

# Scenarios Hold the Key to Strategic Flexibility

How Scenario Building Optimizes Resource Management and Supports Dynamic Decision Making

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# Executive Summary

Overwhelming research indicates that **Strategic Flexibility** is the gold standard for Project Portfolio Management, equipping organizations to respond effectively to a changing, competitive environment with strategic options and flexible resources. To achieve Strategic Flexibility, organizations must have optimized resource planning that balances resources against operational risks and avoids wasteful investments. Without resource and capacity planning, even the most visionary strategy cannot be executed. The following white paper presents multiple principles from the current research on how to achieve Strategic Flexibility via resource management scenario building.

# Finding Flexibility between Strategy and Execution

Strategic Flexibility means “having strategic options that are created through the combined effects of an organization’s coordination flexibility in acquiring and using flexible resources.”<sup>1</sup>

How do you know when an organization is exercising strategic flexibility? You see it when they have “various abilities to respond effectively to various aspects of a changing competitive environment,” and when they can “pursue alternative courses of action in responding to changing environmental conditions. You see it when they have “strategic options that are created through the combined effects of coordination flexibility in acquiring and using flexible resources.”<sup>2</sup>

*“...the traditional strategic management objective of choosing a single ‘best’ plan of action is likely to be an unrealistic objective in an uncertain environment.”<sup>3</sup>*

To face uncertain conditions and futures, PMOs need a range of flexibilities: 1) alternative courses of action; 2) flexible resources; and 3) coordination flexibility. This last one refers to coordinating among departments to deploy resources. With a wider range of “alternative systems and processes an organization can identify as feasible for using resources to pursue a given purpose,” flexibility increases while costs and time are reduced.<sup>4</sup>

And yet, the many challenges multi-project companies continue to face are all too familiar:

- Varying productivity rates of resources
- Shared resources that may not be available in a timely manner
- Increasing workloads
- Commissioning too many “priority” projects at once
- Lack of visibility into resource conflicts
- Unidentified constraints and workarounds<sup>5</sup>

To compensate for all these difficulties, organizations resort to multi-tasking, which not only slashes effectiveness by 20-40%,<sup>6</sup> but leads to chronic overloading, burnout, diminished competitiveness, increased turnover, and lower creativity.<sup>7</sup>

## Real Flexibility Comes from Optimized Resource Planning

No matter how clear your strategic vision or how established your methods of multi-criteria scoring or stack ranking, prioritization within a multi-project portfolio requires intense resource management: allocating scarce resources, sequencing and timing work, building in time to hire, acquire, and onboard, all while remaining flexible in the face of uncertain futures.

As organizations strive to “balance corporate resources against projects’ operational risks,” they face the most typical Project Portfolio Management problem of resource planning and scheduling decisions.<sup>8</sup> Additionally, PPM aims to “maintain agility while avoiding wasteful investments,” while sitting as the bridge between business strategy and successful execution. When successful, PPM not only helps organizations achieve their business goals, but also helps “improve their project success rate.”<sup>9</sup>

*“...a firm’s strategic flexibility—that is, its set of strategic options—depends jointly on the inherent flexibilities of the resources available for use by the organization and on the organization’s flexibilities in applying those resources to various uses in pursuing alternative courses of action.”<sup>10</sup>*

Regardless of industry, the one certainty all PMOs face is an uncertain environment that is competitive and ever changing, in which they must prioritize, schedule, and fund projects. As such, PMOs must be prepared to adapt to any number of shifts and changes, and, most importantly, to respond with strategic real options in place.

Put simply, without resource planning, business strategy cannot be executed. Organizations need to know when projects can happen, which all depends on who is available, at what capacity, and with what real options. Usually, we consider these issues a part of traditional risk management. However, risk management is moot if your organization can’t deliver based on resource requirements.

## The Limitations of Traditional Resource Allocation

Historically, several approaches to PPM have proven to have not only severe limitations but also negative business consequences. In this section, we review the shortfalls of some common approaches, and why they don’t facilitate the kind of flexibility PMOs most crucially need today.

## What Rank-Ordering Heuristics Miss

From Deloitte Research and Deloitte Consulting, Michael E. Raynor and Ximena Leroux offer a critical view of one popular project selection method: rank-ordering. In this method, projects are ranked by numerous qualitative factors to determine their possible impact. Once ranking, based on a weighted average, is complete, resources are allocated.<sup>11</sup>

Raynor and Leroux caution, however, that while these heuristics are powerful, they “have a number of limitations, among them: they overlook the impact of each project on a portfolio of projects; they rely on incomplete selection criteria; and they ignore technical interdependencies between projects.”<sup>12</sup>

*The shortcomings of rank order heuristics “can result in a sub-optimal allocation of resources, both financial and human, and the exposure of the company to significant strategic risk.”<sup>13</sup>*

Because rank-ordering can't account for incomplete project sets, it often results in “excessive focus on strategic alignment.” Moreover, rank-ordering evaluates projects independently from each other, overlooking completely the well-documented reality of project interdependency.<sup>14</sup>

When it comes to project funding, rank-ordering can show its biggest deficiency. When resources are allocated top-down, from highest to lowest ranked project, resources are quickly exhausted. Practically speaking, PMOs need a more granular view in order to make strategic project selections. Allocating funds and resources in a straight top-down order leaves no room for flexibility to determine, for example, that only the top three projects are worthy of having all resources allocated, despite having enough resources to allocate to the fourth.<sup>15</sup>

## Why Failing Projects Keep Getting Escalated

Project failure can weaken an entire organization. Moreover, project failure can cause the organization's competitive position to falter, and wastes resources "that could be spent developing and implementing successful systems."<sup>16</sup>

Yet, so often failing projects can be clearly identified while there's still time to change direction or stop work altogether. However, instead of working to prevent outright project failure, organizations often allow projects to escalate despite warning signs of failure. Mark Keil offers this definition of project escalation: "continued commitment in the face of negative information about prior resource allocations coupled with 'uncertainty surrounding the likelihood of goal attainment.'"<sup>17</sup>

The pressing question remains: why do projects with negative indicators continue to get escalated? The answer lies partly in having insufficient information, and partly in our human flaws. In essence, without concrete and viable options, organizations succumb to project escalation due to four main factors: project factors, psychological factors, social factors, and organizational factors.<sup>18</sup> These subjective, limited, and often emotionally driven factors can push a non-viable project to failure, despite clear evidence against continuing.

*"Projects are more prone to escalation when competitive rivalry exists between the decision-making group and another social group, when external stakeholders have been led to believe that the project is (or will be) successful, when norms of behavior favor 'staying the course'. . . when there is strong political support at the senior management level, and when the project has become institutionalized."<sup>19</sup>*

# Principles for Optimized and Flexible Resource Management

It's well documented that strong Project Portfolio Management not only helps organizations achieve their business objectives, but also improves individual project success rates.<sup>20</sup> However, the reality most organizations face is one in which "real-world planning and scheduling problems are subject to change, to resources becoming unexpectedly unavailable or tasks taking longer than expected."<sup>21</sup> Given these conditions, PMOs' ability to execute with flexibility is crucial.

There is, of course, no singular PPM approach, method, or theory that can guarantee project or organizational success. However, a careful research review highlights three distinct features of successful resource management that reach beyond traditional methods and their shortcomings in resource management.

In this section, we'll elaborate on how each of these resource management principles offers to help organizations optimize resource allocation and increase chances for overall project success. Given the right tools, organizations can position themselves for optimal strategy, responsiveness, and flexibility in executing successful projects.

## Laying the Foundation for Dynamic Scheduling

*"Studies reveal that firms undertake too many projects based on their available resources, that these projects are not easy to abandon and that few projects turn out to be successful."*<sup>22</sup>

In many organizations, project scheduling must be an inherently dynamic process "that involves a continuous stream of changes in order to support decisions that need to be made along the life of the project."<sup>23</sup> The first component of dynamic scheduling is creating a baseline schedule. While PMOs are no strangers to scheduling, what sets a baseline schedule apart is how it calculates efficiency, time and cost risks, project control, performance measurements, and more. A baseline schedule provides a start and end date for every activity, and considers resource constraints and other project characteristics, while serving as a reference point throughout the project's life.<sup>24</sup>

Baseline schedules can be the key to optimizing for any number of scheduling objectives, including:

- Minimizing total project lead time
- Reducing the cost of resource availability
- Preventing over-allocations of resources
- Optimizing timing of cash flows to maximize net present value
- Minimizing idle time of bottleneck resources
- Ensuring uninterrupted usage of resources
- Allocating resources only during defined time slots to avoid early/tardy penalties

Every project portfolio will need to juggle these and more scheduling objectives, and those that have baseline scheduling capabilities will meet mid-project changes with preparation and a continued focus on lasting efficiency.

### An Integrated Method for Resource Allocation

*"In a multiple-project situation the vast majority of projects share resources with other projects and thus the major issue is to find a way of handling resource scarcity according to the overall strategic direction of the corporation." <sup>25</sup>*

As PMOs try to balance and optimize resources across multiple projects that compete for limited resources, they contend with several challenges. Among them are resource scarcity, differences in project activities and due dates, resource scheduling among various levels of experts, and striving to avoid wasted investments.<sup>26</sup>

Zohar Laslo calls for an integrated method for resource planning and scheduling that is meant to "optimize the total planning/scheduling-dependent expenses subject to its chance-constrained contractual delivery commitments."<sup>27</sup> Laslo's algorithm for resource allocation considers elements such as individual experts' hiring and release timetables, simulating the duration of project activity, calculating execution times, and other resource scheduling factors.

In essence, rather than being led by strategic initiatives or constraints outside the organization's available resources, Laslo configures a PPM approach that makes availability of resources the primary focus.

## A Real Options Approach to Flexibility

Facing uncertain conditions and changing strategies, PMOs need real options to act decisively in the best interest of project success. Ford and Lander offer Real Options Theory, which brings flexible strategies to delay decisions until uncertainty resolves. PMOs need the ability to react to new information, and not just rely on the assumption that the project portfolio will be executed as it was initially identified and planned.”<sup>28</sup>

*“...as portfolio management includes ways to cope with the unexpected...it is crucial to know how to stage, accelerate or delay the implementation of certain projects, the cost of such strategies, and whether they are worthwhile.”* <sup>29</sup>

Real Options Analysis (ROA), which takes its premise from financial options, can provide PMOs with “opportunities to increase benefits, limit losses or costs, or both” by “expanding the range of strategies considered, focus attention on objectives instead of solutions, evaluate sensitivity to multiple project futures, test plans, and increase awareness of the value of flexibility.” <sup>30</sup>

Flexibility during the project definition stage is what Skander Ben Abdullah calls for, especially when contending with project interdependencies. For instance, ROA allows PMOs the flexibility to decide whether one project’s end value makes beginning another project viable and profitable. Whereas traditionally, the two projects would be planned and approved together, without the option or flexibility to forgo the second. With ROA, PMOs can “exploit the potential of uncertainty to increase project and portfolio values and improve strategic management decisions.”<sup>31</sup>

# Conclusions

## How Scenarios Hold the Key to Strategic Flexibility

Here's where the rubber meets the road: resource allocation scenario building is the key to achieving the strategic flexibility that research overwhelmingly indicates is needed for project portfolio success. Without "granular development scenarios," constraints will go unidentified. And without rigorously considering resource capacity, "more projects tend to be commissioned than the organization can execute effectively."<sup>32</sup>

When PMOs use limited, traditional resource allocation methods, they "often overlook how individual projects impact a larger portfolio" and end up with "less than optimal allocation of resources [which] exposes organizations to strategic risks. Project interdependencies get missed when PMOs simply rank projects according to a heuristic, and then allocate resources according to ranking."<sup>33</sup>

## The New Realities of Scenario Building

When we build scenarios, we create "coherent, relevant, meaningful, conjectural pictures of a world to come," and "we can better understand the world which we manage."<sup>34</sup> Scenarios are critical for strategy assessment, the creation of action plans, and "underwriting" and "authenticating" strategic decision-

*"Strategic Flexibility makes it possible for firms to prepare in advance for futures they cannot predict."<sup>36</sup>*

In turn, Strategic Flexibility as a project selection method, "draws upon scenario-building and real options concepts to help managers formulate and implement strategy in high-commitment, high-uncertainty environments." It's a framework that helps organizations prepare in the face of unpredictable futures.<sup>37</sup>

## The Four Phases of Strategic Flexibility

Using four discrete phases—Anticipate, Formulate, Accumulate, and Operate—Strategic Flexibility has been shown to make uncertainties explicit, identify portfolio research gaps, and help draw guidelines for project funding. The framework ultimately formulates complete strategies for every scenario, rather than for individual projects.<sup>38</sup>

Using scenario-building techniques, PMOs identify the principle drivers of a project; create a complete, optimal strategy for each scenario; option projects and their components for viability and necessity; and then proceed with execution. Importantly, these phases of Strategic Flexibility must be revisited and updated. Projects are apt to be changed or even dropped depending on changing conditions, unexpected results, or strategic alignment.<sup>39</sup>

## Heightened Visibility Drives Dynamic Decision Making

It is only with scenario-driven Strategic Flexibility that organizations are able to assess projects continuously, and able to make critical decisions based on an in-depth view not gained by any other methods. Projects that may encounter roadblocks can be given more resources because scenarios have shown its viability. On the other hand, projects seemingly problem-free can be dropped when it becomes clear they are no longer contributing to or aligned with core goals.

It is when PMOs answer the question, “What if?” with multiple scenarios that facilitate Strategic Flexibility that they will be equipped to move forward confidently through an array of uncertainty and changes. While the future can't be known with certainty, it can be prepared for and met with dynamic responsiveness.

# Bibliography

<sup>1</sup> Sanchez, Ron. "Preparing for an Uncertain Future: Managing Organizations for Strategic Flexibility." *International Studies of Management & Organization* 27.2 (1997): 71-94. Accessed January 14, 2020. [www.jstor.org/stable/40397372](http://www.jstor.org/stable/40397372).

<sup>2</sup> Sanchez

<sup>3</sup> Sanchez

<sup>4</sup> Sanchez

<sup>5</sup> Seider, Ross. "Optimizing Project Portfolios." *Research Technology Management* 49.5 (2006): 43-48. Accessed January 14, 2020. <https://www.jstor.org/stable/24135009>.

<sup>6</sup> Seider

<sup>7</sup> Seider

<sup>8</sup> Laslo, Zohar. "Project Portfolio Management: An Integrated Method for Resource Planning and Scheduling to Minimize Planning/Scheduling-Dependent Expenses." *International Journal of Project Management* 28 (2010): 609-618. Accessed January 14, 2020. <https://www.sciencedirect.com/journal/international-journal-of-project-management/vol/28/issue/8>

<sup>9</sup> Doloi, Hemanta Kumar and Iman Baradari. "Impact of Applying Project Portfolio Management on Project Success." *The Journal of Modern Project Management* 1.2 (2013): n. pag. Web. 7 Jan. 2020.

<sup>10</sup> Sanchez.

<sup>11</sup> Raynor, Michael E., and Ximena Leroux. "Strategic Flexibility in R&D." *Research Technology Management* 47.3 (2004): 27-32. Accessed January 14, 2020. [www.jstor.org/stable/43238106](http://www.jstor.org/stable/43238106).

<sup>12</sup> Raynor

<sup>13</sup> Raynor

# Bibliography

<sup>14</sup> Raynor

<sup>15</sup> Raynor

<sup>16</sup> Keil, Mark. "Pulling the Plug: Software Project Management and the Problem of Project Escalation." MIS Quarterly 19.4 (1995): 421-47. Accessed January 13, 2020.

<sup>17</sup> Keil

<sup>18</sup> Keil

<sup>19</sup> Keil

<sup>20</sup> Doloj

<sup>21</sup> Laslo

<sup>22</sup> Ben Abdallah, Skander and Hélène Sicotte. "A Real Options Analysis of Project Portfolios: Practitioners' Assessment." The Journal of Modern Project Management 6.2 (2018): n. pag. Web. 7 Jan. 2020.

<sup>23</sup> Vanhoucke, Mario. "Project Baseline Scheduling: An Overview of Past Experiences." The Journal of Modern Project Management 1.2 (2013): n. pag. Web. 7 Jan. 2020.

<sup>24</sup> Vanhoucke

<sup>25</sup> Laslo

<sup>26</sup> Laslo

<sup>27</sup> Laslo

<sup>28</sup> Ben Abdallah

# Bibliography

<sup>29</sup> Ben Abdallah

<sup>30</sup> Ben Abdallah

<sup>31</sup> Ben Abdallah

<sup>32</sup> Seider

<sup>33</sup> Raynor

<sup>34</sup> Powell, John H. "System/scenario Duality—a Supporting Equivalence." *The Journal of the Operational Research Society* 65.9 (2014): 1344-360. <http://www.jstor.org/stable/24505096>.

<sup>35</sup> Powell

<sup>36</sup> Raynor

<sup>37</sup> Raynor

<sup>38</sup> Raynor

<sup>39</sup> Raynor

# More Information

## Tempus Resource allows users to:

- Run powerful “what-if?” scenarios in real time
- Quickly gauge over and under-allocations of resources
- Create fast, intuitive infographic data
- View the full project portfolio in one place
- Work with stand-alone data, or import data from management tools such as Project Server

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## About Tempus Resource

Tempus Resource by ProSymmetry is the only resource management solution for mid-size to large enterprises that combines innovative ‘what-if?’ scenario modeling with a user-friendly, Excel-like interface for data input. Purpose-built to help resource management and planning professionals balance available resources, critical projects and future growth, Tempus Resource offers integrations with many PPM solutions and internal systems.

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