

Running head: RISK MANAGEMENT

Risk Management

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*Abstract*

This essay will identify the most common sources of risk in information technology projects. I will also describe how a project manager might manage these risks.

## RISK MANAGEMENT

Project risk management is a frequently overlooked facet of project management, and has a unique potential to create an improved track record for project management and the success of all managed projects. Risk management can assist project selection, scope definition, and the development of schedules and cost estimates. In this essay, I will describe some of the most common sources of risk, and how these risks may be managed.

Some of the benefits of risk management practices include reduced schedule delays, reduced cost overruns, improved ability to meet commitments with the customer and satisfy expectations, an improved ability to negotiate with stakeholders, a decreased chance of crises and issues, and the ability to anticipate or avoid problems altogether. Of these, the most valuable benefit may be anticipating or avoiding problems. Problems on a project can be very costly, result in delays in schedule and even cause conflict within the project team or between the team and the stakeholders.

There are two types of risk: positive risk and negative risk. The PMBOK® Guide Third Edition describes risk as an “uncertain event or condition that, if it occurs, affects at least one project objective.” These objectives include scope, schedule, cost and quality. Causes of risk can be a requirement, constraint, assumption or condition creating the possibility of a positive or negative outcome. Risks are categorized as positive or negative in correlation to whether they effect the project objectives positively or negatively.

In the case of information technology projects, risks can come from many sources. It is wise for a project manager to be informed so they can be on the lookout for them, plan appropriately for risks that may present themselves, identify them and analyze their impact.

A variety of techniques may be used to facilitate identifying risks. These can include documentation reviews, information gathering techniques, assumptions analysis, checklist analysis, diagramming, SWOT analysis and expert judgement.

Risks may include technology risks such as whether the technologies are feasible or whether the project will involve known or bleeding edge technologies. For example, if the technology is completely new, the project team may not have adequately explored the issues involved with it. Sometimes new technologies don't work with old technologies and functions fail that are part of the requirements.

Other risks may be characterized as market risks. It may not be a certainty that the product or service resulting from the project will meet the market at the right time or be received positively by the marketplace.

A risk may also be financial in nature. Will the budget run short? Are the stakeholders completely confident the project will meet the ROI, NPV or provide adequate payback? Also, is this project the best way to use the organization's money at this time? If these risks do not turn out positively, the consequences can be very negative. If financial consequences cause no difficulty for the project, they may decrease chances of future opportunities for a similar project.

In addition, there is the risk of resources not being adequate for the project team. Team members may not have appropriate technical experience for the project, senior management may decide they don't support the project midway through, or the organization may not have a strong relationship with the stakeholders.

Lastly, a project manager should hope that the stakeholders and project sponsors have prepared for the successful completion of the project. Quite often, new business procedures must

be introduced and the business must adapt in its infrastructure to interact with the project or its resulting products or services. Effective project management will take a project through the project lifecycle, but if the business or organization has failed to plan or prepare for events or workflows that should be in place when the project is completed, the consequences can be negative.

A project manager should try to determine if the risk is positive or negative to manage the risk appropriately. A strategy or combination of strategies can be chosen to manage the risk, depending on the severity of the problems created. One way to choose a strategy is by using a decision tree diagram to show the different workflows for each strategy and the criteria and events associated with it.

To manage negative risks, a project manager may avoid, transfer, mitigate or accept the risk. To avoid a risk, a project manager may change the project management plan in an attempt to avoid a risk entirely. The project's strategy, scope or schedule may be adjusted to avoid the risk.

The second management method, transferring a risk, means the responsibility for the risk is transferred out of the project team and on to another party. A premium is usually paid to the other party for adopting the risk. This method is most often used to manage financial risks.

The third method, mitigation, is to reduce the probability or impact of a risk occurring on the project to within more acceptable limits. This approach is proactive, and preferable to contending with the adverse effects of a risk after it has taken place. Mitigation efforts can include simplifying a complex process, testing, adopting more cautious practices, and prototyping new programming to see if it will scale appropriately to the specifications.

The last method for managing negative risk is acceptance, and this method is used for both positive and negative risks. A certain percentage of risk should be anticipated and dealt with. This strategy can be a passive approach, where the project team anticipates and waits for the risks to present themselves and then handles them, or it may be an active approach, where the project manager plans the project with a contingency reserve of time, money or resources to handle such risks.

If a risk can be categorized as positive, it is expected to have a positive effect on the project's objectives. Even so, there must be a strategy for managing such risks to ensure they have the most positive results.

The first approach to managing positive risks is to exploit the risk. This approach is adopted when the organization can take advantage of the opportunity the risk provides to the project or organization. An example of exploiting a risk may be to use available talented resources on an issue with the knowledge that they are experts in an area of knowledge and can positively affect a project.

The second approach to managing positive risks is to share the risk. In this approach, the responsibility for the handling the risk is shared with a third party who may be better able to capture a benefit from the risk for the project. Examples of this include creating or using teams with specialized skills or creating a partnership so that risks are distributed to the appropriate partner within their area of expertise.

The third method for positive risk management is to enhance the risk. This strategy increases the probability the risk will be presented or increases the positive affects of the opportunity the risk presents.

Besides these strategies that deal directly with positive or negative risks, a project manager can develop a contingency plan which can go into effect under some predefined conditions, with sufficient warning to put the plan into action.

The last and perhaps most obvious strategy that can be used to manage risk is use expert judgement. Input should be requested from experts on how to manage specific and well-defined risks. Specialized expertise can go into effect and effect the outcome of either a positive or negative risk.

A project manager has at their disposal a risk management process to help them identify risks, define, analyze, strategize a management approach, and execute management of the risk. The chosen management strategy may use a few strategies, but it is certain every project manager should try to seek experts for their team, practice contingency planning and risk avoidance, and comprehend the nature of accepting a small measure of risk. An informed and positive attitude as well as good communication skills can transform risk into a positive outcome.

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