8 THE PORTFOLIO MANAGEMENT PMO AND METRICS

CHAPTER OVERVIEW

To avoid metrics mania and save time and headaches, companies have given the responsibility of metrics management to various traditional or corporate project management offices (PMOs). However, as companies recognize the need for specialized PMOs, such as the portfolio management PMO, specialized metrics may be needed. The PMO generally establishes the metrics needed to validate the performance of the overall portfolio of projects.

CHAPTER OBJECTIVES

- To understand the responsibilities of a portfolio management PMO
- To understand the differences between traditional metrics and value-based metrics
- To understand the types of metrics needed by a portfolio management PMO
- To understand the need for crisis dashboards

KEY WORDS

- Crisis dashboards
- Portfolio management PMO
- Value-based metrics

8.0 INTRODUCTION

Advances in project metrics have been rapid, but advances in portfolio metrics have been slow because not all companies maintain a project management office (PMO) dedicated to portfolio management activities. Some companies maintain just a single PMO. Although PMOs are often created to provide an independent view of project performance, metrics must also be established to measure PMO success as well as portfolio success.

Today, it is becoming more common to have a PMO dedicated to the management of the portfolio of projects. This can lead to changes in the role of the project manager, the metrics used, and the dashboard displays.

Project Management Metrics, KPIs, and Dashboards: A Guide to Measuring and Monitoring Project Performance, Third Edition
By Harold Kerzner

8.1 CRITICAL QUESTIONS

Three important questions that must be addressed by the portfolio management PMO:

1. *Is the company working on the right projects?* (i.e., Do the projects support strategic initiatives, and are they aligned with strategic objectives?)
2. *Is the company working on enough of the right projects?* (i.e., Is there the right mix of projects to maximize investment value? Shareholder value?)
3. *Is the company doing the right projects right?* (i.e., When will the project be finished, and at what cost?)

All three questions mention the word "right." Today, this word has a value meaning or at least implies value. Simply stated, why select a project as part of the portfolio if the intent is not to create business value? And if the project is completed within time and cost, is it a success if business value was not created? In the future, "value" will become increasingly important, and the definition of project success might be "achieving the desired business value within the competing constraints."

The importance of value should now be clear. Success must be defined in terms of the value that was expected to be delivered. Business cases today define the benefits to be achieved and how they will be measured. Value is what the benefits are actually worth to the business at the completion of the project. Metrics must be designed to reflect this value.

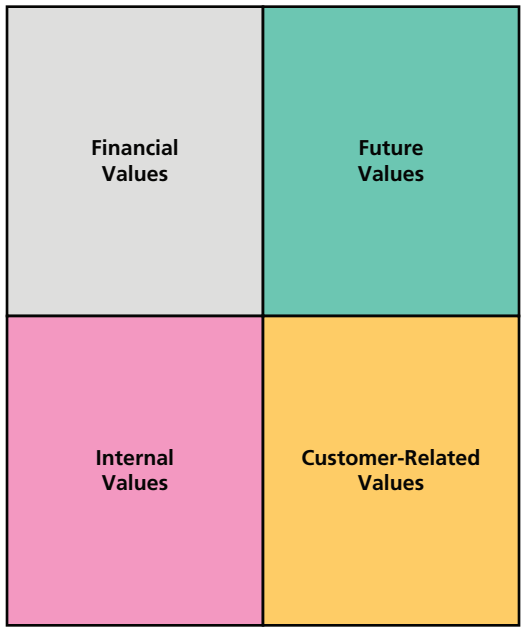
8.2 VALUE CATEGORIES

As shown in Figure 8-1, projects can be selected as part of the portfolio based on the type of value they are expected to deliver. The quadrants in the figure are generic, and each company can have its own categories of value based on how the company performs strategic planning.

Defining success on a project has never been an easy task. The focus has always been the triple constraints. Today it is acknowledged that there are four cornerstones for success, where success is defined in terms of value that is expected. Projects must be selected that can maximize the value based on the constraints placed on the available resources. To do this, project managers must be able to quantify value. Possible categories of value include:

- **Internal value:** These projects are designed to improve the efficiency and effectiveness of the firm. A side benefit might be the building of relationships throughout the firm. The value obtained from these projects could be lowering costs, controlling scope changes, reducing waste, and shortening the time to market for new products. These projects can

Figure 8-1 Portfolio Value Categories for Projects



also be undertaken to improve the enterprise project management methodology, in which case people with process skills would be needed.

- **Financial value:** Companies need cash flow to survive. These projects could be designed to find better ways to market and sell the firm's products and services, in which case people with marketing and sales knowledge would be beneficial. Financial value can also be found by the way the company complies with regulations from the Occupational Safety and Health Administration, the Environmental Protection Agency, and standards of ethical conduct.
- **Customer-related value:** The near-term value in these projects is that they improve customer relations. It is not uncommon for near-term projects to drain cash rather than generate cash. The long-term value comes from future contracts to support cash flow. Resources needed on these projects are generally people who know the customer or may have worked on projects for the customer previously.
- **Future value:** These projects are designed to create future value through new products and services. In most companies, the best technically oriented people are assigned to these projects based upon the subcategories. These projects may be heavily oriented around research and development. Typical subcategories might be radical breakthrough,

TABLE 8-1 Typical Categories of Value and Tracking Metrics

CATEGORY	BENEFITS/VALUE	VALUE TRACKING METRICS
Internal value	■ Adherence to constraints ■ Repetitive delivery ■ Control of scope changes ■ Control of action items ■ Reduction in waste ■ Efficiency	■ Time ■ Cost ■ Scope ■ Quality ■ Number of scope changes ■ Duration of open action items ■ Number of resources ■ Amount of waste ■ Efficiency
Financial value	■ Improvements in ROI, NPV, IRR, and payback period ■ Cash flow ■ Improvements in operating margins	■ Financial metrics ■ ROI calculators ■ Operating margins
Customer-related value	■ Customer loyalty ■ Number of customers allowing you to use their name as a reference ■ Improvements in customer delivery ■ Customer satisfaction ratings	■ Loyalty/customer satisfaction surveys ■ Time to market ■ Quality
Future value	■ Reducing time to market ■ Image/reputation ■ Technical superiority ■ Creation of new technology or products	■ Time ■ Surveys on image and reputation ■ Number of new products ■ Number of patents ■ Number of retained customers ■ Number of new customers

next generation, addition to the family, or add-ons and enhancements. Future value projects may require project managers with technical skills as well as business skills and a good understanding of business risk management.

Table 8-1 identifies the four broad categories from Figure 8-1 and the accompanying tracking metrics. Numerous benefits and metrics can be used for each category. Only a few appear here as examples.

8.3 PORTFOLIO METRICS

The value tracking metrics identified in Table 8-1 are design to track individual projects in each of the categories. These metrics are referred to as micro-level metrics. Specific metrics can be used to measure the overall effectiveness of a portfolio management PMO. Table 8-2 shows

TABLE 8-2 Metrics for Specific PMO Types

PROJECT MANAGEMENT (MICRO-LEVEL METRICS)	TRADITIONAL PMO METRICS (MACRO-LEVEL METRICS)	PORTFOLIO PMO METRICS (MACRO-LEVEL METRICS)
■ Adherence to schedule baselines ■ Adherence to cost baselines ■ Adherence to scope baselines ■ Adherence to quality requirements ■ Effective utilization of resources ■ Customer satisfaction levels ■ Project performance ■ Total number of deliverables produced	■ Growth in customer satisfaction ■ Number of projects at risk ■ Conformance to the methodology ■ Ways to reduce the number of scope changes ■ Growth in the yearly throughput of work ■ Validation of timing and funding ■ Ability to reduce project closure rates ■ Capturing and maintaining a best practices library	■ Business portfolio profitability or ROI ■ Portfolio health ■ Percentage of successful portfolio projects ■ Portfolio benefits realization ■ Portfolio value achieved ■ Portfolio selection and mix of projects ■ Resource availability ■ Capacity available for the portfolio ■ Utilization of people for portfolio projects ■ Hours per portfolio project ■ Staff shortage ■ Strategic alignment ■ Business performance enhancements ■ Portfolio budget versus actual ■ Portfolio deadline versus actual

the metrics that can be used to measure the overall value of project management, a traditional PMO, and a portfolio PMO. The metrics listed under project management and many of the metrics under the traditional PMO are considered to be micro-level metrics that focus on tactical objectives. The metrics listed under the portfolio PMO are macro-level metrics. Both the traditional and the portfolio PMOs are generally considered as overhead and subject to possible downsizing unless the PMOs can show through metrics how the organization benefits from their existence.

The portfolio management PMO may very well be involved in the establishment of a portfolio of projects that includes all four quadrants. In addition, the PMO may track the life cycle phase of each project in the portfolio as well as the priority. This can appear in one dashboard image, as shown in Figure 8-2. Specialized project portfolio software exists that can accomplish significantly more than just the image in the figure.

Sometimes several metrics can be combined into one table on a dashboard screen to show the portfolio governance committee the status of selected projects. Such a table appears in Figure 8-3.

Figure 8-2 High-Level Project Portfolio Status

Project Numbers

Waiting for Funding	Waiting for Final Approval	Approved but Not Started	Started and No Issues	Started and Small Issues	Started and Major Issues
Proj . #31 Proj . #30 Proj . #22	Proj . #17 Proj . #24 Proj . #15	Proj . #9 Proj . #7 Proj . #8 Proj . #4	Proj . #2 Proj . #5 Proj . #13 Proj . #12	Proj . #1	Proj . #6 Proj . #11

Priorities: (A) is the highest priority

#31 (A) #30 (B) #22 (B)	#17 (A) #24 (B) #15 (C)	#9 (A) #7 (B) #8 (A) #4 (C)	#2 (A) #5 (B) #13 (B) #12 (C)	#1 (A)	#6 (A) #11 (C)

Figure 8-3 Grouping of Projects

Project	Business Owner	Project Manager	Priority	Status	Cost	Time	Risk	Business Value	Resources
1	Ralph	Bob	High		At Risk	On Track	High	High	Sufficient
2	Carol	Anne	Medium		On Track	On Track	Med	High	Sufficient
3	Ruth	Frank	High		On Track	At Risk	High	Medium	Borderline
4	Paul	Joan	Medium		On Track	On Track	Med	Low	Sufficient
5	Rich	Gary	Low		On Track	On Track	Low	Low	Borderline
6	Betty	Louis	Medium		On Track	On Track	Low	Medium	Sufficient
7	Fran	Chris	High		At Risk	At Risk	Med	High	Shortage
8	Joe	Jean	Low		On Track	On Track	Low	Medium	Shortage

8.4 MEASUREMENT TECHNIQUES AND METRICS

With the growth in measurement techniques, companies now have a multitude of metrics to support the decisions they must make and to measure portfolio benefits and value. Although some of these measurement techniques are still in the infancy stages, the growth rate is expected to be rapid. The purpose of the portfolio metrics is to address concerns about the percentage of projects:

- On time and within budget
- With missed milestones
- On hold, canceled (before and/or after approval), or that have failed
- Aligned to strategic objectives
- That have undergone scope reduction
- That required rework
- That are used to run the business, grow the business, and to innovate

Portfolio metrics also address:

- How resources are being utilized across the portfolio
- How much time is spent approving a project
- How much time is spent approving the features/deliverables of a project
- How much time is spent developing the benefits realization plan and the business case

The actions over the concerns may require re-baselining the portfolio. This might include:

- Terminating or removing weak investments
- Recommending scope changes to some of the existing projects
- Cutting costs
- Accelerating some schedules
- Consolidating some projects
- Changing project personnel

Re-baselining often is necessary if there are (1) too many projects in the queue and not enough resources, and (2) critical resources being consumed on non-value-added projects.

8.5 CRISIS DASHBOARDS

Projects in today's environments are significantly more complex than projects managed in the past. Governance is performed by a governance committee rather than just a project sponsor. Each stakeholder

or member of the governance committee may very well require different metrics and key performance indicators (KPIs). If each stakeholder wishes to view 20 to 30 metrics, the costs of metric measurement and reporting can be significant and can defeat the purpose of going to paperless project management.

The solution to effective communications with stakeholders and governance groups is to show them that they can most likely get all of the critical data they need for informed decision making with 6 to 10 metrics or KPIs that can be displayed on one computer screen. This is not always the case, and drill-down to other screens may be necessary. But, in general, one computer screen shot should be sufficient.

If an out-of-tolerance condition or crisis situation exists with any of the metrics or KPIs on the dashboard screen, then the situation should be readily apparent to the viewer. But what if the crisis occurs due to metrics that do not appear on the screen? In this case, the viewer will be immediately directed to a crisis dashboard, which shows all of the metrics that are out of tolerance. The metrics will remain on the crisis dashboard until such time that the crisis or out-of-tolerance conditions are corrected. Each stakeholder will now see the regular screen shot and then be instructed to look at the crisis screen shot.

Defining a Crisis

A crisis can be defined as any event, whether expected or not, that can lead to an unstable or dangerous situation affecting the outcome of the project. Crises imply negative consequences that can harm the organization, its stakeholders, and the general public and can cause changes to the firm's business strategy, how it interfaces with the enterprise environmental factors, its social consciousness, and the way it maintains customer satisfaction. A crisis does not necessarily mean that the project will fail nor does it mean that the project should be terminated. The crisis simply could be that the project's outcome will not occur as expected.

Some crises may appear gradually and can be preceded by early warning signs. These can be referred to as smoldering crises. The intent of metrics and dashboards is to identify trends that could indicate that a crisis is coming and provide the project manager with sufficient time to develop contingency plans. The earlier the project manager knows about the impending crisis, the more options available as a remedy.

Another type of crisis is that which occurs abruptly with little or no warning. These are referred to as sudden crises. Examples that could impact projects might be elections or political uncertainty in the host country, natural disasters, or the resignation of an employee with critical skills. Metrics and dashboards cannot be created for every possible crisis that could exist on a project. Sudden crises cannot be prevented.

Not all out-of-tolerance conditions are crises. For example, being significantly behind schedule on a software project may be seen as a

problem but not necessarily a crisis. But if the construction of a manufacturing plant is behind schedule and plant workers have already been hired to begin work on a certain date or the delay in the plant will activate penalty clauses for late delivery of manufactured items for a client, then the situation could be a crisis. Sometimes exceeding a target favorably also triggers a crisis. As an example, a manufacturing company had a requirement to deliver 10 and only 10 units to a client each month. The company manufactured 15 units each month but could only ship 10 per month to the client. Unfortunately, the company did not have storage facilities for the extra units produced, and a crisis occurred.

How do project managers determine whether the out-of-tolerance condition is just a problem or a crisis that needs to appear on the crisis dashboard? The answer is in the potential damage that can occur. If any of the items on the next list could occur, then the situation would most likely be treated as a crisis and necessitate a dashboard display:

- There is a significant threat to:
  - The outcome of the project.
  - The organization as a whole, its stakeholders, and possibly the general public.
  - The firm's business model and strategy.
  - Worker health and safety
- There is a possibility for loss of life.
- Redesigning existing systems is now necessary.
- Organizational change will be necessary.
- The firm's image or reputation will be damaged.
- Degradation in customer satisfaction could result in a present and future loss of significant revenue.

It is important to understand the difference between risk management and crisis management.

> In contrast to risk management, which involves assessing potential threats and finding the best ways to avoid those threats, crisis management involves dealing with threats before, during, and after they have occurred. [That is, crisis management is proactive, not merely reactive.] It is a discipline within the broader context of management consisting of skills and techniques required to identify, assess, understand, and cope with a serious situation, especially from the moment it first occurs to the point that recovery procedures start.[1]

Crises often require that immediate decisions be made. Effective decision making requires information. If one metric appears to be in crisis

1. Wikipedia contributors, "Crisis Management," *Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/w/index.php?title=Crisis_management&oldid=774782017.

mode and shows up on the crisis dashboard, viewers may find it necessary to look at several other metrics that may not be in a crisis mode and may not appear on the crisis dashboard but are possible causes of the crisis. Looking at metrics on dashboards is a lot easier than reading reports.

The difference between a problem and a crisis is like beauty; it is in the eyes of the beholder. What one stakeholder sees as a problem, another stakeholder may see it as a crisis. Table 8-3 shows how difficult it is to make the differentiation.

TABLE 8-3 Differentiating between a Problem and a Crisis

METRIC/KPI	PROBLEM	CRISIS
Time	The project will be late but still acceptable to the client.	The project will be late and the client is considering cancellation.
Cost	Costs are being overrun, but the client can provide additional funding.	Costs are being overrun and no additional funding is available. Cancellation is highly probable.
Quality	The customer is unhappy with the quality but can live with it.	Quality of the deliverables is unacceptable, personal injury is possible, the client may cancel the contract, and no further work may come from this client.
Resources	The project is either understaffed or the resources assigned have marginal skills to do the job. A schedule delay is probable.	The quality or lack of resources will cause a serious delay in the schedule, and the quality of workmanship may be unacceptable such that the project may be canceled.
Scope	Numerous scope changes cause changes to the baselines. Delays and cost overruns are happening but are acceptable to the client for now.	The number of scope changes has led the client to believe that the planning is not correct and more scope changes will occur. The benefits of the project no longer outweigh the cost, and project termination is likely.
Action Items	The client is unhappy with the amount of time taken to close out action items, but the impact on the project is small.	The client is unhappy with the amount of time taken to close out action items, and the impact on the project is significant. Governance decisions are being delayed because of the open action items, and the impact on the project may be severe.
Risks	Significant risk levels exist, but the team may be able to mitigate some of the risks.	The potential damage that can occur because of the severity of the risks is unacceptable to the client.
Assumptions and constraints	New assumptions and constraints have appeared and may adversely affect the project.	New assumptions and constraints have appeared such that significant project replanning will be necessary. The value of the project may no longer be there.
Enterprise environmental factors	The enterprise environmental factors have changes and may adversely affect the project.	The new enterprise environmental factors will greatly reduce the value and expected benefits of the project.

These conclusions about crisis dashboards can be drawn:

- The definition of what is or is not a crisis is not always clear to the viewers.
- Not all problems are crises.
- Sometimes unfavorable trends are treated as a crisis and appear on crisis dashboards.
- The crisis dashboard may contain a mixture of crisis metrics and metrics that are treated just as problems.
- The metrics that appear on a traditional dashboard reporting system may have to be redrawn when placed on a crisis dashboard to ensure that the metrics are easily understood.

Crisis metrics generally imply that either this situation must be monitored closely or that some decisions must be made. But project managers must be careful not to overreact.