Preparing for Failure

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ABSTRACT

Risk management is one of the most complex project management processes, requiring rigorous management and discipline. Unfortunately, for many organizations, the risk management process has become contaminated by poor management practices, an absence of meaningful risk assessments, meaningless risk event descriptions, incomplete and vague risk impact analyses, poor follow through on risk mitigation activities and a general lack of attention to accuracy, completeness and quality.

At this point, the risk register, instead of being a key tool used by the organization to systematically identify and eliminate risk, while exploiting opportunities, has become a list of pre-prepared excuses based on the repeat of failures encountered on past projects.

However, organizations are not condemned to repeat past failures. By returning to the basics of risk management, and through the application of some basic management guidelines, the risk register – instead of being an "Excuse Register" – can become the cornerstone of a comprehensive risk management program to promote a systematic, pro-active approach within an organization that will result in accomplishing mitigation activities, reducing risk and gaining advantage through opportunities.

INTRODUCTION

Risk is a powerful motivator, and risk management remains a rapidly developing discipline with many and varied views and descriptions of what risk management involves. It is widely accepted that failure to properly manage risk can result in corporate and personal loss. These losses might include failure to win new or keeping existing business, loss of important business partners, missed market or revenue opportunities and even large legal penalties. [1,2]

Risk management should be viewed as a central part of any organization's strategic management program. It is the process whereby organizations methodically address the risks attached to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. The focus of good risk management is the identification and treatment of these risks, both those with potential for benefit and those with downsides. [3]

Risk management is not a new discipline. However, organizations need to expand their view of it to encompass the concept of risk as a business enabler. By strategically managing risk, an organization is

able to balance its exposure to threats, and capitalize on opportunities, across a portfolio of projects and corporate initiatives. This leads to higher confidence when dealing with potential threats, as required to create new products, services, business models and ways of competing in the marketplace. There is a growing recognition that early, up-front identification of project risk leads to a far better chance of project success than simply ignoring risks altogether. [4]

There are probably as many different ways to explain the processes of risk management as there are to mismanage a project. Some companies begin with a standard checklist of questions prepared by an all but forgotten person from the company's distant past. Other companies rely on intuitive judgements to make important decisions during a project crisis. Some follow rigid procedures, and a few even use formal methodologies.

Regardless of the processes we follow, as organizations we have an incredible capacity to identify and quantify risks, organise the information neatly into tables and databases, develop elaborate mitigation plans and deliver countless presentations on the subject. What we don't seem to be able to do is manage the process in such a manner as to:

- Reduce existing negative risks (threats), and incorporate risk reduction objectives into our prioritization processes to minimise the probability and consequence of emerging negative risks, or
- Capitalize on existing positive risks (opportunities), and incorporate opportunity development objectives into our prioritization processes to increase the probability and consequence of emerging positive risks.

With risk management being so universally acknowledged as a critical project delivery mechanism, if it is crucial to the protection of workers, the public and the environment, if it is key to stakeholder buy-in and regulator approval, then why do we have so many difficulties in implementing and sustaining a meaningful risk management program?

RISK MANAGEMENT AS A PLANNING PROCESS

Often people tend to view risk management as somewhat akin to voodoo. They see it as a blend of science, mysticism and techno-babble. Few feel inclined to learn its unique vocabulary or delve into its mathematical notation. Most look closely enough only to develop a level of misunderstanding that can be spread through an organization like a new computer virus.

To facilitate an understanding of this paper there are only three pieces of information the reader needs to be armed with.

- First, risk management is fundamental to the planning process.
- Second, risks are manifest in one of two ways: threats (negative risk events) or opportunities (positive risk events).
- For each risk there are two basic actions that can be taken: either do something about it, or don't.

The Project Management Institute identifies six main stages to project risk management, each of which we will briefly examine: [5]

1. Risk Management Planning

2. Risk Identification
3. Qualitative Risk Analysis
4. Quantitative Risk Analysis
5. Risk Response Planning
6. Risk Monitoring and Control

Risk Management Planning

Risk Management Planning is all about defining the process to be used for the management of risk during the unique undertaking in question. As all projects are unique, the approach to risk management needs to be defined for each project. This is important as many companies feel that they can continue to use the same approach for every project – they fail to take a fresh look at how the project drives requirements for risk management, as well as failing to take a fresh look at the risks for each project.

Formal risk management planning begins at the project inception phase, and is the most basic and fundamental planning-related risk process. It is during this early phase of project development that the greatest potential exists to exercise early actions (based on risks) that will affect the ultimate project outcome. If risk management planning is improperly or incompletely performed, the organization faces the possibility that the finally delivered project will not provide the required functionality or benefit.

Risk Identification

The planning objectives during risk identification are the gathering of input from all project participants about their perception of risks. These discussions require a thorough analysis of project data (conceptual design information, mission statement, business plan, etc.). This information is then categorized and used during the risk assessment. During this process much information is identified that can immediately be incorporated into the project's emerging detail planning: regulatory and certification requirements, critical equipment and need dates, key resources, incomplete design areas, project organization weaknesses, contract administration issues and site-related data.

Identification of major risks early in the project helps to ensure necessary mitigation or other actions can be pushed forward with sufficient timescales for effective implementation. Good risk identification can therefore shape plans and ensure their successful delivery.

Qualitative and Quantitative Risk Analyses

Although these processes are primarily directed at the quantification of risk-related data, they are immediately applicable to the overall planning effort through their ability to identify areas of weakness in the schedule and/or cost estimate. Through early identification these weaknesses can be corrected in a timely and efficient manner before leading to major project issues.

It is also during this stage that the risk register begins to emerge, usually as a direct result of performing the qualitative risk assessment. This is critically important, because the risk register must become the focal point for the organization and the project delivery team in selecting the important risks to consider. For this to occur the organization must implement a central, integrated system that will encompass risks from all business and project activities. This implementation must be consistent and systematic across the enterprise, and the discipline of maintaining, and managing, a risk register must be consistent across the

company. However, as stated previously, the selected method for management of risk must be tailored to the requirements of each project and its specific risks.

If we view risk management as essentially two basic stages – risk analysis and risk management – then the risk register is clearly a part of the risk analysis stage. In order for a risk to be managed it must first be identified and documented. Unidentified and therefore unmanaged risks are clearly unchecked threats to an enterprise.

Risk Response Planning

Risk response planning (often referred to as "Risk Mitigation") attempts to increase the probability of success by reducing the probability and/or consequence of a threat or by increasing the probability and/or consequence of an opportunity. Thus, "risk response planning" is a more complete description of this process than "risk mitigation." The immediate impacts to overall project planning that occur as result of risk response planning might include:

- replacement of equipment with an similar item that has lower negative risks (less failure prone) or higher benefits (such as in reduced operating or maintenance costs);
- specialized training for work crews;
- higher quality or environmental standards;
- development of contingency (work around) plans; or
- specific action to ensure that an identified opportunity comes to fruition.

Risk Monitoring and Control

The guiding principles of risk monitoring and control are to:

- reduce or eliminate hidden cost and schedule contingencies,
- reduce required contingency by effective use of risk response (what we "do" or "don't do"),
- stress the need for communications among all stakeholders,
- identify negative and positive risks during all project phases, and mitigating negative risks while capitalizing on positive risks,
- systemmatically reducing the re-immergence of identical or similar risks, and
- reducing the consequences of identical or similar risks should they reappear.

THE RISK REGISTER

Much of the current attitude on risk seems to arise from the myth that members of the project management community are armed with a crystal ball that enables them to know the nature and scope of every potential risk item, when little or no conclusive information about the project or the enterprise's future is available. It is further assumed, that being so armed, these individuals are able to predict an amount of contingency that can absorb all threats. To a large extent these same project management individuals have been responsible for perpetuating this myth. This is due to their ability to produce – seemingly at a moment's notice – an exhaustive risk register touted to describe in minute detail all threats that might be encountered now and in the future. Closer examination – which is seldom performed – will reveal that these risk registers all contain identical information from one project to the next. This information has been cloned project to project and is seldom reinvestigated or reanalyzed. The overall risk management program permits, and may even encourage, this behaviour, eventually leading to

collapse of the risk management program and failure of the project and organization. [7] If the same identical set of risks appears project after project, one might (appropriately so) question the overall effectiveness of the risk management program to reduce threats to the organization.

The risk register must be made to perform a pivotal role in an overall risk management program. It is within the risk register that pieces of data from the processes of risk identification and risk assessment begin to come together to form the risk knowledge base. The risk knowledge base is the foundation for performing qualitative and quantitative risk analyses. Further, it provides the dual functions of capturing summary information on planned risk mitigation measures and capturing data that can be used to measure the effectiveness of the overall risk management program over time.

To fulfil its role the risk register must contain specific information about each risk. Some of this information may be unique to an organization or project, but in general the risk register would do well to contain the following information for each risk:

- Unique identification number (once assigned never deleted or re-used).
- Date initiated.
- Short description (to facilitate reporting) – 25 words or less.
- Impact of risk event should it occur (for both positive and negative risks – describe not just the immediate impact to the organization and project from the event, but also a description of the longer-term impacts in terms of the company's competitive position and reputation, economic and financial impacts that might show up in the quarterly or annual financial statements, the ability of the completed project to satisfy the original business need, etc.). This field is updated regularly as status changes; historical entries must be maintained, not over-written, as new information is added.
- Probability (P) of occurrence (such as a numerical range of from 1 to 5, where 1 is extremely unlikely and 5 is an almost certainty).
- Consequence (C) or severity (such as a numerical range of from 1 to 5, where 1 is negligible or insignificant and 5 is catastrophic or very severe).
- Risk score (probability multiplied by consequence squared (expressed as $Risk=PxC^2$) is a good place to start in the absence of a specified and proven alternative).
- Cost exposure – minimum, mean and maximum cost impacts (positive values for positive risk events and negative amounts for negative risk events). It is important to note that cost exposure is not the cost of contingency added to the estimate. Cost exposure quantifies the financial impact to the organization from the worse-case scenario.
- Schedule impacts – minimum, mean and maximum schedule impacts (to a universally accepted unit of measure – such as days). Again, this is not the same thing as schedule contingency.
- Statement of actions taken thus far to mitigate (threats) or exploit (opportunities) the risk event. This field is updated regularly as status changes; historical entries must be maintained, not over-written, as new information is added.
- Identification of planned actions to be taken to mitigate (threats) or exploit (opportunities) the risk event. This field is updated regularly as status changes; historical entries must be maintained, not over-written, as new information is added.
- Name of risk manager – the person (such as the project manager) responsible for day-to-day actions relating to mitigating or exploiting the risk event.
- Name of risk owner – the person (such as the programme manager, project sponsor, or company executive) with overall accountability to ensure the risk event is successfully mitigated or

exploited). It is the risk owner that assumes responsibility for the risk at the enterprise level, ensuring actions are implemented to address the risk across all activities of the organization.

- Current risk status – usually one of the following: mitigate/exploit, accept, watch or transfer. This field is updated regularly as status changes; historical entries must be maintained, not over-written, as new information is added.
- Measurement of success – description of objective, measurable criteria that will signify risk has been successfully mitigated or exploited.
- Date closed (or transferred).
- Closeout statement.

Thus documented, the risk register provides a methodical way to ensure that all significant activities within the organization have been identified and all the risks flowing from these activities described and documented, and all associated volatility related to these activities is identified and categorized. The risk register provides a structured means of identifying risks within sections of a project, accurately modelling and assigning a score to the risk based on probability and severity. It also provides the basis for mapping out a risk response plan.[8,9]

The key factor linking the identification and assessment of risks with their management is that of understanding. The risk register too often is nothing more than a long list of risks lacking sufficient structure to assist project and executive management in knowing where to focus risk management attention. Risk data, however, can be organized and structured, to provide a standard presentation of risks, thus facilitating understanding, communication and management. This structure, which Dr. Hillison calls a Risk Breakdown Structure (RBS), is a source-oriented grouping of risks that organizes and defines the total risk exposure of the project (and enterprise).[10] Just as a work breakdown structure (WBS) is used on a project to organize, plan, schedule, estimate, control, measure and report progress, the RBS may be similarly used for risk. Used on conjunction with the risk register these two tools comprise the risk management "dynamic duo."

COMMON FAULTS IN RISK REGISTERS

Very few risk registers suffer from

1. Too few negative risk events, or from
2. Too many positive risk evens, or from
3. Too few information requirements (data fields).

Rather, risk registers are more likely to suffer from

1. A listing of negative risk events, not prepared based on a comprehensive project-specific qualitative risk assessment, but copied from a past (perhaps not even similar) project. All too often these risks are so broadly and generally defined that specific actions to mitigate threats cannot be determined or assigned.
2. A total lack of positive risk events (opportunities) or incorporation of opportunities so vague or grandiose that specific actions cannot be determined or assigned (such opportunities stand no hope of being realized and delivering benefit).
3. Incomplete/missing data entries, or entry of descriptions, impacts and plans either to general or not applicable to the risk.

Some of the common faults seen in the development of many risk registers are categorized and listed as follows:

"Cookie Cutter" Risk Assessments

Let's say project "X" was successful in terms of completed scope, on-time delivery and actual cost. Therefore, to use the project "X" risk register for project "Y" makes perfect sense: saves money, saves time and was proven successful. Sound familiar? We hope not. You might be lucky on project "Y," but this approach is a train wreck waiting to happen. Is the project "X" risk register of any use to project "Y"? Of course it is, as a valuable input to the project "Y" qualitative risk assessment, but not as the risk assessment end result.

Assumptions, Exclusions and Constraints

Most project teams are rigorous in their identification and documentation of assumptions, exclusions and constraints, for these are fundamental building blocks for every project's scope, schedule and cost estimate. Unfortunately for many projects, any concern to assumptions, exclusions and constraints stops once they are identified and project design begins. However, as major impacts to a project can occur if assumptions, exclusions or constraints prove untrue, tracking and early warning are paramount to project success. To document a project assumption, exclusion or constraint in the design basis or scope statement, without adding a corresponding risk event to the risk register, constitutes a huge area of threat to successful project delivery – and one that could easily have been avoided.

Day Job Threats

This refers to the addition of negative risks (threats) that are expressions of the project manager's (or someone else's) "day job." Each project should apply a measure of reasonable expectation that everyone on the project team – or providing project-related services or goods – will perform their job in an appropriate manner, on time and at or below cost. Therefore, the addition of risk events within the boundaries of "reasonable expectation" is unnecessary, and tends to distract management attention away from real threats and real opportunities. Examples of these "day job" types of risks commonly (and inappropriately) added to the risk register are:

- Predecessor activities will not be completed on time.
- Successor activities will not start on time.
- Resources planned for an activity will not be available in sufficient quantity or quality.
- Personnel department will not have hired the required people in time to support the project.
- Training will not have trained the personnel in time to support the project.
- Contracts department will not get contracts placed in time to support the project.
- Products are not properly specified.

These examples begin to point to the problem with this approach. Once the project team has started down this road to identifying threats, where can you stop? Soon, every activity, task, sub-task, document, meeting and memo will be on the risk register. This will result in a risk register that is not only impossible to manage, but even if the effort were expended to do so, it is doubtful there would be any measurable benefit to the project.

Project-centric Risk Registers

Many risk registers can be found that only identify threats to the project itself. These risks only focus on those threats that endanger the "life" of the project as a stand-alone entity, and ignore the strategic purpose (to the organization) of the project altogether. Often overlooked is the origin of the project in terms of the benefit it was designed to deliver. Every project must have a purpose, else why are we making the investment? Yet, upon examination of the project risk register, we find only threats to the single project's existence: adequacy of funding, retained sponsorship at the Board of Directors/CEO level, availability of resources, completion on time, incomplete design, etc. Threats relating to impacts at the company (or programmatic) level, should the project fail, are omitted or poorly defined. Similarly, opportunities – when they appear at all – are again limited to the project perspectives of accelerating completion or maybe saving a little money. Opportunities for improvement to the overall organization are typically overlooked.

When risk registers are built containing the faults described above, they are of little value to either the project or the organization. Rather than becoming an effective and integrated part of the overall project management program they are little more than "excuse registers." What is an "excuse register"? It is a list of pseudo-risks that project managers can point to and say "It's not my fault the project failed. After all, I put the risk right there and senior management didn't do anything about it."

CONCLUSION

Risk management is the means by which uncertainty is systematically managed to increase the likelihood of meeting project (and company) objectives. The key word is systematic. The more disciplined the approach, the more we are able to control and reduce risks. All project management activities can be construed as efforts to minimise risk, but the risk management process is a specific set of activities consciously performed to identify and manage risks on a project.

Most risk management today, however, is based on coping strategies that manage downside risk (threats). Such defensive measures are needed, of course – but they also have their limitations. While coping strategies will remain a necessary part of any corporate strategy, they will not be a source of significant and sustained strategic advantage. Organizations must move forward to embrace risk as a source of advantage. While managing downside risks (planning for failure) will become basic business "hygiene," sustained advantage will come from the capacity to adapt faster and more effectively (planning for success) than the competition. [11]

Managers from the board room to the project-level need to recognise that their primary concern is not the management of day-to-day work activities but the management of risk. Work will happen if the environment for it is ripe and obstructions have been removed. If management directs attention towards the control of risk they will be preparing an environment that is fertile for progress and free from obstacles to future endeavours and corporate growth. Companies must identify sources of threats to future endeavours and move to mitigate them. They must also identify current profitable and beneficial activities and move to protect them. It is also important to note that these lists of threats (and opportunities) can – and will – change over time. [12]

Risk management is successful only if it is consciously repeated and applied to all risks throughout the life of a project. The key tool in ensuring this process is successful is the Risk Register. The Risk Register provides a focal point to identifying and ensuring:

- Threats and opportunities are listed based on the qualitative risk assessment,
- There is someone responsible for every risk,
- Risks are ranked by severity and probability, keeping the most important ones at the top of the list where they cannot be ignored, and
- The status of each risk is updated routinely, recording the latest observations and tracking the probability of each risk.

When Rhone-Poulenc Rorer of France and Hoechst AG of Germany merged to become Aventis in 1999 the board recognised the opportunity to take a close look at their risk management practices and procedures in order to re-define their overall risk tolerance and philosophy. The board wanted to understand the risks to the company and set up a direction for addressing those risks going forward. The process of defining and preparing the plan took a year. Implementing the plan required two more years to complete, but Aventis was able to identify its risks, set up risk registers and templates for reporting, establish a cross-functional risk committee and validate key risks through focused workshops. Aventis created a greater awareness of risk throughout the organization, identified and communicated key risk issues to top management and embedded risk management thinking into everything they do. [13]

Clearly, improving the process for managing risk requires substantial corporate commitment and support throughout the organisation.

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