System



Enterprise Resource planning (ERP) systems are business software tools that allow automate business processes, share data and practices across the enterprise, and produce and access real time information. The main objective of ERP systems is to integrate all departments and functional information flows across an enterprise's on to single

computer system that serves all the company's needs.

5.0 Advantage of ERP system:

What	How
Seamless integration and reliable information access	Common, consistent and accurate date, improved report.
Standardization of business processes	Business process reengineering with the customization of ERP systems to fit organization and achieve best practices.
Business process automation	Real time information sharing and transmission through the value chain.
Improved managerial decision making	Timely and accurate information dissemination.
Elimination of data and operations redundancy	Modules access same data from the central database, avoids multiple data input and update operations.
Delivery and cycle time reduction	Minimizes retrieving and reporting delays.
Cost reduction	Time savings, improved control by enterprise wide analysis of organizational decisions.
Easy adaptability	Changes in business processes easy to adapt and restructure.

6.0 Risk identification and analysis of ERP System project:

6.1 The risk identification, assessment, minimization and management approach includes the following:

6.1.1 To systematically identify and categorize the risk factors in the process of ERP selection and implementation.

6.1.2 To analyze and understand the interdependencies and interrelationships among different components of ERP system and various risk factors.

6.1.3 To examine the likelihood of occurrence of risk factors and ERP system component failure, and assess their potential impact on the ERP project using GAMP 5 FMEA tools.

6.1.4 To propose practical strategies for managing and minimizing risks in ERP system implementation.

6.1.5 GAMP 5 FMEA tool shall applied for the risk analysis of EPR system implementation.

6.1.6 The failure mode, effects and analysis is applicable with investigation for rating of:

- Likelihood
- Severity of the consequences
- Risk Class

- Probability of detection
- Risk priority

6.2 **Assess the severity of Impact:** The impact of a risk occurring may be described as follows:

Low: Expected to have a minor negative impact. The risk would not be expected to have a long term detrimental effect.

Medium: expected to have a moderate impact. The impact could be expected to have short to medium term detrimental effects.

High: expected to have a very significant negative impact. The impact could be expected to have significant long term effects and potentially catastrophic short term effects.

6.3 **Assess Risk Classification:**

Having assigned the likelihood of the risk occurring and the level of severity that such an event may have, the risk can be classified. This is achieved by reference to the matrix shown here.

Severity →				
	High (3)	3	6	9
	Medium (2)	2	4	6
	Low (1)	1	2	3
		Low (1)	Medium (2)	High (3)
	Likelihood →			

Risk Class:

	Level ONE
	Level TWO
	Level THREE

6.10 **Assign Probability of Detection:** The probability of a risk being detected can be estimated as follows:

Low: Detection of the fault condition is perceived to be unlikely.

Medium: Detection of the fault condition is perceived to be reasonable likely.

High: Detection of the fault condition is perceived to be highly likely.

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6.11 Determine Appropriate Measures for Risk Priority:

By combining the risk classification with the probability of detection, it is possible to priorities the fault conditions associated with each adverse event based upon those area of greatest vulnerability. Once these priorities have been determined the team can proceed to define and document the appropriate measure to mitigate the adverse event that poses the risk.

Risk Classification →	Probability of Detection →		
	Low	Medium	High
1			
2			
3			

Risk Priority:

	High Priority
	Medium Priority
	Low Priority

PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

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S.No.	Risk category	Risk factor	Assessment of risk					Strategies for minimizing Risk
			Likelihood	Severity	GAMP Risk Class	Probability of Detection	GAMP Priority	
1.	- Ineffective strategic thinking and strategic planning	- Lack of a clear vision - Absence of strategic analysis and planning - Ambiguous business needs - Misalignment between ERP and Business strategies.	Low	Medium	3	Medium	Low	- Clear vision - Clear business needs will be meet through proper ERP implementation.
2.	- organizational misfit	- Insufficient resource - Extent of changes - Failure to redesign business process - Fail to support cross organization design - Lack of adequate technology infrastructure	Medium	Medium	2	High	Low	- Commitment to redesigning business process - Top management commitment to restructuring and following an enterprise wide design which supports data integration.
3.	- Inadequate ERP selection	- Inadequate evaluation and comparison of ERP package and modules: use of proven	Medium	Medium	2	High	Low	- Quotation received from various ERP vendors and finally ‘Progen’ was

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		methodologies, rigorousness of evaluation, involvement of key users and stakeholders - Inadequate evaluation and comparison of ERP vendor.						selected.
4.	- ERP team work & Skill mix	- Lack of appropriate experience of the user representative - Lack of application knowledge - Insufficient training and re-skilling - Lack of analyst with business and technology knowledge - Failure to mix internal and external expertise effectively.	Medium	Medium	2	High	Low	- Effective use of strategies for recruiting and retraining specialized technical personnel. - Effective re-skilling of the existing IT workforce. - Obtaining business analyst with knowledge of application specific modules. - Effective use of external consultants on project team.
5.	- Project management	- Lack of agreement on project goals and scope	Low	Medium	1	Medium	High	- Obtaining top management support

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S.No.	Risk category	Risk factor	Assessment of risk					Strategies for minimizing Risk
			Likelihood	Severity	GAMP Risk Class	Probability of Detection	GAMP Priority	
	and control	- Lack of senior management commitment to project - The composition of project team members - Lack of effective project management methodology.						- Establishing a centralized project management structure - Assigning a champion.
6.	- Software system design	- Lack of effective software management methodology - Unable to comply with the standard which ERP software supports - Lack of integration between enterprise wide systems - Developing the wrong functions and wrong user interface.	Low	High	2	Medium	Medium	- Commitment to using project management methodology and best practice specified by vendor. - Adherence with software specification.
7.	- User involvement and training	- Conflicts between user department - Fail to get user support - Inadequate training and instruction	Medium	Medium	2	High	Low	- Effective user training. - Full time commitment of user to project management roles. - Effective

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		- Lack of a training plan - Inadequate job role redesign						communications.
8.	- Technology planning	- Capability of enterprise technical infrastructure - Stability of technology - Lack of adequate technology infrastructure - Failure of technology to meet specification - Application complexity	Low	High	2	Medium	Medium	- Acquiring technical expertise - Acquiring vendor support for capacity planning and upgrading - Planning for client server implementation including client workstation.
9.	- Ineffective Communication system	- Lack of communication planning - Lack of implementation promotion to all employees in the organizations - Difficulty in inter department/ cross functional communications - Ineffective use of appropriate communication media - Lack of face to face	Medium	Medium	2	High	Low	- Effective communication through meeting and training.

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		communications - Ineffective document control and reporting.						
10.	- Inadequate change management	- Poor design of organizational structure change - Lack of proper mechanism to manage changes - Ineffective use of change tactics	Low	High	3	Medium	Medium	- Proper implementation of change control system
11.	- Financial and management support	- Inadequate financial management - Poor leadership - Bad management contact - Ineffective cost control	Low	High	3	High	Low	- Proper financial support from management.
12.	- Inadequate IT supplier stability and performance	- Vendor overpromise - Lack of partnership with vendor - Failure to use of vendor development tools - Unstable vendor support - Low quality of vendor service.	Low	High	3	Medium	Medium	- Proper support given from vendor side. - Training given time to time.