Investment Scoring Models in Portfolio Management

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Developing a Robust Scoring Model Related to your organization's definition of value results in maximized ROI from your Portfolio of investments.

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*The Business Need for Prioritizing Investments*
How can your business maximize return on its investment? How can you balance resource capacity and demand? How can you ensure you are achieving your strategic goals? Can you provide clear justification for your portfolio of investments? These major business concerns drive the need for organizations to develop Portfolio Management to ensure the business is making the best investments.

Figure 1 shows the business drivers for Portfolio Management. Your people have many ideas but you have limited resources to carry out the projects required to achieve your strategy. The business needs to evaluate the portfolio of projects to ensure maximized return on investment. A scoring model provides objective criteria to prioritize the portfolio.

The Solution: A Scoring Model for your Investments
Portfolio Management is a structured and disciplined process for selecting the portfolio of investments that best meet the strategic goals of the organization, delivering true competitive benefit to the business. This process requires evaluating each requested investment against specific criteria, the scoring model, which reflect the business' definition of value. The investments are prioritized based on these evaluations and analyzed against budget and resource constraints and other factors.

Formulating the scoring model that reflects the organization's view of value is the key to ensuring optimized prioritization of investments. For this reason, the task of developing the scoring model should not be taken lightly. Leadership can work with scoring model subject matter experts to determine the requirements for the model.
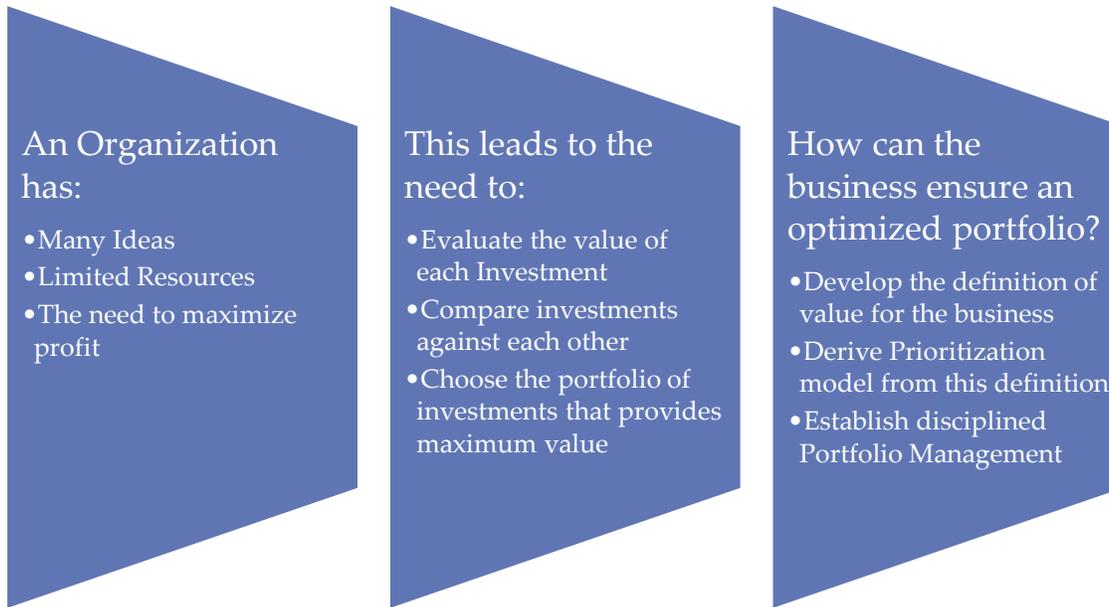
Figure 1: Business Drivers for Portfolio Management

Scoring Model Benefits
- Provides objective and quantifiable criteria for evaluating and selecting investments
- Provides quantifiable information for optimized investment decisions
  - Funding decisions no longer based on intuition, politics or the concept that all ideas are acceptable
- Ties investments to strategic objectives to help ensure strategic goals are achieved
- Balances short and long term gain
- Maintains benefit to risk ratio that best fits the business
- Takes into account the health of projects and programs to lower the loss from failing projects
- Maximizes return on investment

Developing a Scoring Model
Developing a scoring model for investment prioritization ensures the portfolio of investments provides maximum value to the business. Because each organization is unique, every scoring model should be different; however, there are common elements to be addressed across organizations. The scoring framework discussed in this paper can be adapted and modified as needed. This model looks at six areas for scoring: Strategic Alignment, Value/ Benefit, Compliance, Capability, Health/ Performance and Risk. Establishing the scoring model that works for an organization begins with defining value for the business based on review and analysis of these six areas.

Scoring model development process:

1. Define specific business drivers in each of the six areas based on the definition of value for the business.
2. Prioritize the business drivers and weight them.
3. Determine survey questions and answers to make up the model based on these drivers.
4. Assign numeric values to each possible answer.
5. Sum the weight multiplied by the value for each answer to provide the total score.

Figure 2: Scoring Model Focus Areas

The organization evaluates the new and existing investment candidates using the defined scoring model, basing prioritization and funding decisions on the final scores.

The Six Elements

The **Strategic Alignment** element addresses how the investment aligns to the overall strategy of the organization. Strategic Alignment is measured against the strategic objectives defined by the leadership of the organization. This establishes a clear view of how the investments contribute to achieving corporate strategy thus identifying the portfolio of investments to enable the organization to meet its objectives. This also provides a view of the level of investment for each objective.

The **Compliance** element addresses how an investment aligns to the corporate governance requirements. This includes compliance with internal and external mandated regulations, initiatives, and architecture. Initiatives tied to federal and corporate mandates receive highest priority.

The **Capability** dimension addresses how the investment supports the mission of the organization. The mission provides the course of action that the organization needs to take in order to meet its operational requirements. The mission breaks down further into capabilities or competencies focused on the required systems, products and processes to meet customer needs and provide competitive advantage. Capabilities should be documented and prioritized so that the capability dimension returns the highest scores for investments aligned to the most important capabilities. Gap analysis can determine which capabilities already exist and which are still needed. An investment's Capability score rewards investments that provide new capabilities required by the organization. If an investment offers a redundant capability, its capability score will be lower unless it is determined to be the most effective in providing the capability.

The **Risk** element addresses the likelihood of a risk event and the impact if that risk event were to occur. Defined risk categories can significantly improve the identification of risk events. The Risk

dimension seeks to establish measurable data that focuses on factors that can adversely affect an investment's ability to deliver its intended result. These risks typically include the following, in addition to specific risks for the organization:

- Risk caused by dependencies to other investments
- Risk of funding elimination or shortfall
- Resource Risk
- Risk of technological obsolescence
- Technical complexity risk
- Risk of technological failure
- Schedule Risk

The **Value/ Benefit** element addresses either the qualitative or quantitative value of the investment. Quantitative Values are financial calculations such as Return on Investment (ROI), or Cost Benefit Analysis (CBA) etc. Qualitative Value relates to intangible benefits that are meaningful to the organization. These values might classify projects as maintenance, transformation or regulatory. Further examples include efficiency improvement, cost savings, cost avoidance etc.

The **Performance/Health** element can be qualitative or quantitative as well. Health information is typically pulled from project management or operations data to indicate whether the investment is on schedule and on budget. Performance/ Health can be measured using standard earned value calculations for cost and schedule indicators in a strict quantitative approach or simpler variances from plan to highlight trouble areas. Performance analysis also needs to include benefits realization metrics and measures against requirements.

Scoring Element	Benefit to the Organization
Strategic Alignment	To ensure achievement of the Strategic Goals
Compliance	To ensure the organization is compliant with Federal and Corporate regulation which can provide benefits of: • Cost Avoidance as non-compliance can result in fines, • Achievement of benefits tied to corporate mandates for cost savings, improvements in efficiency, competitive advantage etc.
Capability	Ensure Mission Achievement, provide Architecture requirements
Value	Realize Financial Benefits Provide Business Improvements
Performance/ Health	Benefits from timely performance correction or stopping failing projects: • Cost Avoidance, Benefits realization, Customer Satisfaction
Risk	Ensuring the Benefit to Risk ratio that works best for the business

Challenges to Developing a Scoring Model

The primary goal of a scoring model is to use objective criteria to generate a numerical score for a portfolio of investments that results in a prioritized list of those investments. The criteria are translated into questions to be answered about each proposed investment. The scoring model must be certain to ask the right questions and offer responses to those questions that clearly differentiate the good from the bad. Determining the right questions to ask and response choices to those questions is a difficult task that requires time spent up front to ensure the model is optimized. Leaders will determine the model criteria and finalize the questions. It is difficult and time consuming to come to consensus on these very critical matters, however the organization will be able to quickly see the benefit from the model if is correctly designed.

Once the right questions are being asked, the next important step is weighting each question relative to the others. Consensus on weighting is difficult because people from different functions in the organization will have different opinions. A successful approach to weighting is Analytical Hierarchy Process (AHP), which can be used to survey members of the stakeholder community about their opinion of the relative importance of each criterion. The AHP approach uses the stakeholders "gut feelings" about each criterion's relative value with respect to the other questions to generate a numerical weighting factor for each data point. This approach is a good starting point but testing will determine if the weighting is correct. If the prioritized list generated from the model does not align to the expected results, the model is revised. Are the questions, specific answers and values for the answers correct and are the elements of the scoring model weighted correctly? Answering these questions will determine the required changes.

Challenges to Implementing a Scoring Model

Challenges abound in the initial implementation of an investment-scoring model. Many organizations have no standard, structured method for investment selection. Any member of the organization may be able to obtain funding for their pet project based on a justification that is not sound. With a scoring model, the person requesting the investment must answer specific questions in order to show the value of the investment. While this helps ensure maximized return, it is a major culture change for organizations that have never used this more scientific method for decision-making.

It is important to understand the "living" nature of a scoring model. No scoring model is perfect, and the model must be re-evaluated regularly to ensure that it is generating the optimal results. The questions, responses and weightings need to be monitored and adjusted from time to time to ensure alignment to the organizational goals and objectives as the strategy changes.

Accurate information is needed for this process to work. Requestors may try to determine which answers will result in the highest score in order to have their investment funded. To counter this, a

quality check or validation step should be included in the prioritization process to ensure collection of accurate information.

Scoring Model Success

Scoring models have helped many organizations ensure that their portfolio of investments were tied to their strategy and resulted in maximizing their investments. Scoring models streamline the process of budgeting and selecting investments and ensure that decisions are based on objective criteria.