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To identify the reasons of ineffectiveness and failure behind the implementation of various risk management process in different project organizational structure.

Case Study:

OVERVIEW

1. **Customer:** Confidential/Withheld
3. **Business Challenge:** Identification of bottlenecks in the existing risk management process
4. **Service Featured:** Implementation and identifying improvements in the existing Risk Management Process
5. **Business Process Involved:** ROMP and PROM process
6. **Benefits Realised:** Implementation Risk Management process for various organizational structure
7. **Areas of Impact:** Risk Management

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BRIEF INTRODUCTION OF THE PROPOSAL

The case study organization has undergone various organizational changes due to their continuous expansion in and around their globe. Due to this the organization should change their business process consistently to be in par with the changed organizational structure. The changes done in the risk management process is studied in this proposal.

The researcher has been employed in the organization when the changes took place. This paper focuses on finding out the inefficiencies and gaps behind the various risk management processes introduced in the organization

CHALLENGES

Part 1

A short research after analysing the results of the previous projects it was found that the organization is failing to pay more attention towards managing the uncertainties during the platform and tender to order execution process. Platform process also termed as product development process. It is a process named for projects which deliver same products to different customers. Here in this type, the project uses the same process. It is necessary to pay more attention because a small deviation from the process can spoil the quality of the end product and it will affect the profit margin of the company. Next is tender and order execution- This terminology is used for the commercial activities which is done during the bidding phase before the project is being awarded. Attention for the uncertainties arising in this process is important. So many costly mistakes in the two processes demands for a common process for managing the uncertainties

Part 2

The results from the last chapter are not adequate for the handling the risk in the project in the changed project organizational structure. A diversified risk management process is required to handle the project in the current organizational structure where the resources are spread in different countries. The extension of the theories which is studied in the past is required horizontally and vertically. The first and foremost thing is the risk management process should be adopted from the initial stage of the project. That is from the bidding stage. In terms of vertical extension the coordination between the project organization which is split in the two countries and the line organization should be considered.

Part 3

Since there is a major change in the management from the project based to the portfolio based, so many changes in the management systems have been done. It is obvious that there should be some changes in the risk management process also. The risk management process should focus more on the

portfolio perspective rather project perspective. The responsible manager for the portfolio is the portfolio manager and he will be a part of the senior hierarchy in the management.

By considering the feedback of the ROMP process from the senior management, some changes in the portfolio level have been done in the risk management process for managing in Portfolio

SOLUTION

- **Part 1:**
  - Develop a gate method similar to stage gate method (Cooper 1996) which resulted successful in the product development process
  - Design an efficient system for storing the risks occurred in the previous projects
  - Develop a three way method for prioritizing the risks
  - To split the quality gate stages in the business model according to the project organization function

- **Part 2:**
  - Develop a proven risk management process which worked previously in the multi-functional project environment
  - Use the qualitative and quantitative approach to access the risks and opportunities
  - To create a threat and opportunity management process which can work efficiently in the wide spread project organization globally.

- **Part 3:**
  - To develop a threat and opportunity portfolio database
  - To appoint an experienced person who has got experience in handling large data in the Microsoft office
  - To involve only experienced risk manager and experienced project manager in the process

INNOVATION

- **Part 1:**

Explanation

This system has several stages which are split according to the projects and the organization. The stages are the milestone for each level in the project. The gates are the screening centre where the management scrutinizes the risks. The quality gate is the database, where the risks from the previous projects will be loaded. Here the issues which are identified in the present project will be compared with the risk database in the quality gate screening. If the risks which are listed in the quality gate are in red or yellow colour then it indicates that it should be handled immediately in a structured way.

PROM Process

After analysing the demerits and weakness in the Quality gate method a new method called PROM process was developed.

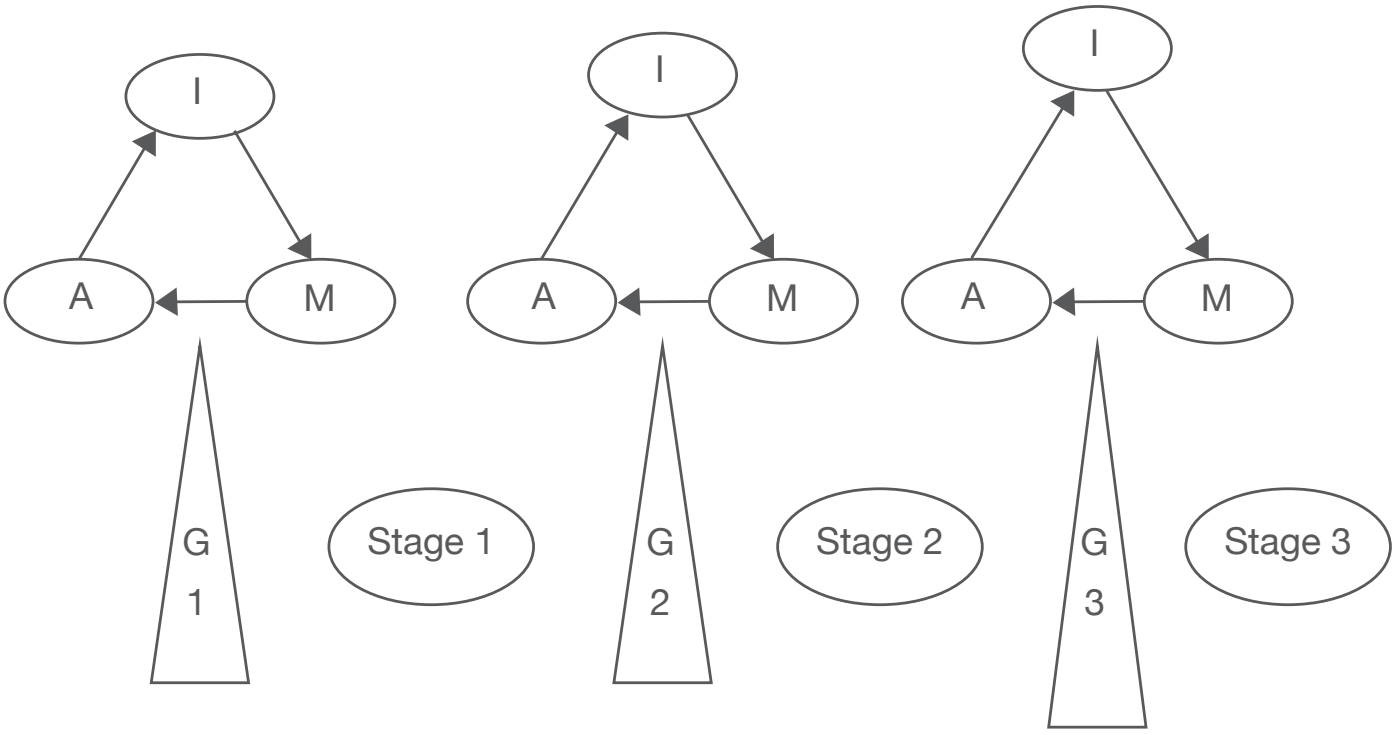

Figure 1 PROM Process

Stage 1- Scoping
G1- Gate 1
Stage 2- Development of Business case
G2- Gate 2

PROM:
I-Investigate
A-Analyse
M-Mitigate

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- **Part 2:**

Process

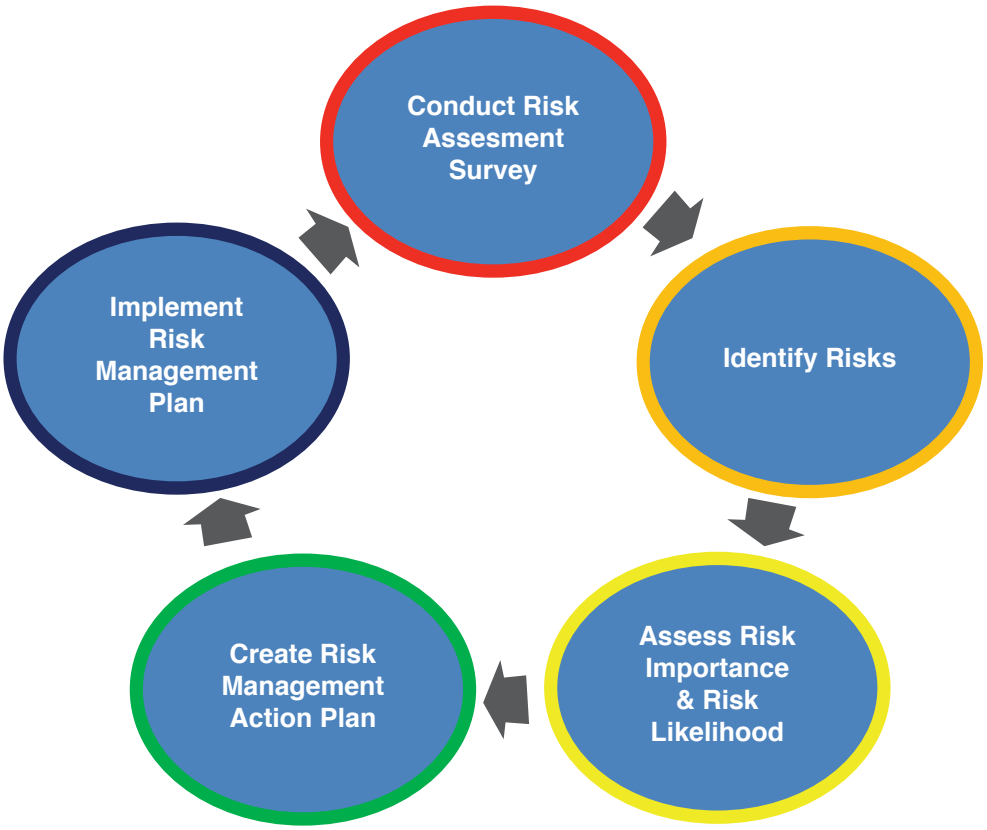

Figure 3

- **Risk Management Process**
  - Threat and Opportunity identification
  - Threat and opportunity assessment
  - Threat and opportunity response planning
  - Threat and opportunity response implementation

- **Tracking and reporting**
  - **Risk Identification**

    The identification of the risk in the projects can be done in two ways
    - Workshops for analysing the risk
    - Periodic risk reviews

- **Workshop for analysing the risk and opportunities**

A selected project director, project manager or portfolio manager who had handled the similar kind of project is asked to conduct the risk management work shop. All the members who are going to be part of the project management team which is going to be executed, should be part of the work shop. The members who are going to be part from the bidding phase to the handover phase should be part of the workshop

Periodic reviews

There should be consistent risk review meetings with all the members who are going to be involved in the project actively. There should be risk review meetings weekly and monthly with the project team members. Based on the responsibility there should be a mitigation action report from the responsible person where the risk is predicted. This should be reviewed by the project manager regularly. All the project management meetings should have risk management as a main agenda in the meetings.

Risk assessment

The project risk can be assessed in two ways. It can be assessed qualitatively and quantitatively. On the first hand the project risk can qualitatively analysed by consequences of the risk and the probability of occurrence. A graph is plotted with the consequences like (Schedule, cost, performance, quality and probability) in the y axis. The level metric for the risk is plotted in the x axis.

In the quantitative assessment the risk is measured by the cost of the mitigation action and the cost of the risk and its probability. The residual cost is calculated by calculating the risk which the mitigation plans will reduce the probability. The summation of the cost of the action and the residual risk is the quantitative assessment of the risk.

Risk Planning Process

Avoid-To take decisions which would help to guide the project away from the threats and towards the opportunity
Transfer-To transfer the project risks to the third party like insurance companies
Mitigate- To make necessary mitigation plans to avoid the project from the threats predicted
Accept-To accept when nothing can be done for the threats which is occurred or when the cost of mitigation plan is exceeding the limit

Risk Implementation

Based on the recent changes in the organization, the extension of the risk management process horizontally and vertically is important. The horizontal extension is the left shift of focus. The vertical extension is the organizational mix in the company. In the project organization the functional representatives with the project manager forms the core team. There is a new position called functional or risk coordinator who reports to the project manager directly. He is the one who owns the project risks. He is the one who has to decide which person should own the risks and how to transfer the risks to other member in the team.

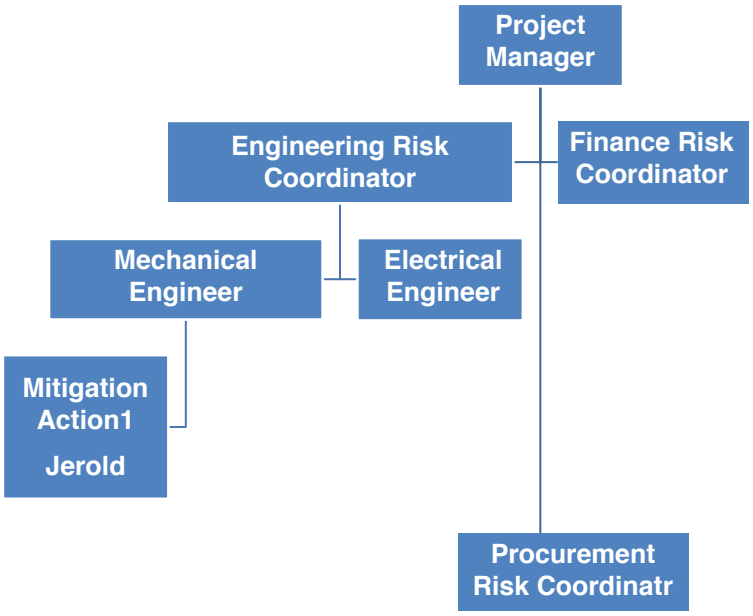

Figure 4 Hierarchy structure

For example if there is an engineering risk, then he will transfer the risk to the engineering manager and he will make sure that the engineering manager is executing the activity by considering the risk in his mind. Then the final report will be transferred to the project manager via risk coordinator.

Tracking and reporting

For effective tracking of the risks, a new database is created with the help of Lotus notes. It is called risk and opportunity portfolio database. Here the lists of risks are assigned and created from the previous projects. Then in ROP the response date, mitigation plan, responsibility holder for the risks is assigned. This will help to track the risks with respect to schedule. This will help to assign the risk owners for the risks created and it will automatically remain the owners for the necessary action. All the risk owners reports to the functional coordinator and the project manager during the monthly review meetings.

Close out or erasing the risk from the database

This can be only if

- The risk is converted as benefit
- The risk is the duplication of the other uncertainty

Part 3:

The preparation of analysis for the portfolio risk

Data availability

This forms the basis for generating the database. This can be generated from the list of issues and threat and opportunity portfolio data.

- **The capability to search and handle the data**
  This is done effectively by using the MS excel and ROP database.

- **Capability of analysing the data**
  This is done effectively by employing the person who has got extensive experience risk management.

The data mentioned below is required for performing the portfolio risk analysis:

- **Data from the projects**
  - The consolidated list of issues occurred
  - The cost for the issues predicted

- **Risk data**
  - Condition, cause and consequence of all the issues predicted
  - The brief description of the mitigation plan
  - The cost of the mitigation plan

- **Data for finding out the similarities in the project**
  - The technical details of the project
  - The client for the project
  - Scope of the project
  - Geographical location where the project is executed

- **Capability for handling the data**
  The lotus notes are used for storing the database effectively. Then the risk register is handled by using the MS excel for effective filtering and retrieving the data

- **Analysing the data**
  Only the assigned person like risk coordinator or the project controller can analyse the data. This requires continuous monitoring and tracking.

- **Analysing the project issues in the portfolio level**
  This analysis will reveal two things. One is it will help to understand the common issue in the portfolio level between the projects. The second thing is it will help to find out potential improvements outside the portfolio for the potential projects.

  For example this organization has three projects executed with the client called Exxon Mobil took too much time for approving the drawings. This had an impact on the schedule. The common denominator is the client Exxon Mobil So for the fore coming projects the approval time in the base line schedule should be expanded.

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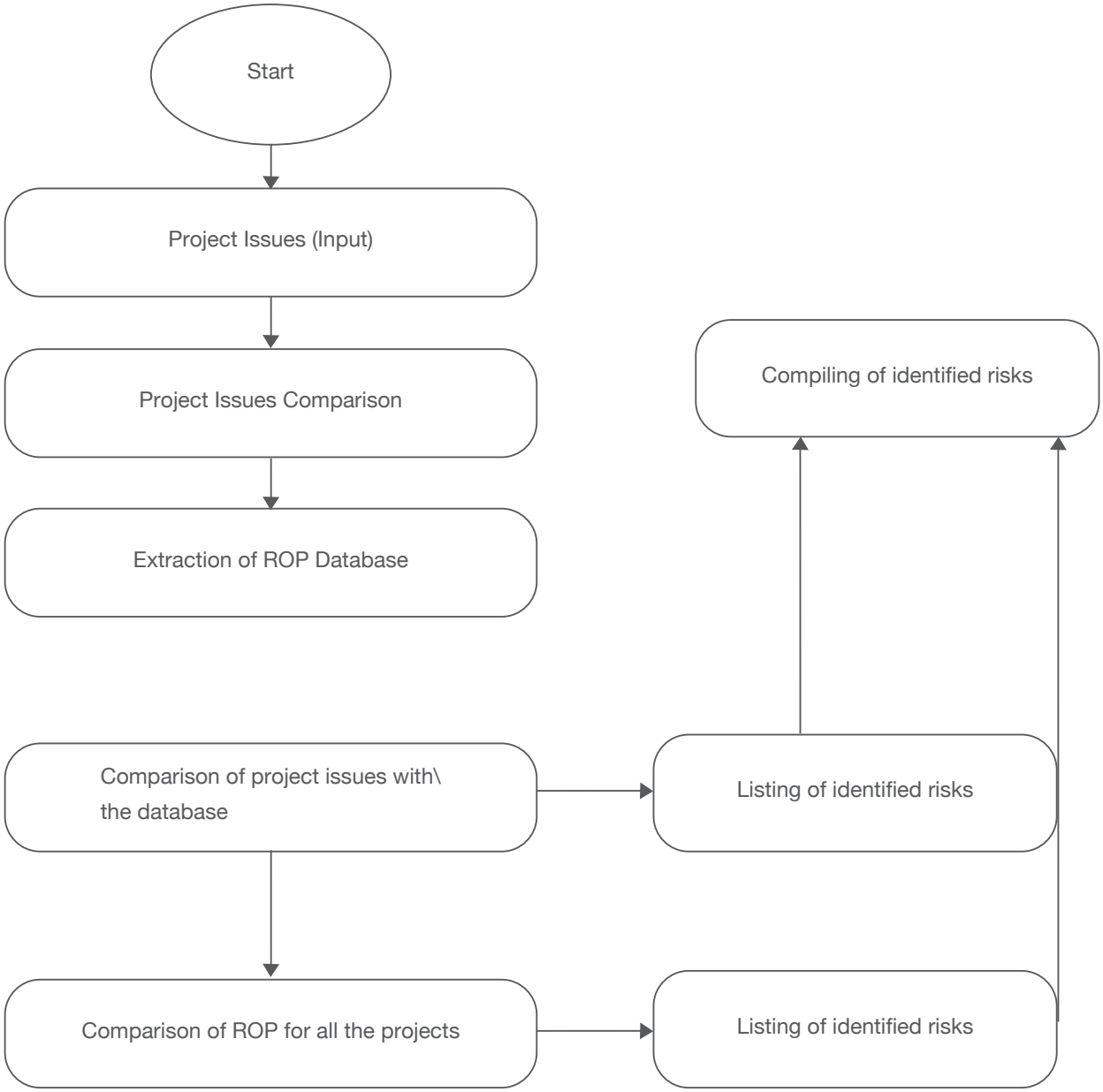
- **Analysing the project issues with the ROP data**

  This type of analysis is done to compare the project issues with the ROP database. Here the level of complexity will be increased because of large volume of data. The need for the analyst who is experienced is important. In this type the issue is selected and filtered. Then it is compared with the ROP database. This will help to find mitigation action carried out for the corresponding risk.

  For example two projects in the organization are facing same problems while doing the piping erection activities. They have a common quality issue. Then the third project has the same issue. Then the denominator is there is an issue with the pipe where it is procured. This example explains that the further investigation of it will help to find a solution for the issue.



- **Figure 5 Example showing project issues comparison with the ROP data**

- **Acknowledgement of the analysis.**
  In this part the issue will be analysed and reviewed by the senior portfolio manager and the portfolio risk coordinator for the approval and acknowledgement. This will help for acknowledging the analysis and to eradicate the `not invented here` syndrome.

- **The review of portfolio analysis**
  - The metric for the portfolio risk and opportunity maturity model
  - The risk trends in the portfolio and projects

- **Organizational View**
  - The common threaded risk with all portfolio

BACKGROUND

The case study is conducted with a company called Image graphic Engineering services limited. This organization has various segments like engineering services, software sales and software training services. They are executing projects under the segments mentioned above. They are providing the services to Oil and gas industries, Power industry, Refinery and water treatment plants. They are providing their services in United Arab emirates, India, Qatar and Canada.

Out of various segments they handle, research is carried out on the engineering services domain. In total they have 1600 people for the whole organization. The turnover for 2013 is 50 million USD. Totally 850 people are employed in the segment where the research is carried out. They have back end engineering centre in India and Dubai. As mentioned above the engineering services segment has various divisions under them. Each and every division are responsible for their profit or loss. They all have functions such as Human resources, Finance, Information technology and quality department.

The project duration is generally 15 months. It involves averagely 120 people. They have order value of 10 million USD till 2017.The project manager has a core team consisting of designers, engineering manager, procurement manager and quality manager. The core team consists of 20 persons. All the persons except project management personals belong to the functional organizations. In brief, the project manager is not responsible for appointing the functional person. Except the project management personals other team members are allocated through the functional team.

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CHALLENGES & OBJECTIVES

- To identify the reasons behind the ineffectiveness of the PROM process followed in the organization(Part 1)
- To identify the gaps in the ROMP(Risk And opportunity Management process) for increasing its efficiency in the implementation phase(Part 2)
- To identify the reasons why the Portfolio Risk analysis fail to manage the risks in the organizational perspective(Part 3)

- **Case Study:**
  Part 1:

- **Pilot approach: PROM in the implementation mode**
  PROM is implemented in the two pilot projects in the organization. Before implementing this, a separate training session was conducted for the project members and a separate person was assigned to handle the quality gate and PROM in the lotus notes database effectively. This case study played a vital role in answering the following research questions.

Questions
Why PROM process is in-effective during platform development process?

- **Case study**
  A case study was conducted to investigate the efficiency of the process in implementing business process and quality gate methodology in parallel. Also the motto of the case study is to understand the problems faced in implementing this process parallel in the project. Also the case study was done to compare the process in the organization before and after implementing these processes.

- **Methodology**
  This case study was conducted with a semi structured interview with a set of questions. The interview was conducted by phone. The main motto is to understand the concerns which the project department faces in handling the threats and opportunities in the project. Also the synchronization problem between handling the threats and opportunities between the project organization and the line organization is also studied. The main criterion is the person who is selected for the interview should have some basic experience in handling the project risks.

  The interview was conducted with 10 people in the organization. The delegates were working in two branches (Dubai and India).

  Project Manager-2
  Engineering Manager-2

Quality Manager- 1
Sales Manager- 2
Planning Manager-1
Procuerement-2

- **Case Study Results:**

Out of 10 persons interviewed, 8 people felt that the quality gate and business process methodology is not efficient in handling the project risks. They have a general opinion that PROM needs further improvements to be efficient.

These 8 respondents felt that the PROM process is not initiated at the time when the Quality gate process is initiated. They felt such process should be initiated during the tendering or bidding phase for effective results.

All the 8 respondents felt that handling the threats and opportunities should be the integral part of the quality gate methodology

Seven people felt that the handling of threats and opportunities by the PROM and quality gate methodology failed in the line organization

Seven people felt that they are not confidant that Quality gate and the PROM process can capture the risks during the tendering or bidding phase.

Six people felt that this process doesn't have a risk owner concept so responsibility wise it is difficult to track all the risks.

Three of the respondents had an opinion that this system doesn't have a follow up schedule and the reporting system for all the risks

All the respondents were keen about the input for the quality gate check list from the previous project experience. There should be clear system to exclude some risk events and to include some in. Because the basis for the uncertainty is arising in the tendering phase. To avoid this precise quality gate list is required.

- **Why PROM process is inefficient in Platform phase and Tendering phase of the projects?**
  - The PROM process is not initiated parallel with the Quality gate method. That is PROM is not initiated during the tendering or bidding phase
  - The PROM process that includes handling of threats and opportunities is not the integral part of the quality gate methodology
  - The PROM process failed to handle the threats and opportunities in the line organization
  - The PROM process is not capable of finding the weak spots during the bidding phase of the project
  - The PROM process doesn't have a risk owner concept to track the risks responsibility wise.
  - The PROM doesn`t have clear follow up system for tracking the progress of the risks

- The PROM doesn`t have a clear reporting system to monitor the status of the risks
- PROM doesn`t have a clear inclusion and exclusion protocols from the quality gate check list.
- PROM doesn`t have metric to measure the effectiveness of the risk. So it fails in the financial appraisal.
- PROM has more administrative activities. Most of the organizations always want to eradicate the administrative work load.

Part 2:

- **Pilot Process**
  This process was implemented in the two projects with all the systems described above.

- **Case study**
  A feedback session was conducted with a semi structured interview session with the two project manager of the organization.

  Initially training for using the ROP database was provided to the project team. Then a two day workshop was conducted to train the project team members on the usage of the ROP database.

  The result from the implementation is summarized as follows:

- **How to make improvements in the existing ROMP(risk and opportunity management process) for managing the cross country project organizational structure**

  - The target audience for participating in the Risk Work shop and the risk training should be selective.

  - The training facilitator team should have two persons. One should be conversant with the risk management concepts and the other should be a technical person to point out the technical risks

  - The risk workshop should be separate for the bidding team, design team, execution team and the project close out team

  - The project team should conduct risk management meetings every week and the Minutes of meeting should be submitted to the project manager regularly

  - The resource allocation for the activity which has more risk probability should be loaded with the experienced one.

  - There should be a risk coordinator for every department who should own the risk and the risk coordinator should deliver daily reports on the action which he is taking

- The complete risk management process should be scheduled in in the Primavera Risks Management software where automatic prompt is possible. Because most of the project team members feels that the Lotus notes is not sufficient to manage the process.

- The closing of the risk from the database should be done only with the top management approvals

- Though there is metric in parallel with the ROMP called RMMI, it not considered sufficient for measuring the maturity level of the risks

- Always the risk management process should not function in parallel with the business process. Both the process should synchronize with each other

- Still some part of the process demands administrative work for execution. Always administrative burden is considered as painstaking process for the organization.

Part 3:

- **Pilot study method for the methodology:**
  A pilot study method was adopted to examine the portfolio risk analysis method. The training phase division is selected for the pilot study. It has four realization projects. The researcher collected the feedback from the portfolio manager about the performance of the training phase where the pilot study was conducted.

- **How the project risk management can be effectively managed in the portfolio perspective?**
  An informal interview was conducted with the portfolio manager for getting the feedback about the implemented process.

- The ROP database yielded positive results where the handling of risks is executed by the portfolio risk manager

- Still the basis for grouping of project in portfolio needs further improvement

- A person to handle the ROP database should be efficient in handling the spreadsheet.

- A development in the software is still essential for managing the ROP database

- Still the system for handling of risks by the functional departments is confusing

- Portfolio risk analysis still needs improvement in handling the risks which requires prompt mitigation action

- This portfolio analysis requires a metric to justify the investment made for the process.
- Still this process is failing in financial appraisal of the process.

PROJCON ADVISORY INNOVATION

The research journey started where the case study organization had severe problems in handling the uncertainties in the platform phase and the tender order execution phase. This affected the organization`s performance. The organization implemented so many processes in the past but they consistently failed. There was a constant impact in the project time, cost and quality. Most of the persons in the company had a traditional mentality that “this is the way we have done in the past and the same thing will continue in the future”. Few persons in the hierarchy had appetite for a change and they initiated the research process for finding out the new risk management process.

While kick starting the research project the intentions were to find the reasons behind the inefficiency behind the PROM process. A detailed study on the PROM process and the dependent process was studied. This was followed by a detailed case study and with a semi structured interviews.

Then the research continued with the major organizational change which the company has undergone. The company had changed the existing risk management process and implemented ROMP for managing the risks and uncertainties effectively. But still the organization was failing to get the complete utilisation from the process. The research continued to identify the gaps in the ROMP process for increasing the efficiency in the implementation phase. This was done through the case study followed by the semi structured interviews.

Then the research is followed with the change in the organization, had undergone by starting to handle the projects in the portfolio perspective. The research continued to find out the gaps in the existing risk management for managing the projects in the portfolio perspective. This was followed by introducing the Portfolio risk management process and then a case study.

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