

A PRICE Systems Thought Leadership Article

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Jumpstart Your VAL IT Process

A value methodology is any system or process that facilitates IT investment decision-making based on a systemic analysis of how that investment enhances the business. Such methodologies are important for organizations. Research shows that better performing organizations utilize a value methodology. VAL IT™ is one such value methodology. Its purpose is to provide an over-arching framework for determining IT investment value across industries.

VAL IT consists of seven guiding principles and three process groups. Our focus is on the third principle; “IT investments,” which forms the foundation for a quick implementation of VAL IT.

Introduction

The purpose of this paper is to demonstrate a simple way to implement a value methodology, specifically VAL IT. In addition, an automated cost-estimation tool is the key to this simplified implementation. Many organizations do not utilize an automated cost-estimation for their projects. Instead, organizations usually rely on qualitative experience. Often times, such experience usually evolves into “guesstimates.”

A robust cost estimation tool should provide a far more accurate estimate. Such a tool combines industry data with internal data into an estimation system that is both scalable and repeatable. This tool can serve as a foundation for a value methodology.

Importance of Value Methodology

Value methodology refers to: *any system or process that facilitates IT investment decision-making based on a systemic analysis of how that investment enhances the business.* Value methodologies create a framework for IT investment that eliminates implementation simply for their own sake.

Value Methodology Equals Better Performance

A study by the Center for Business Practices evaluated the performance of businesses based on the maturity of their Value Methodology¹. In this case, the Value Methodology was general cost management. The research affirmed a positive correlation between performance and cost management. See Figure 1 below:

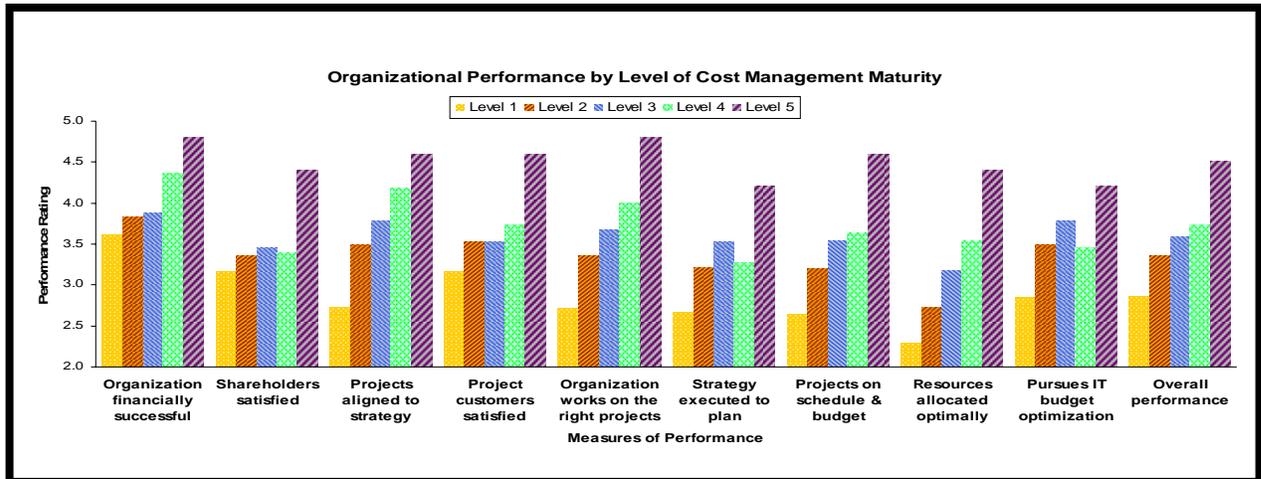


Figure 1: Value Methodology and Performance

Summary of VAL IT

Organizations have the choice of many Value Methodologies such as the Intel's Business Value Index, whose focus is on profit margins, or Public Value method, designed for the use of the public sector. The IT Governance Institute has created VAL IT. VAL IT's purpose is to provide an over-arching framework for determining IT investment value across industries.

VAL IT defines value:

“as relative worth or importance of an investment for an organization or its key stakeholders taking into account the benefits accruing from the expenditures and risks. Its expression may take various forms, including monetary or material substitution equivalence and subjective judgment².”

The IT Governance Institute has developed seven guiding principles for the implementation of VAL IT. The principles are as follows:

1. IT investments are managed as a portfolio.
2. IT investments include the full scope of activities that are required to achieve business value.
3. IT investments are managed through their full economic life cycle.
4. Value delivery practices recognize that there are difference categories of investments that will be evaluated and managed differently.
5. Value delivery practices define and monitor key metrics and respond quickly to any changes or deviations.

¹ Center for Business Practices, *IT Project Portfolio Cost Management*, 2008, p. 3

² IT Governance Institute, *Enterprise Value: Governance of IT Investments_The Business Case*, 2006, p 27

6. Value delivery practices engage all stakeholders and assign appropriate accountability for the delivery of capabilities and the realization of business benefits.
7. Value delivery practices are continually monitored, evaluated and improved.³

To implement these principles, the Institute has developed three process groups. The groups focus on value governance practices, portfolio management practices and investment management practices.

Value governance practices provide a high-level (C-level) view of value management. The purpose of this process group is to ensure that the definition and oversight of value aligns with long-term business objectives. These practices ensure that value governance provides strategic value.⁴

Portfolio management practices exist at the second tier. It is best to consider that a PMO-type department would be responsible for this process group. These practices govern the initiation, planning and monitoring of groups of IT investments.⁵

The final process group, Investment Management Practices, is the most tactical in nature. These practices govern the analysis and implementation of individual projects.⁶

Obstacles to VAL IT Implementations

There are several perceived obstacles to implementing VAL IT. A common complaint is that the guidance lacks specifics and is too high-level. The framework is considered too “bureaucratic” in that it requires more processes and procedures. Time is another consideration. Despite the potential benefits that result from making better decisions, there may be a cost due to the time it takes to implement VAL IT. The time may slow operations or project management. Such delays lead to decreased revenue.

Simplified Steps to VAL IT Implementation

A focus on Investment Management Practices coupled with an automated cost-estimation tool can allow for quick and effective implementation of VAL IT. Since Investment Management focuses on individual projects, the value creation could be seen immediately. The cost-estimation tool will provide a tangible implementation method. Success with Investment Management practices would facilitate easier adoption of operational and strategic practices. Figure 2 shows simplified steps based on Investment Management Practices.

³ Ibid., p. 9

⁴ Ibid., p. 10

⁵ Ibid., p. 10

⁶ Ibid., p. 10

Simplified Steps to implement VAL IT

1. Identification of business requirements
2. Development of clear understanding of candidate investment programs
 - a) Create a Product Breakdown Structure
 - b) ROM Estimate
3. The analysis of alternatives
 - a) What-If Analysis
4. Program definition (scoping) and documentation of a detailed business case
 - a) Identify Relevant Activities and Resources
 - b) Detailed Estimate
5. Management of the program through its full economic life cycle
 - a) Resource Utilization
6. Monitoring and reporting on program performance
 - a) Benchmarking

Figure 2: Steps for VAL IT Implementation

Example: Electronic Medical Records

Electronic Medical Records (EMRs) have received a great deal of publicity. In 2005, the RAND Corporation reported that the use of EMRs could create healthcare savings of up to \$81 billion dollars and improve quality of care⁷. Their report cites better coordination of care, reduced administration and improved safety as reasons for these savings⁸. Since that time, both the public and private sectors have created initiatives to encourage the use of Electronic Medical Records. The implementation of EMRs provides a strong example of a project for which our simplified VAL IT process is useful.

EMRs provide benefit to the delivery of healthcare as the RAND report suggests. However, the true business value to the individual healthcare provider is in the total cost of ownership of the system.

Step One: Identify the Business Requirements

In this example, it will be assumed that the EMR system will have certain characteristics. The EMR will include doctor's notes and diagnosis for patients. The records should include basic data such as height, weight and vital signs as well as a medication and family history. Test results must also be included along with insurance information. The system should be searchable and have the ability to integrate into billing systems. Finally, the system should include the functionality for a patient to view his records on-line.

⁷ Hillestad et al, *Can Electronic Medical Record Systems Transform Healthcare? Potential Health Savings, Benefits and Costs (Abstract)*, Health Affairs, 24, no. 5, 2005

⁸ Ibid.

Step Two: Create a Product Breakdown Structure

A product break down structure (PBS) consists of both technical data and project data. The technical data includes the general architecture and components. The project data includes the organization of general groupings of activities such as development, integration and project management.

The EMR system consists of two software components: the record information system and the patient viewer. The record information application is a Commercial-Off-The-Shelf (COTS) Management Information System. The functionality of this application can be divided into three use cases. The first use case is the ability to input data through a GUI interface. The second use case is the ability to search/view records in a GUI environment. The third use case is the link with the automated billing system through an API.

The patient viewer is an internet-based application that also is COTS. Its functionality consists of two use cases. First, patients should be able to view their records through a GUI interface. Second, security protocols should exist through an API.

In terms of activity organization, four general groups of activities exist in this project. There are development activities for each software component, as well as integration activities to merge these components and project management activities.

Step Three: Create a Rough Order of Magnitude (ROM) Estimate

The Project Management Book of Knowledge (PMBOK) considers a ROM estimate to be between -50% and +100%.⁹ Taking into account these parameters, Figure 3 illustrates a ROM estimate of the EMR project generated by an automated tool.¹⁰ The estimate assumes team performance based on industry averages and does not include purchase price of the software.

Activity Group	Labor Effort (Hours)	Cost (USD)
Project Management	432	\$76,563
Integration	660	\$75,170
EMR Implementation	531	\$72,936
Patient Viewer	1,166	\$140,875

Figure 3: ROM Estimate for EMR Project

Step Four: Conduct “What-If” Analysis

It is necessary to examine alternate scenarios. In this case, it is appropriate to examine costs and labor for developing the software system internally. Figure 4 compares the cost and labor involved with creating the software versus purchasing and modifying the software. Again, the

⁹ Project Management Institute, *PMBOK® Guide, 3rd Edition*, 2004, p. 161

¹⁰ TruePlanning by PRICE Systems was the automated cost-estimation tool that was utilized for all estimates.

estimate assumes team performance based on industry averages and does not include purchase price of the software.

Scenarios	Labor Effort (Hours)	Cost (USD)
COTS	2,788	\$365,544
Develop System Internally	4,099	\$533,132

Figure 4: Make vs. Buy

This comparison shows that the determining factor in terms of cost is the price of the purchased software. If the price of the software exceeds \$167,588 and labor is not important, then internal development may be a better option. However, for the sake of this example, it will be assumed that COTS is the better option.

Step Five: Identify All Relevant Activities and Create Detailed Estimate

Identifying all relevant activities is absolutely essential for successful value creation. Many activities often are considered “overhead” and therefore are not considered in cost estimates. Certain activities may require different levels of effort but those differences are not considered. Finally, some projects may have special requirements that increase cost. Therefore, when these items are overlooked, the cost estimate will not reflect total cost of ownership.

In the EMR example, quality assurance effort as well as reliability and security requirements are higher due to the high-level regulation and the need for accurate data in the healthcare industry. The project also requires more effort by stakeholders, specifically medical personnel. There is an increased effort because medical personnel are testing the technical functionality as well as the systems effect on healthcare delivery. However, configuration management efforts are reduced due to the use of COTS.

This new information can then be used to create a detailed estimate for the EMR implementation. Figure 5 illustrates a detailed estimate in terms of cost and labor effort as well as variance from the ROM estimate.

Activity Group	Labor Effort (Hours)	Variance from ROM	Cost (USD)	Variance from ROM
Project Management	599	+39%	\$103,593	+35%
Integration	807	+22%	\$92,783	+23%
EMR Implementation	690	+7%	\$91,434	+25%
Patient Viewer	1,514	+30%	\$182,082	+29%

Figure 5: Detailed Estimate of EMR Implementation

Step Six: Analyze Resource Utilization

Risk exists in projects that resources may not be available at the necessary time. Resources committed early in the project planning may become engaged in other areas as the project continues. This depletion of resources is common in the healthcare industry where stakeholders (medical personnel) always have the higher priority of patient care.

For this example, it is assumed that the stakeholders are available 50% of the time and their availability is front-loaded during the project lifecycle. The resource utilization (Figure 6) shows that despite these restraints, there are enough stakeholders to complete the project.

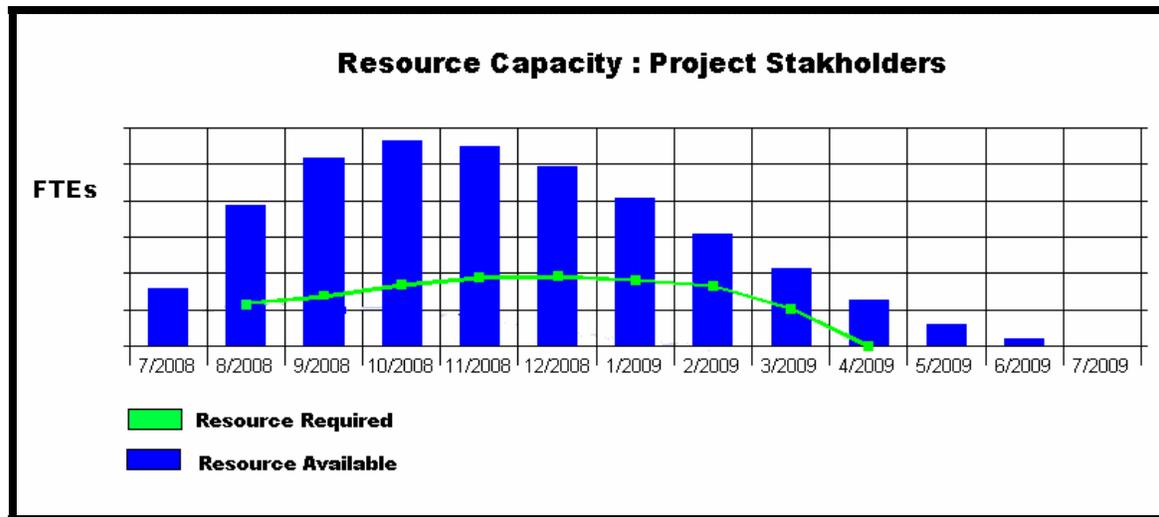


Figure 6: Resource Utilization Analysis

Step Seven: Benchmark Performance

The final step allows the project to be evaluated against previous similar project. Internal data may suggest that company organization performs better than industry standards. Such variance should be analyzed to facilitate improvement.

In this EMR implementation, the estimates suggest that the labor effort for the patient viewer development should be 1,514 hours based on average organizational productivity. However, for this example, it can be assumed that the labor efforts would be 1,400 hours based on previous projects. This actual performance suggests an organizational productivity 7% higher than the industry average.

Conclusion

The use of an automated cost estimation tool allows an organization to meet four out of the seven principles of VAL IT. Specifically, the following principles have been met:

- IT-enabled investments include the full scope of activities that are required to achieve business value.
- Value delivery practices define and monitor key metrics and respond quickly to any changes or deviations.
- Value delivery practices engage all stakeholders and assign appropriate accountability for the delivery of capabilities and the realization of business benefits.

- Value delivery practices are continually monitored, evaluated and improved.

These principles have been met with minimal process re-engineering or organization realignment.

Value Methodologies, such as VAL IT, offer many benefits. Studies have shown that organizations that utilize these frameworks outperform their peers. However, these are large enterprise-wide change initiatives that may require organizational, process and systems changes.

The question becomes if organizations can afford to wait until the frameworks are in place to improve IT decisions? However, there are ways to achieve the VAL IT tenets that accelerate the development of the core capabilities.

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