

# Doing the Right New Products Project

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## Introduction

“Every individual endeavors to employ his capital so that its produce may be of greatest value. He generally neither intends to promote the public interest, nor knows how much he is promoting it. He intends only his own security, only his own gain.” (Adam Smith, *The Wealth of Nations*, 1776)

“Do the right project, and do it the right way!” How often have you heard these words? Often, if you are a project manager with responsibility to help your sponsor and your company make decisions about which projects are the right ones to do. The *PMBOK® Guide* provides the body of knowledge for “doing it the right way.” In this paper, you will learn about tools and techniques, proven by project practitioners, that you can take away and use everyday for identifying and selecting “the right project” for new product developments.

Right! projects return value to the business, to their sponsors, and to the stakeholders and customers. The primary source of value for projects is the accomplishment of business objectives and the satisfaction of customer need. This being so, it is self evident that successful project managers are those that effectively make the connection between project accomplishment business value (Goodpasture, 2000).

## Right! Projects Respond to Opportunity

We begin with this idea: Right! projects respond to opportunity. Opportunity is “unmet need.” Opportunity is the container for all

things needed. Investing in projects to satisfy identified need leads to reward. And reward enriches all who participate. We see this idea presented in Exhibit 1.

To effectively and wisely choose among opportunities requires goal setting and strategy development. Strategy is actionable, often requiring projects for execution (Goodpasture, 2001). Projects that are identified by flow-down from opportunity analysis are the “right!” projects. “Right!” projects are an instrument of strategy. Exhibit 2 illustrates the process of decomposing an identified opportunity into its constituent projects.

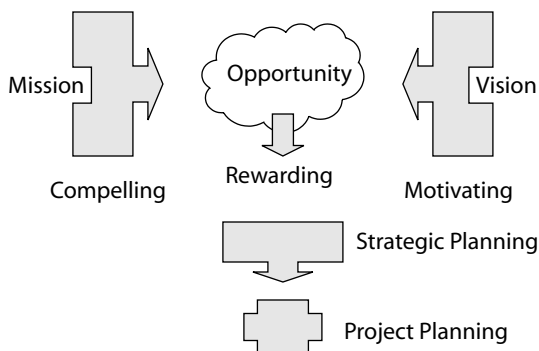
## The Investment Equation Becomes the Project Equation

Opportunity is in the future. There are no facts in the future, only estimates. At the outset, projects are a collection of estimates. Estimates, by their very nature, are inexact, accompanied by uncertainty. The name project managers give to uncertainty is risk. Risk combined with a resource commitment makes a new project much like other business investments. The traditional investment equation is: “total return is provided by principal at risk plus gain.” Project methodology transforms this equation into the project equation: “project value is delivered from resources committed and risks taken.” The project equation is the project’s manager’s math (Goodpasture, 2001) and the balance sheet for the project. We see this illustrated in Exhibit 3.

Picking the Right! project means, among other tasks, identifying and assessing risk. One means of risk assessment is through financial

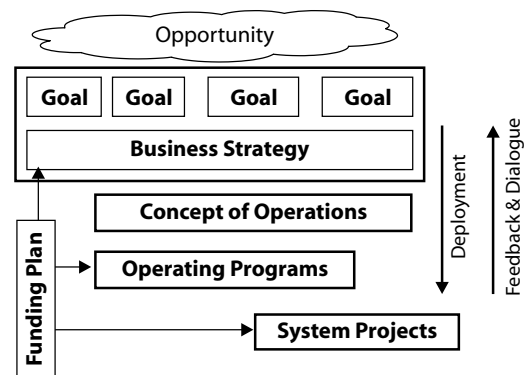
### Exhibit 1. Mission, Vision, and Opportunity

Mission, opportunity, and vision head project planning

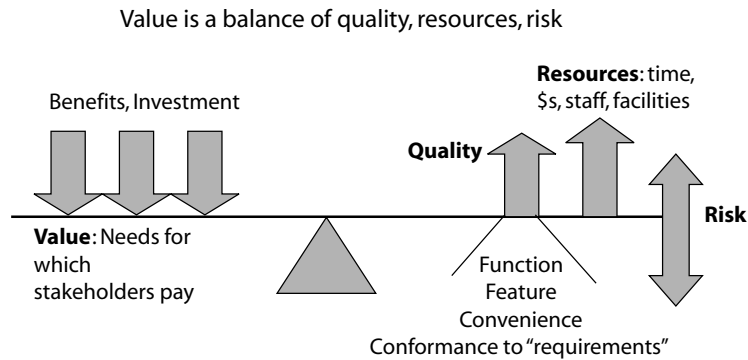


### Exhibit 2. Goal Deployment

Projects derive value from their support for strategy and goals



### Exhibit 3. Quality, Resources, and Risk



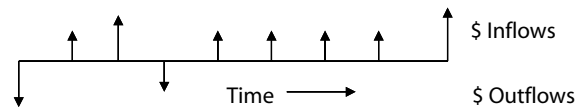
### Exhibit 4. Monetary Measures of Value

Measures that include the impacts of time and risk

**Present value [PV]** = Value at future date \* Discount factor

Discount factor =  $1/(1-k)^n$  Where n is the number of accounting periods between the present and the future and k is the cost of capital factor

**Net present value [NPV]** =  $\sum$  PV of cash inflows -  $\sum$  PV of cash outflows



**Economic value add** = After tax Operating Income - k (Capital invested)  
Where k is the cost of capital rate, %

**Expected monetary value** =  $\sum$  \$Outcome<sub>Nth</sub> \* Probability<sub>Nth</sub>  
for all possible outcomes

measures. After all, financial performance is one key performance indicator (KPI) for all new product projects. Two financial measures that account for risk and are many times applied to selection for product projects are Net Present Value (NPV) and Economic Value Add (EVA). These are illustrated in Exhibit 4.

#### Risk Adjusted Financial Measures

NPV measures cash on a risk-adjusted basis. Cash is consumed by projects but subsequently is generated by product sales. EVA measures profitability. Although it has been said “profit is an opinion, but cash is a fact” (Pike, 1999), reflecting the influence of accounting practices on calculating profit, new product project managers should know that NPV and EVA are equivalent when profit from new products is reduced to its cash components.

#### Net Present Value

Let us start with Net Present Value, NPV. NPV is a calculation of cash value over a period of time. The NPV calculation is first applied to projects during the approval or selection process, and then when there are new scope changes that affect resources or the benefits stream. NPV captures two important concepts for the project manager:

First, the value of money decays over time. This decay is due to the effects of inflation, the uncertainty that future flows will continue or

begin, and the uncertainty that a better investment is available elsewhere. In all cases, the “present value” is more than the “future value.”

Second, the value of the project is the net of the present value of all the cash outlays for investment and in-flows from operations and salvage.

#### Economic Value Add

EVA is a financial measure of how project performance, especially after the deliverables become operational, affects earnings (Higgins, 1998, Chapter 8). Projects with positive EVA earn back more than their cost of capital funding; that is, they return to the business sufficient earnings from reduced costs or increased revenues and margins to more than cover the cost of the capital required to fund the projects.

The bottom line on financial analysis: NPV (Cash flow) = present value EVA (After-tax earnings).

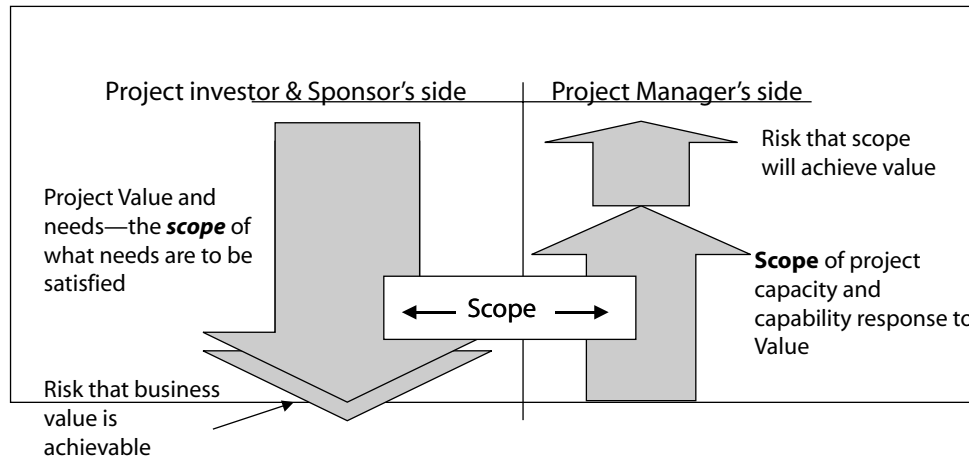
#### Decision Tools for the Right! Project

It’s not just about numbers, and numbers alone are the wrong basis for a decision among competing projects. It’s noteworthy that many projects for new products are successful developments, but otherwise a failure. Consider the Newton PDA, “New Coke,” and the Edsel automobile. Said another way: a project is not Right! if it only

## Exhibit 5. Project Balance Sheet

### Scope binds Project Balance Sheet

A common understanding of Scope binds the left and right side of the Project Balance Sheet



achieves implementation success by adhering to the iron triangle of scope, cost, and schedule.

What's needed is a decision policy to guide selection of new projects and a set of tools to implement the policy. Tools are impotent without a policy to which to apply them so let's consider the policy elements first.

### Decision Policy for Project Selection

Policy is a statement of principles. Process applies data to the principles, and a decision results. The decision-making process must be rational. Rationality means outcomes are predictable from, and a consequence of, the application of input to process according to disciplined practices. Consider these policy elements:

- Projects value will be traceable to goals of the organization, be supportive of strategy, and meet the needs identified for customers and stakeholders.
- Projects will have measurable business benefits that recover cost, key performance indicators (KPIs) that measure effective utilization of project outcomes, and will contribute positively to financial returns.
- As between two projects of otherwise equal value\*, that project which is more optimum to the financial well being of the organization will be selected first. \*(Value in the large sense of needs satisfaction and quality)
- All projects will adhere to the ethical, regulatory, and lawful constraints and policies of the organization
- Projects that advance the mission or respond directly to commitments made on behalf of the organization may be selected over other projects of greater financial reward
- All projects will be evaluated for risk. Among projects of equal objective risk measures, those least averse are to be given greater priority.

### Tools for Policy Implementation

Let's begin by looking at how to measure or evaluate value, return, benefits, and KPIs. In this paper, we will define value as the need being satisfied by the project and the source of improved wealth in the busi-

ness. Value is "customer focused" and directed outward. James Anderson, Dipak Jain, and Pradeep Chintagunta (Anderson & Narus, 1999, p. 5) write: "... value ... is the worth in monetary terms of the economic, technical, service, and social benefits a customer ... receives in exchange for the price it pays for a market offering."

Benefits, on the other hand, are the mechanisms for recovering project investment. Examples could include retiring older products that have high maintenance expense; implementing lower cost product support; introducing alternative distribution and sales channels for new revenue or reduced channel cost.

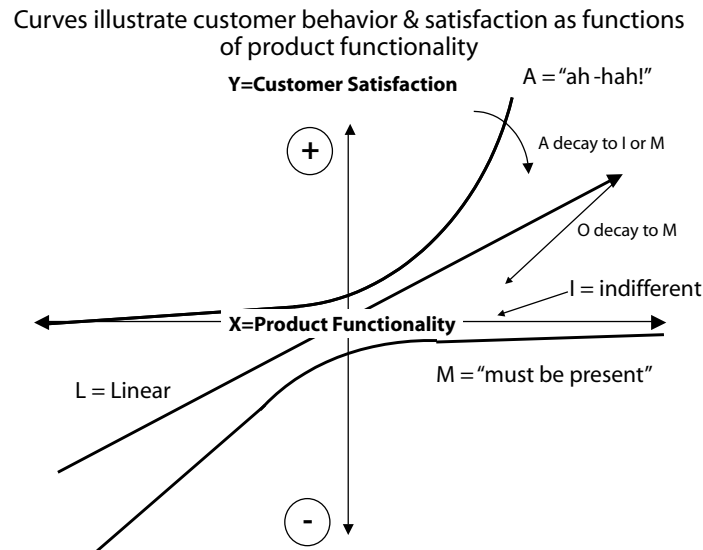
KPIs are different yet: they are the "balanced scorecard" of the project. KPIs measure business success as a consequence of project success. KPIs usually include financial returns; organizational impact on staff skills, productivity, and retention; advancement in competitiveness through product innovation, technology employment, or improvement in organizational effectiveness and minimization of non-value activity.

Let's make a ledger: Using Exhibit 5 as an illustration, on the left side we will list the values customers will receive from the product of the project. We can define value in the large sense: how well is the fitness to form and function, how well does the product appeal, how responsive to latent need, and how well does the product excite customers with "ah-ha!"

Kano analysis is tool for value assessment and identification of the product "ah-ha's" as well as those features and functions that might be indifferent, or only influential to product acceptance if missing. Exhibit 6, extracted from the author's presentation of Kano analysis at the Nashville PMI symposium, illustrates the technique (Goodpasture, 2002).

On the right side of the ledger, we can balance the KPI's, benefit plan, and risk assessments. We seek balance in the ledger: value delivered in return for a cost and a premium {profit} commensurate with the risk. The right side of the ledger is the sum of the project capabilities and resource requirements brought into balance with the value side by an assumption of risk. Binding the left and right

## Exhibit 6. Kano Analysis



## Exhibit 7. Decision Table

Decision tables enable a decision policy

Decision Table for the project balance sheet				
Alternative ID	Description	Probability of choosing alternative	Face value of alternative	Expected Value of deliverable XX
001	Build deliverable XX	0.6	\$300K	\$180K
002	Buy deliverable XX	0.4	\$100K	\$40K
TOTAL EXPECTED VALUE FOR Deliverable XX				\$220K
Uncertainty associated with future decision about how to acquire Deliverable XX				+\$80K/- \$120K

side is the common understanding of scope. Scope is the one best project description that is most likely understood by all concerned.

### Decision Tables for Implementation Alternatives

It is frequently the case that at the time when project estimates are being made, two or more alternative implementations, each with different cost and schedule, are available that could satisfy the value side of the balance sheet. However, for a variety of reasons, the decision about which to employ in the project needs to be made sometime in the future. Nevertheless, a value needs to be put on this decision in order to complete the project balance sheet estimates. For this situation, decision trees or decision tables are employed to calculate an expected value of time and resources. Consider the example in Exhibit 7.

Two alternatives are shown. The project team estimates that building Deliverable XX is a little more probable than buying it, but this make-buy decision will not be made until sometime into the project schedule. Each alternative has a different face value of cost. The expected value of each alternative is evaluated separately before summing the results.

### Summary

Summarizing: Right! projects respond to opportunity; opportunity is unmet need for which there is value to be satisfied. Right! projects are good business, and Right! projects meet customer expectations. Risk adjusted financial measures, the project equation, the

project balance sheet, Kano analysis, and decision tables set into a decision policy provide a toolset for the project practitioner. In short, the Right! projects are an instrument of business strategy. They return value, provide benefits, and have measurable KPIs.

## References

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