
Project Risk Management:
An Integral Component of an Effective
Programme and Performance
Management Process

A Perspective Solutions Executive White Paper

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I. Overview

Managing risk has never been simple or straightforward. As more technology enables information sharing in real time, processes often cross outside the organisation into customer, partner and supplier domains. This increases the effort required to understand the risks that may threaten successful delivery of programmes and their component projects.

Organisations depend on large (and constantly growing) volumes of data to perform their activities. Furthermore, the rate of change in a technologically led society is itself increasing. Driven by competitive pressures, companies have invested in new ways of working. However, change brings with it uncertainty of outcome and therefore risk, making it even more difficult to identify and plan for the unexpected.

There are many different approaches to managing risk. Regardless of the method used to assess potential threats, the probability those threats will materialise, and the impact that a realised risk will have on an organisation, a defined process for managing risk is essential.

However, a risk management plan is only effective if incorporated into a measurable process. Risk management must be an integral discipline within an organisation's overall programme management process.

Executives and sponsors need to see the big picture when making time-critical decisions. This means the state of project risks must be visible across multiple projects and programmes. Using a performance indicator for risk management, and reporting that indicator in context alongside other metrics is often a very effective means of achieving a reliable top-down view of overall project and programme activity and performance.

This white paper examines a basic process model for managing risks across multiple projects and programmes, both within an organisation and in collaboration with suppliers, partners and customers.

II. Project Risk Management in Context

Definition

Risk management means many different things to different people, most often influenced by an individual's professional context. For example, in a financial institution, risks are categorised using terms like 'credit risk' or 'operational risk'. Each category is significant in its own right as a factor in the organisation's ongoing viability, and therefore will often have dedicated, detailed processes, controls and supporting tools.

The focus of this paper is project risk, defined as:

"an uncertain event or condition that, if it occurs, has a positive or a negative effect on a project objective. A risk has a cause and, if it occurs, a consequence." (*A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), 2000 ed., Chapter 11)

Risk management is the systematic process of planning for, identifying, analyzing, responding to, and monitoring project risk. It involves processes, tools, and techniques that will help the project manager maximize the probability and consequences of positive events and minimize the probability and consequences of adverse events.

Project risk management is most effective when first performed early in the life of the project and is a continuing responsibility throughout the project.

Another definition, according to Laurence Krantz, MD of specialist consultancy Eurolog, states that risk is "a combination of constraints and uncertainties." Typically, constraints will be relatively difficult to modify or eliminate – and they are thus the "givens" within which a project must deliver. Consequently, most risk management processes focus on identifying and measuring uncertainties, and by then adopting strategies to minimise those uncertainties.

Context

However, projects do not exist in isolation. Many organisations view projects in some form of grouping or aggregate, referred to in this paper as programmes. For the purpose of this discussion, a programme is a collection of activities (managed as 'projects') to achieve a strategic objective for a business or organisation. Measuring programme performance requires consistent, reliable and timely measurement, both qualitative and quantitative.

Quantitative performance measures include different categories of budgets – how much is to be spent, what sort of benefit is expected, and how much effort is needed to deliver a project. Qualitative indicators are about timeliness – on-time deliverables, and regular reporting and review of status, risks, issues and finances.

Using consistent processes and performance indicators at the project level provides a basis for effective consolidation of multiple projects into

programmes, and for viewing those indicators across programme or even organisational boundaries.

Risk management is an iterative process for identifying, analysing, evaluating, treating and monitoring risks. It is governed by a Risk Management Plan and controlled via a Risk Register.

Risk management for any one project cannot be efficiently addressed without an organisational context, providing policies and guidance. Risk management policies need to be documented, known and accepted throughout the organisation to be effective.

Risk management can also be challenging because it may require 'negative thinking' and looking for potential problems. This type of thinking may be contrary to a 'can-do' attitude often expected by senior management. However, looking for difficulties and then managing them so that there are 'no surprises' is a genuine indicator of a successful project and a mark of mature governance.

The consequences of poor risk management or the absence of a consistent, known and accepted process can be significant. Ignoring risks or being unaware of them leads to failure.

III. Concepts

Why Risk Management?

According to the California Department of Transportation, the "Capital Project Risk Management Process" is intended to result in the effective management of project risks and opportunities. (California Department of Transportation Risk Management Handbook, June 2003)

Effective risk management has costs. However, one recent study indicated that effective risk management could provide up to a 20:1 return on investment. It is an overhead to prevent loss.

The project manager, project sponsor, and project team members jointly develop a written plan that enables them to identify, assess, quantify, prepare a response to, monitor, and control capital project risks.

The *objective* of the project risk management process helps project sponsors and project teams to make informed decisions regarding project alternatives. Risk management encourages the project team to take appropriate measures to minimise:

- Adverse impacts to project scope, cost, and schedule
- Management by crisis

Risk management is more than just the management of project risks; it is also the management of the risks that the project may place on the business. For example, a project to replace a core system supporting the delivery of products or services must take into account the consequences of non-delivery, or delivering a result that is difficult to use or frequently unavailable.

Risk, Problem or Issue?

A risk event that occurs before it is treated is a problem (it changes the current reality). Problems are managed by either taking actions to reduce the problem's impact or by executing contingency or replacement plans. If an undesirable event is certain to occur and its consequences known, it is also a problem rather than a risk, and has to be managed as part of the normal project planning or re-planning process.

An issue is not necessarily a risk; it is a 'point of debate, discussion or dispute that requires resolution'. If an issue has no uncertainty about its probability or consequences, it is treated as a problem; if an uncertainty, it can be managed as a risk.

The Risk Management Process

A generic project risk management process can be described in two stages:

- Risk Assessment
- Risk Control

Risk assessment can take place at any time during a project, but the earlier risks are assessed, the more effective the process.

Risk control is an ongoing monitoring and updating of the status of risks identified during assessment.

Both stages are essential; Risk control cannot be effective without first carrying out a risk assessment.

Risk Assessment has three elements:

- Identify Uncertainties: Examine the project plans and look for areas of uncertainty.
- Analyse Risks: Specify how those areas of uncertainty could threaten project performance, either in duration, cost or meeting customer and stakeholder requirements.
- Prioritise Risks: Establish the potential impact of each risk occurring, and determine which ones require regular management attention. Eliminate those which are relatively less significant.

Risk Control also has three elements:

- Mitigation: When possible, take actions in advance to reduce the effect of risk.
- Response Planning: If a risk is significant, a response plan needs to be in place.
- Monitor and Control: Identified risks need to be reviewed on a regular basis. Containments and control actions need periodic review. When appropriate, controls require regular testing and the overall process needs regular reporting.

Each of the elements above produces one or more deliverables:

Process Task	Deliverable
Risk management planning	Risk management plan
Identify risks	List of project risks
Analyse risks	List of risks ranked as high, medium or low based on
Prioritise risks	Estimated impact on project objectives if a risk materialises and estimate of the likelihood the risk will materialise
Risk response planning	Response plan for each risk describing how the project will respond. A response plan includes estimated cost of recovery, impact on project schedule, alternative actions to be taken, contingency reserve (time and budget) and required revisions to project plan.
Risk monitoring and control	Project risk register and ongoing, periodic risk reporting.

Process Roles

Key roles and major responsibilities within the project risk management process are:

- Senior Management:
 - Define, adopt and support the organisation's risk management policy
 - Ensure that project stakeholders and participants support project risk management actions
 - Direct involvement in specific individual projects or programmes when appropriate – generally when a key strategic objective is in jeopardy
- Sponsor:
 - Ensure that adequate resources are available to manage project risks
 - Ensure that a wide cross-section of project stakeholders actively participate in the risk management process
 - Ensure that risks external to the project are included in the project's risk management plan and responses coordinated appropriately outside the project's boundary
 - Monitoring and approving the progress and effectiveness of risk management actions as reported
- Programme Manager:
 - Support the project manager and the project team in defining the risk management plan
 - Support risk owners when required to develop viable containment and response plans in line with organisational policy and practice
 - Deliver appropriate and timely communication to sponsors and stakeholders
 - Ensure a consistent, timely and complete risk monitoring and reporting regime is in place
- Project Manager:
 - Own the overall project risk management plan
 - Accept and approve initial list of identified risks
 - Analyse and recommend risk prioritisation and ranking
 - Supervise risk containment and response actions
 - Maintain the project risk register and submit ongoing reports on the status of all risks on a timely basis
- Risk Owner: an individual resource to whom the responsibility for an individual risk is assigned.
 - Carry out the research, analysis and develop containment or action plans against individual risks assigned by project manager

- Monitor status of assigned risks and report changes in risk status, controls and environment

The table below summarises responsibilities and ownership within each process task, by role.

Process Task	Roles			
	Sponsor	Programme Manager	Project Manager	Risk Owner
Risk management planning	A	S	O	S
Identify risks	S,A	S	O	S
Analyse risks	S	S	O,A	S
Prioritise risks	O,A	S	S	S
Response planning	A	S	S	O
Risk monitoring, reporting and control	S	A	O	S

S = Support, O = Owner, A = Approve

The Risk Register

As the process tasks above are carried out, the normal practice is to log information about each identified risk in a risk register. Typical items included in a risk register:

- Unique ID
- Status: Open, Closed
- Dates: Created, Last Reviewed, Next Review, Target Close
- Project Phase or Workstream (e.g. Business, Technical etc.)
- Description
- Project Impact
- Probability of Occurrence
- Containment Action
- Response Plan (and what triggers the plan)
- Risk Reporter
- Current Owner
- Additional remarks or comments

A project risk register might be maintained on paper, or stored and managed using different tools.

IV. Tools for Effective Risk Management

The key to any successful business process is compliance. If different parties within an organisation follow procedures differently or perhaps employ differing terminology, measuring process compliance will prove difficult and unreliable. Without measurement, opportunities for improvement will be missed.

Employing tools to support a process can bring great value in terms of reducing effort, and can often improve both information quality and availability.

Tools for Risk Specialists

Some tools focus on individual elements in the process, such as risk assessment or probability analysis. Tools in this category are frequently adapted to focus on a specific type of risk, such as tracking operational risks, assessing credit or investment risks in financial institutions, or environmental risks in a construction project.

Specialist tools are data contributors to the overall risk management process, and may support process tasks in both assessment and monitoring and control phases. Thus a large public works project might make use of a specialist tool to better assess potential environmental impact and translate that impact into a quantified risk. A second tool might be used to analyse the probability of that risk materialising.

Tools for Project Managers

Another category of tools supports the tracking and reporting elements within risk monitoring and control activities. Tools in this category assist project and programme managers with reporting responsibilities, and can assist in sharing risk information with sponsors and stakeholders.

At the most basic level, two tools used in this fashion are spreadsheets and e-mail systems. A spreadsheet maintained by a project, containing an ongoing log of the actions and status surrounding each identified risk is very effective at the individual project level. Storing a risk register in a spreadsheet makes it simple to search, select, sort and filter information, and most people using that information will understand how to do so with little or no support.

Using e-mail, especially with standardised templates, can assist in tracking the discussion surrounding an individual risk as it evolves from identification through the various phases before being closed.

At the individual project level, both of these tools aid the project manager, but only up to a point. E-mail, even using a template, usually creates a chain of correspondence as different parties are included and then drop out of the discussion. When messages are forwarded or copies provided to others, information can be modified or removed.

Grouping together a profile of risks at the project level also requires a set of standards for storing or filing individual messages on a shared server, and requires manual effort to summarise into a report.

Using a spreadsheet is more effective in grouping information on multiple individual risks. However, a spreadsheet is not a database, and therefore raises issues of ownership and version control. Typically a project manager will receive inputs to the risk register from individual risk owners, and then either personally update the master copy or rely on a project office resource to do so.

Consistency and Consolidation

As soon as the number of individual risks and risk owners starts to increase, and as soon as there are multiple projects to track, questions of measurement and scalability arise.

Risk management is not about doing an assessment at the beginning and then forgetting about it – to have an effective process the element of timely communication enters the picture.

For the project manager, there is a need to know how many risks are being monitored, the individual responsible, that current risk status has been reported on time. If the status of a risk changes or a response plan is triggered, programme managers, sponsors and stakeholders need to know about it quickly. This will typically mean using e-mail to communicate – but won't do much if anything to ensure that the risk register remains synchronised with the communication.

For a programme office, tracking and monitoring multiple project cannot be done effectively with spreadsheets or emails. A programme ties together different projects, frequently in different places, which together are meant to deliver a business or organisational objective.

If all the risk data are stored in individual spreadsheets owned by individual project managers, aggregating the current status of risks across multiple projects is a resource-intensive and time-consuming exercise.

Furthermore, if individual reports contain inconsistent terminology, or potentially even spelling errors, any attempt to automate the consolidation process or apply any sort of filtering will be error-prone and incomplete.

Finally, risk data is only one element, albeit an important one, of the bigger performance picture. Any process employed to consolidate risk information needs to be usable for consolidating similar information about other elements of project and programme performance, such as progress on deliverables, outstanding issues and problems, resource utilisation and financial data.

V. The Automated Programme Office

Risk management is part of a wider process to ensure better project and programme delivery. Integrating a consistent project risk management process with the bigger picture requires a relatively small investment of time and effort on the part of most organisations.

The goal is a consistent, consolidated view across multiple projects and programmes. The automation model should also cater for sharing information beyond organisational and geographic boundaries – so a browser-based capability and secure internet delivery are key features.

A summary of functional requirements for delivering the “big picture” includes:

- Tracking data across all performance elements – from any number of sources – through a single logical data structure. There is no need for data duplication, but there is a need to integrate data managed using existing tools and summarise the data those tools manage on a day-to-day basis.
- A graphical display that can apply a set of rules across any combination of projects in order to focus on the individual viewer’s priorities. Problem areas are highlighted, enabling priorities to be set.
- A consistent reporting cycle should be defined. Reporting performance can then be established by tracking timely delivery and approval. Sponsors and managers can then view the degree of “completeness” of information on which they base their business decisions. Gaps are known and measurable.
- Change to the detailed day-to-day activity of managing a project needs to be minimal.
- Reporting detail is kept to a usable level:
 - The graphical display shows a snapshot
 - Any area within the graphical display links to a summary report, which can be scoped and filtered as required. Each line on a summary report represents an individual risk, issue, milestone or budget category.
 - Each line on a summary report then shows the full detail supporting that item for the selected reporting period.
- Alerts and reminders are triggered by rules, both globally and at the individual user level.
- Every data item exists in only one place, accessible to all appropriate parties. For example, each risk has only one area for recording the details of its response plan (risk owner), or for viewing those details (sponsor). A user in a different business unit would not even see those details.

VI. Even Risk Management Has Risks

A word of caution may be in order on the topic of adequate resource levels and risk management experience.

Insufficient risk management capacity and skills will result in ineffective risk management, with a corresponding negative impact on achieving project objectives.

For example:

- If the cost of risk management is excluded from a business case, the viability of the project could be overstated.
- An insufficient reserve budget can make planned responses to risks unaffordable, often very late in the delivery cycle.
- If a project team does not have the right combination of skills and experience to properly manage risks, the project's objectives may be endangered.
- Risk management plans developed in isolation from other activities in the organisation can result in resource conflicts and unexpected consequences of unidentified dependencies.
- Insufficient risk identification in the early stages can mean that additional risks are identified at a later stage, increasing the cost and complexity of managing those risks.
- As the number of risks identified rises, there is a potential that a project will abandon the formal risk management process, resulting in an increase in major new risks arising at a late stage.
- An overly optimistic view of a project's capabilities can result in missing, ignoring or preparing an inadequate risk management plan.
- There is a possibility that as risks change during a project, planned responses or mitigation may need to be revised but are not.
- If risk response plans are not successful, or cause secondary risks, they may prove ineffective and thus compromise project objectives.
- Inappropriate risk management methods and techniques can cause ineffective or inefficient risk plans and threaten project objectives.

About Perspective Solutions and RPM

Perspective Solutions delivers:

- Best-practice business process
- Measurement and reporting on business process
- Measurement and reporting on business risk and performance

The perspective approach is supported by the RPM technology platform (Risk and Performance Management). RPM was designed in response to real-world needs in managing project and programme portfolios.

Using recognised standards, RPM can be integrated with existing systems within the enterprise, and enables collaboration amongst partners, suppliers and customers. Implementation is rapid and the result secure and easy to use.

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