



Review of Project Risk Management and Risk Assessment

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Abstract

Identify the risk of project and develop the strategies to reduce the effect of risk or prevent the risk from occurring is the main objective of the Project Risk Management. Due to uncertainty the project risk occurs. The possibilities are always there that something known or unknown can happen and it could affect the goal of project. Being prepared to handle the risk is known as risk management. The processes, things or situations that can harm the people or organization identified through a look by risk assessment. It evaluates and analyzes the risk after its identification. To control the harm from happening and to eliminate effectively it can decide the measure after the determination of risk.

Keywords: Project Risk Management, Risk assessment, Harm, Process, Situation

1 Introduction

When undertaking the projects in a business organization risk is inevitable. It needs to ensure by the managers of the projects that it should keep the risk at minimal level. There are mainly two types are risk named positive impact risk and negative impact risk. All the time the project managers do not face negative impact as there are positive impact risk are also available. To counter attack the risk the manager of projects need to define any solution or mitigation plan after identification of particular risk. On the basis of 4 phases of risk management the manager can plan a strategy. These steps are: (1) identification of Risk, (2) quantification of risk, (3) risk response to risk, and (4) monitoring and controlling of risk

1. Identification of Risk: Supervisors face numerous challenges with regards to naming and identifying the risks that happen when undertaking ventures. These risks could be settled through organized or unstructured conceptualizing or techniques. Understand that dangers relating to the venture must be taken care of by the undertaking chief and different partners of the task. Risks, for example, operational or business risk will be dealt with by the pertinent groups. The dangers that regularly sway a task are provider risk, budget risks and resource risk. Provider hazard would allude to dangers that can happen on the off chance that the provider isn't meeting the course of events to supply the assets required. Resource risk happens

when the human asset utilized in the undertaking isn't sufficient or not gifted enough. Budget risk would allude to dangers that can happen if the expenses are more than what was planned.



Figure 1: Risk Management

2. Quantification of Risk: On the basis of quality it can evaluate the risks. With the help of the matrix it analyzes the chances of occurring the risk by project managers. By using the matrix the risk can be divided in 4 categories that are Low, Medium, High and Critical. For place the matrix in the categories of risk the impact on the project and probability of occurrence are two criteria that are considered. For example the risk can be consider as 'High' category risk if it has highest impact like impact = 4, and it has low risk occurrence that is probability = 2.

3. Response to Risk: To select the method that decrease the impact of risk at minimal level when it comes to risk

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management it decided by a manager of project. Between the four strategies of risk response that are given as follows the project manager can choose the better one.

- a. Risk acknowledge
- b. Pass on the Risk pass
- c. To decrease the impact of risks takes corrective measure

d. It can avoid the risk

4. Control and Monitoring the Risk

If any changes are done then on a regular basis risks can be monitored or checked. Through assessing mechanisms and constant monitoring it can identify the new risk.

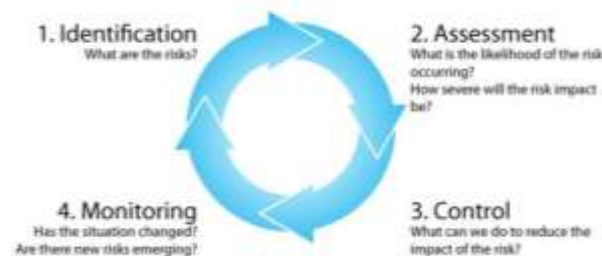


Figure 2: Process of Risk Management

2 Rules of Project Risk Management

The advantages of risk management in projects are enormous. In a proactive manner if deal with event of uncertain project it can gain a lot of money. The outcome will be that seize the opportunities that occur and limit the effect of project threats. This permits to deliver the project with the quality results, on budget and on time that wanted by sponsor of project. If the team members do not have the chance of enter a putting out fires mode expected to fix the disappointments that could have been anticipated they can be much happier.

1. Both Opportunities and Threats Considered: They are the miscreants that can hurt the project. In present day it also additionally center around project opportunities and positive risk. The positive risks are the uncertain situation that are good for organisation and project. These guys make project more profitable, faster and better.

2. Implement and Plan Responses of Risks: Actualizing a risk reaction is the movement that really increases the value project. It can minimise negative effects or prevent occurring of threat. To understand, prioritise and map risks other rules helped. This will make a sound risk reaction plan that spotlights on the huge successes (1-10)

3. As a Part of Project Make the Risk Management: The principal guideline is basic to the accomplishment of project risk management. In the event that it don't really insert risk management in project, it cannot receive the full advantage of this methodology. It can experience various defective methodologies in organizations. A few project utilize no methodology at all to risk management. They are either insensible, running their first undertaking or they are some way or another certain that no risks will happen in their task.

4. Ownership Issues Should Clarify: Some Managers of project think they are done once they have made a rundown

of risks. Be that as it may, this is just a beginning stage. The following stage is to clarify who is in charge of what risk! Somebody needs to feel the warmth if a risk isn't dealt with appropriately. The trick is basic: for each risk assign a risk owner that it have found. To optimise risk for the project is the responsibility of risk owner (11-18).

5. In Project Identify the Risk as soon as possible: project risk management the executives is to recognize the risk it is the very basic step. This requires an open mentality that spotlights on future situations that may happen. Two principle sources exist to distinguish risks, paper and people. People are colleagues that each brings along their own encounters and aptitude. Other people to converse with are specialists outside the project that have a reputation of the sort of undertaking or work are confronting (19-20).

6. Associated Tasks and Risks are tracked: The register of risk help to track the associated tasks and risks. For each project manager tracking tasks is an everyday activity. Coordinating risk task into that day by day schedule is the simplest arrangement. Risk tasks might be done to recognize or dissect dangers or to produce, implement and select responses

7. About Risks Communicate: In many failed projects it show that project managers in such activities were as often as possible ignorant of the enormous sledge that was going to hit them. The alarming finding was that much of the time somebody of the venture association really saw the sledge, however didn't illuminate the task administrator regarding its reality.

8. Risks Analysis: Understanding the idea of a risk is a precondition for a good response. In this manner, set aside some effort to have a more critical see individual risk and don't form a hasty opinion without realizing what a risk is about. The data you accumulate in a hazard examination will give important bits of knowledge into project and the fundamental contribution to optimise the risks to find effective responses.

9. Risks Prioritise: If a project manager sometime tell that he equally treat all risks. This makes project life extremely straightforward. Be that as it may, it doesn't convey the most ideal outcomes. A few dangers have a higher effect than others. Accordingly, it better invest your energy in the dangers that can cause the greatest misfortunes and additions. Check on the off chance that have any centerpieces that could crash project.

10. Project Risks Registration: This standard is tied in with accounting. Keeping up a risk log empowers to view progress and ensure that it won't overlook a hazard or two. It is additionally an ideal specialized device that educates stakeholders and team members what is happening.

3 With ProjectManager.com Managing the Risk

Utilizing a risk tracking format is a beginning, yet to oversee project risks it'll need to utilize project management software. At every phase of a project ProjectManager.com has various instruments that let address.

1. For Risk Management Plans use of Gantt Charts: Utilize our honor winning Gantt diagrams to make point by point risk management intends to keep dangers from getting to be issues. Timetable, appoint and screen undertaking errands with full perceivability. Colleagues can even add remarks and records to their relegated assignments, so all the correspondence occurs on the task level—continuously.

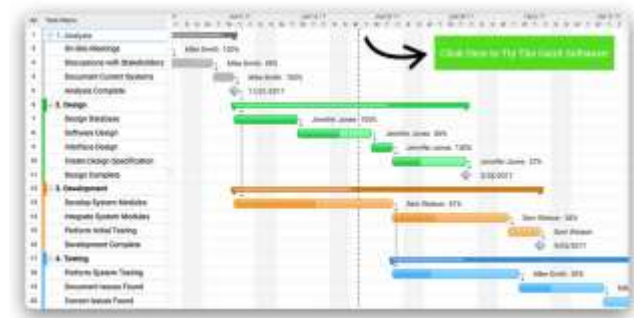


Figure 3: Gantt Charts

2. For Prioritizing and Managing Risks use Kanban Boards: Utilize kanban sheets to sort and organize risk in the event that they exist in a progressively deft condition. You can utilize custom labels to recognize errands as dangers inside task. Or on the other hand, it can devote an entire task inside ProjectManager.com to overseeing risks, so it can rapidly perceive how the earnest risks are being tended to.



Figure 4: Kanban Boards

4 Risk Assessment

To lead business the identification of risks that can impact negatively on ability of an organization is known as risk assessment. To decrease the impact of risks to business operations the risk assessments help identify these risks of natural business and give controls, measures and processes. A fundamental risk assessment will break down each hazard occasion for the probability that the hazard will happen and for the effect it will have in the event that it happens. On a matrix of Risk Assessment it can plotted this type of qualitative risk analysis information as defined in the plan of Project Risk Management it incorporates the risk rating rules.

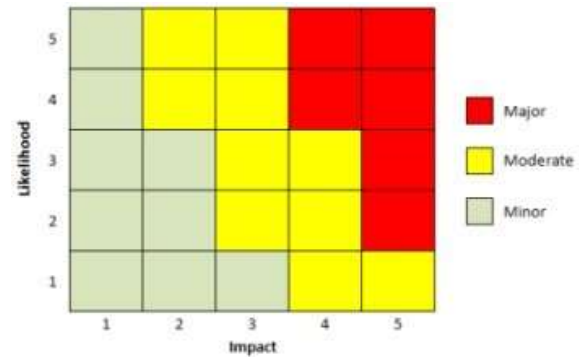


Figure 5: Matrix of Risk Assessment

5 Risk assessment steps

How a risk assessment is led changes broadly relying upon the risks special to the kind of business, the industry that business is in and the consistence standards applied to that given business or industry. In any case, there are five general advances that organizations can pursue paying little heed to their business type or industry.

Step 1: Identify the hazards. The initial phase in a risk assessment is to distinguish any potential risks that, if they somehow managed to happen, would adversely impact the association's capacity to lead business. Potential dangers that could be considered or recognized during danger evaluation incorporate cataclysmic events, utility blackouts, cyber-attacks and failure of control.

Step 2: After the hazards are distinguished, the following stage is to figure out which business resources would be adversely impacted if the hazard worked out as expected. Business resources regarded in danger to these risks can incorporate basic framework, IT frameworks, business tasks, organization notoriety and even worker wellbeing.

Step 3: Develop control measures and Evaluate the risks. A risk analysis can help distinguish how perils will affect business resources and the measures that can be established to limit or take out the impact of these dangers on business resources. Potential dangers incorporate property harm, business interference, budgetary misfortune and legitimate punishments.

Step 4: Findings should be record. The finding of risk assessment ought to be recorded by the organization and documented as effectively open, official archives. The records ought to incorporate subtleties on potential risk, their related dangers and plans to anticipate the risks.

Step 5: Update and review the risk assessment regularly. Potential dangers, risks and their subsequent controls can change quickly in a cutting edge business condition. It is significant for organizations to refresh their hazard appraisals normally to adjust to these changes.

6 The goal of risk assessments

Some shared objectives and goals for directing risk assessments over enterprises and business types incorporate the accompanying:

1. Legitimizing the expense of security countermeasures to moderate dangers and vulnerabilities.

2. Deciding planning to remediate or moderate the distinguished dangers, dangers and vulnerabilities.
3. Building up a hazard profile that gives a quantitative investigation of the kinds of dangers the association faces.
4. Distinguishing, organizing and recording dangers, dangers and known vulnerabilities to the association's generation framework and resources.
5. Building up a precise stock of IT resources and information resources.
6. Understanding the arrival on venture, if assets are put resources into framework or different business advantages for balance potential risk.
7. Building up a precise stock of IT resources and information resources.

7 Conclusion

The process of analyzing, responding and identifying any risk is known as Project risk management that that emerges over the existence cycle of an project to enable the task to stay on track and meet its objective. Risk management isn't responsive just; it ought to be a piece of the arranging procedure to make sense of hazard that may occur in the task and how to control that hazard on the off chance that it in actuality happens.

References

1. Aven, Terje. Risk assessment and risk management: Review of recent advances on their foundation. *European Journal of Operational Research*, 2015.
2. Aschberger K, Johnston HJ, Stone V, Aitken RJ, Hankin SM, Peters SA, Tran CL, Christensen FM. Review of carbon nanotubes toxicity and exposure—Appraisal of human health risk assessment based on open literature. *Critical reviews in toxicology*. 2010 Oct 1;40(9):759-90.
3. Bing L, Akintoye A, Edwards PJ, Hardcastle C. The allocation of risk in PPP/PFI construction projects in the UK. *International Journal of project management*. 2005 Jan 1;23(1):25-35.
4. Clenden, D. Managing project uncertainty. Abingdon: Ashgate Publishing Group, 2009.
5. Darnall, R. and Preston, J.M. *Project Management from Simple to Complex*. Flat World Knowledge, Inc, 2010.
6. Godfrey PS. Control of risk a guide to the systematic management of risk from construction. CIRIA; 1996.
7. Klemetti A., Risk Management in Construction Project Networks. Helsinki University of Technology Laboratory of Industrial Management Report. Espoo.
8. Morgan, G. and Smircich, L. The case for qualitative research. *The Academy of Management Review*, 1980;5(4):491-500.
9. PMI (Project Management Institute). A guide to the project management body of knowledge: PMBOK. 3rd edition. Pennsylvania: Project Management Institute, Inc, 2004.
10. Sanvido, V., Grobler, F., Parfitt, K., Guvenis, M., and Coyle, M. Critical Success Factors for Construction Projects. *Journal of Construction Engineering and Management*, 1992;118(1):94-111.
11. Smith. N.J., Merna, T. and Jobbling P. *Managing Risk in Construction Projects*. 2nd edition Oxford: Blackwell Publishing, 2006.
12. Westland J. *Project Management Life Cycle: A Complete Step-by-step Methodology for Initiating Planning Executing and Closing the Project*. Kogan: Page Limited, 2006.
13. Zou, P., Zhang, G. and Wang, J-Y. Understanding the key risks in construction projects in China. *International Journal of Project Management*, 2007;25:601– 614.
14. Zou, P., Zhang G., Wang J-Y. *Identifying Key Risks in Construction Projects: Life Cycle and Stakeholder Perspectives*. Sydney: Faculty of Built Environment, University of New South Wales, 2006.
15. Nakhaei A, Davoodnia A, Nakhaei H. (NH4) 42 [MoVI72MoV60O372 (CH3COO) 30 (H2O) 72] as a Heterogeneous Reusable Catalyst for Organic Reactions: Mini-Review. *Journal of Chemical Reviews*. 2019 Mar 1;1(2. pp. 78-153):139-53.
16. Solomon O, Rabiou Saidou Umar W, Sanusi Wara H, Sadiq Yakubu A, Michael Azubuike M, Asugu Mary M, Louis H. Antiulcerogenic Activity of methanol extract and solvent fractions of Stem Bark of *Lannea acida* (A. Rich) Against Ethanol-Induced Gastric Mucosal Injury in Albino Rats. *Progress in Chemical and Biochemical Research*. 2019 Jan 3;1(1, pp. 1-80):29-39.
17. Ghanbaria F, Monavarib SM, Sadrc MK, Rahimib R, Mirbolookia H. Pesticide in Soil and Rice Crop from North of Iran: Concentration and Risk Assessment. *Advanced Journal of Chemistry, Section A: Theoretical, Engineering and Applied Chemistry*. 2019 Aug 26.
18. Beigzadeh R, Rastegar SO. Assessment of Cr (VI) Biosorption from Aqueous Solution by Artificial Intelligence. *Chemical Methodologies*. 2020 Mar 1;4(2. pp. 115-219):181-90.
19. Sultana M, Ahmed S, Rabbi F, Alam MT. Identification of lectins from the seeds of Bangladeshi plants *Sesbania bispinosa* and *Senna occidentalis* by hemagglutination assay. *Asian Journal of Green Chemistry*. 2019 Feb 2.
20. Zolnikova IF, Silkin II, Popov AP, Tomitova EA, Ovcharenko ND. Muskrat's (Ondatra Zibetica) endocrine regulation organs as bioindicators for evaluation of ecological conditions in Baikal Region. *EurAsian Journal of BioSciences*. 2019 Jul 7;13(2):707-9.