

# EXPERT SERIES

The "Expert Series" is a collection of articles, papers and writings by PM Solutions' associates and other industry experts that provides insight into the practice and value of project management.

## Portfolio Management

### *Linking Corporate Strategy to Project Priority and Selection*

by Bruce Miller, PMP

AS ORGANIZATIONS PREPARE FOR THE 21ST CENTURY, being able to identify, justify, and prioritize your selection of Information Technology (IT) Projects will become more critical. By clearly understanding your organization's strategic direction and corporate bottom-line, you can begin to formulate a direct relationship between the IT Projects you choose and these objectives. The approach highlighted within this paper has been successfully implemented within Fortune 500 companies and the federal government. By using this structured, portfolio management approach, you will be able to identify and invest in only those projects that have high success potential based upon organizational strategies, objectives, and core competencies.

#### **Background**

Most organizations select and fund IT Projects based on only a few, if any, criteria. IT Projects are often funded solely on their perceived merits or their project owner's political clout. Once the top IT Projects have been prioritized, projects are funded until the IT budget has been completely allocated. Little rigor is included in the prioritization and the overall ranking is purely subjective. In addition, important criteria that may directly impact a project's success are not taken into consideration. In most cases, corporate strategic factors are rarely considered or are deemed irrelevant to the IT Project selection process.

As organizations continue to consolidate their business processes and closely monitor resources, IT Projects will compete directly for the same funds being allocated to traditional investments such as new product development or research and development efforts. In order for IT Projects to compete with more traditional corporate initiatives, they must be subjected to the same rigor and business justification as these other investments. The IT Project's strategic value and alignment with corporate objectives must be clearly recognized or the project will not be adequately sponsored or funded.

The following process describes a systematic, rational approach for selecting and prioritizing IT Projects based upon corporate strategic and tactical objectives. This process considers many criteria that may be overlooked in a less structured environment and provides an on-going methodology for assessing the introduction of new IT projects or re-evaluating existing projects due to budget changes. In addition, the process creates up-front agreement and organizational buy-in because the key decision makers create the judgment criteria. Lastly, this approach establishes the business case for your investment and allows for a complete audit trail of the decision process.

#### **Getting Started -- Review Strategic Objectives**

In order to begin this process, you must carefully review the strategic objectives of your organization. For most organizations, this can be achieved by reviewing existing information, such as the strategic plan. Review the key drivers within your company or organization. Most organizations are driven by financial or cost measures, such as Profit, Sales, Net Present Value (NPV), Internal Rate of Return (IRR), or Economic Value Added (EVA). Although financial metrics are extremely important and directly impact the bottom line, other key criteria should be included that are often not easily measured.

Customer Need, Process Improvement, and Employee Satisfaction may be key components within your corporate strategy, but have been difficult to consider or overlooked within your current IT project selection decision-making process.

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Cost is a factor that should be considered in any IT Project Selection process, but will only be indirectly included within the decision-making criteria. Cost is addressed when analyzing the IT Project's Benefit to Cost ratio results. Carefully focus on identifying the most critical success factors for your company or organization, as they will establish the foundation of your project selection criteria.

### Create an IT Project Selection Model

Once the key strategic criteria have been identified, work closely with individuals within your organization to discuss any additional criteria that should be taken into consideration. These discussions can most effectively be organized through structured meetings or facilitated workshops, allowing participants to focus on brainstorming, dialogue, and group decision-making. These discussions will result in more specific criteria that should be considered when selecting IT Projects in addition to the overall objectives of the organization. The business need, the ability to successfully staff and execute the project, and your organization's or an outsourced organization's technical ability to deliver the solution are examples of additional criteria that have been previously applied at the Information Technology organizational level for consideration within the model.

After the criteria have been identified, organize the ideas by group or category. Duplicate or redundant criteria should be eliminated and all criteria should be closely reviewed for final inclusion in the IT project selection model. Twelve to fifteen criteria are the maximum required to appropriately model your IT project selection decision-making process. Refine the criteria and establish a draft IT Selection model for your team's review. Exhibit 1 is a model based upon key selection criteria from a number of corporate and federal organizations.

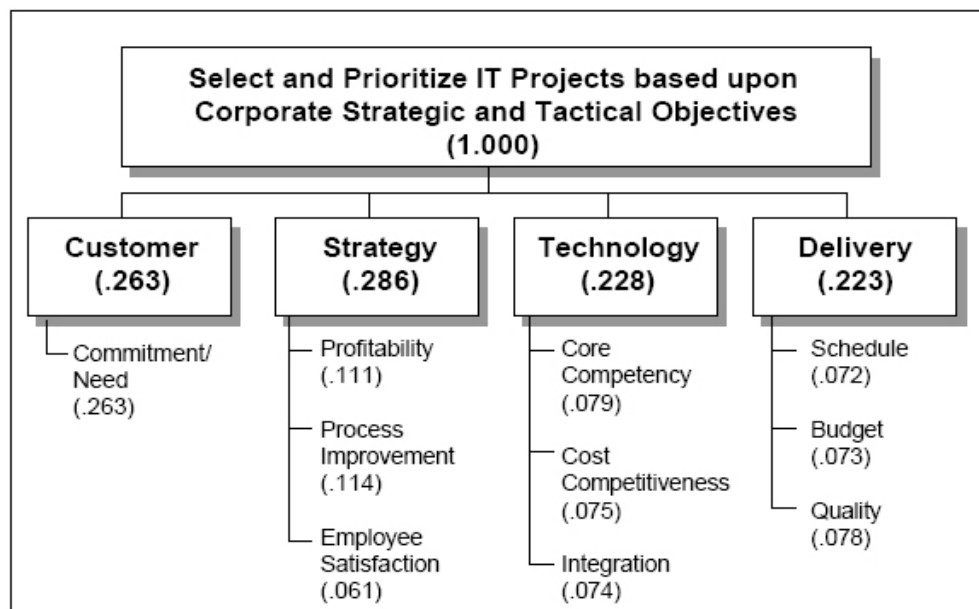


EXHIBIT 1. IT PROJECT SELECTION MODEL

In addition to finalizing the IT Project Selection model, the stakeholders must formulate clear definitions for each of the criterion within the model. The criteria definitions must be articulated in enough detail so that all the stakeholders understand the true meaning and intent of each criterion. For example, Profitability can be described as 'the measure of the Information Technology Project's profitability impact in terms of cost sav-

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ings.’ Clear definitions are also extremely important when assigning appropriate importance or weightings to all criteria. Exhibit 2 contains the definition of each criterion within the IT Project Selection Model.

<b>Customer</b>	<b>Measures customer commitment to the IT Project in terms of need.</b>
<b>Strategy</b>	<b>Measures IT Project alignment with company goals &amp; objectives.</b>
- Profitability	Measures IT Project profitability impact in terms of cost savings.
- Process Improvement	Measures the ability of the Project to improve business processes (time).
- Employee Satisfaction	Measures professional satisfaction of employees working the project.
<b>Technology</b>	<b>Measures organizational ability to meet Project technical requirements.</b>
- Core Competency	Measures organizational technical core competency to perform project.
- Cost Competitiveness	Measures organizational ability to provide cost competitive solution.
- Integration	Measures IT Project’s ability to integrate with existing technology.
<b>Delivery</b>	<b>Measures the company’s ability to successfully deliver the project.</b>
- Schedule	Measures IT organization’s ability to complete the project on schedule.
- Budget	Measures IT organization’s ability to complete the project within budget.
- Quality	Measures IT organization’s ability to deliver functional quality solution.

**EXHIBIT 2. CRITERIA DEFINITIONS**

## Determine the Importance of Each Selection Criterion

After developing the draft IT project selection model, work closely with key decision-makers directly involved with the project selection process to assign relative importance or weightings to each criterion. This also can be accomplished within a workshop setting. Eight to twelve key decision-makers are suggested for workshop participation. By bringing together the stakeholders, the ability to share ideas and achieve consensus dramatically increases. The key criteria established can be prioritized using a simple spreadsheet or a more sophisticated technique such as the Analytical Hierarchy Process (AHP) or Multi-Attribute Utility Theory (MAUT).

The Analytic Hierarchy Process (AHP) is the methodology used for the remaining examples. AHP is a decision modeling method developed at the Wharton School of Business at the University of Pennsylvania by Dr. Thomas L. Saaty. AHP provides a structured framework that allows for the comparison of both qualitative and quantitative criteria to derive weights and establish priorities of alternatives used within the decision-making process. Regardless of the technique selected, these models will allow you to assign importance or weights to the IT project selection criteria.

The relative importance of all the IT Project selection criteria can be generated through the technique of pairwise comparisons. This technique provides the decision-makers with the ability to focus solely on the two decision criteria being evaluated in isolation, without the distraction or confounding impact of all the other criteria. Within the model framework, a “tops-down” approach is recommended, starting with the major and

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most significant criteria, then working down through the sub-criteria. Relative importance for individual criterion and overall weightings for the entire model are determined using this technique. The highest possible score for a project as measured against the model will equal one, with the overall percentage value being distributed across all IT Project decision criteria. Exhibit 3 shows the overall distribution of top level criteria weights for our example.

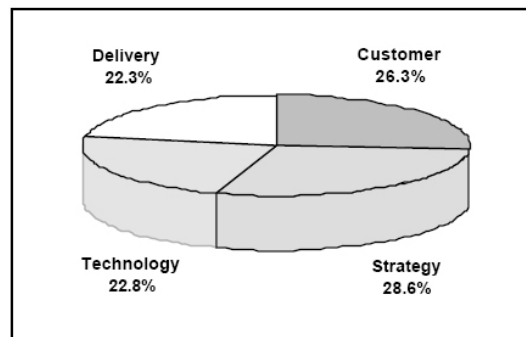


EXHIBIT 3. DISTRIBUTION OF TOP LEVEL CRITERIA

## Establish Standards to measure IT Project alignment with the Model

After refining the IT Project Selection model and reviewing and discussing the assigned weightings, the next step is to establish standards by which to measure the ability of each IT Project to meet the objectives of the model. The standards are defined in terms of intensities and allow the decision team to rate all IT Projects against the same standards. Standards must be defined to clearly differentiate each IT Project's ability to meet the objectives of each decision criterion. Standard weightings can be assigned using the same pairwise comparison technique used to generate the criteria importance values. Exhibit 4 contains an example set of standards for the Customer criterion.

<b>Customer</b>		Measures customer commitment to the IT Project in terms of need. (.263)
<b>Standards</b>		
Strong	This IT Project has corporate sponsorship / high customer priority.	(.263)
Moderate-Strong	This IT Project has corporate sponsorship / moderate customer priority.	(.122)
Moderate	This IT Project has limited corporate sponsorship / moderate customer priority.	(.085)
Low	This IT Project has little corporate sponsorship / some customer priority.	(.055)
None	This IT Project has no corporate sponsorship / little customer priority.	(.031)

EXHIBIT 4. STANDARD DESCRIPTIONS FOR CUSTOMER

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## Test a Sub-set of Previous Projects

Once the IT Project Selection Model has been established, test the model against a pre-existing baseline, such as IT Projects that were evaluated the previous year. Each IT Project should be evaluated independently against the model, one at a time. The IT Projects will be scored between zero and one, with the higher scores identifying which projects are most aligned with the goals and objectives of the model. The testing process will allow the decision team the ability to view, discuss, and refine the IT Project Selection Model based upon the test results. The model should be refined as appropriate and finalized before full-scale implementation.

## Implement This Process

Most IT Projects are owned by a variety of sponsors. When implementing the IT Project Selection Decision Process, allow the project sponsors and project managers to evaluate their projects against the model. As the projects are being evaluated, the project managers should also provide the business justification. A group workshop or meeting provides an excellent opportunity to discuss the outcome of each IT Project's rating against the model. Institute peer reviews to monitor and verify judgments. Once all IT projects have been evaluated, allow the sponsors to discuss their overall rating of the projects with a team of representative stakeholders and make any final adjustments as appropriate. IT Project alternatives, such as a buy or build decision, can also be considered and selected within the model. IT Projects with a high rating against the model will be considered for selection. Projects that do not fare well against the model will not be selected. Both the IT Project rating and the project cost should be considered when assessing the results. The final selection of IT Projects should be based on the analysis of the model results in addition to on-going stakeholder discussion and final judgment. Exhibit 5 displays the IT Project Selection Results for Five IT Projects and subsequent alternatives.

IT Project Name	Dependency	Score	Cost (\$000)	* Benefit/Cost
Marketing and Sales - 2.2 Enhancement	1	0.739	400	18.48
Intranet 1.0 - Buy	2	0.652	450	14.49
Marketing and Sales - 2.2 Buy Module	1	0.722	600	12.03
Resource Management 3.0 - Build	3	0.672	600	11.20
Resource Management 3.0 - Buy	3	0.604	650	9.29
Intranet 1.0 - Build	2	0.554	600	9.23
Human Resources 4.0 - Buy	4	0.590	775	7.61
Accounting 3.3 - Enhancement	5	0.600	800	7.50
Human Resources 4.0 - Build	4	0.572	900	6.36
Accounting 4.0 - Replace (Buy)	5	0.620	1,200	5.17
Accounting 4.0 - Replace (Build)	5	0.579	1,400	4.14

*Selected Projects are shaded; Dependency shows correspondence to other project alternatives  
\* Benefit/Cost Ratio results multiplied by 10,000; Overall Budget for this example is \$3.5 Million*

**EXHIBIT 5. IT PROJECT SELECTION RESULTS**

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## **Conclusion**

By formulating a direct relationship between the IT Projects you implement with the strategic objectives of your organization, you will be able to identify, justify, and invest in only those projects that have high success potential and impact the bottom line. This approach facilitates faster, better, more cost-competitive decisions by implementing a systematic, rational, proven approach. By considering both strategic and tactical criteria within your IT Project selection process, you will develop a logical, well-justified business case for your IT investment decisions.

## **References**

Saaty, Thomas L. 1990. The Analytic Hierarchy Process. Pittsburgh, PA: RWS Publications.

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Presented at the PMI Symposium, Chicago, Illinois, September 30, 1997

Last reviewed for content relevancy January 2002.