

# Forrester Consulting

MAKING LEADERS SUCCESSFUL EVERY DAY

Prepared for Symantec (Altiris)

December 2007

## **The Total Economic Impact Of The Altiris Total Management Suite Software**

Project Director: Sadaf Roshan, Consultant

FORRESTER®



### **Headquarters**

Forrester Research, Inc., 400 Technology Square, Cambridge, MA 02139 USA  
Tel: +1 617.613.6000 • Fax: +1 617.613.5000 • [www.forrester.com](http://www.forrester.com)

## TABLE OF CONTENTS

Executive Summary .....	4
Purpose .....	4
Methodology.....	4
Approach.....	4
Key Findings .....	5
Disclosures.....	6
Altiris Total Management Suite: Overview .....	7
Analysis.....	10
Interview Highlights.....	10
TEI Framework .....	11
Costs .....	13
Benefits .....	17
Risk.....	25
Flexibility.....	28
TEI Framework: Summary.....	28
Study Conclusions.....	29
Appendix A: Total Economic Impact™ Overview .....	30
Benefits .....	30
Costs .....	30
Risk.....	30
Flexibility.....	30
Appendix B: Glossary.....	31

## The Total Economic Impact Of Total Management Suite

---

companies. Forrester clients may make one attributed copy or slide of each figure contained herein. Additional reproduction is strictly prohibited. For additional reproduction rights and usage information, go to [www.forrester.com](http://www.forrester.com). Information is based on best available resources. Opinions reflect judgment at the time and are subject to change.

## Executive Summary

In December 2007, Altiris commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying Altiris Total Management Suite (TMS). Total Management Suite is an IT life-cycle automation solution designed to help IT organizations manage, secure, and support all IT assets and promote effective service delivery.

In conducting in-depth interviews with four existing customers, Forrester found that these companies: 1) reduction in cost to acquire and manage software and hardware assets; 2) improved the audit of IT assets; 3) reduced operational efforts to plan, manage, track, communicate, and implement ongoing IT initiatives and processes; and 4) reduced IT help desk calls.

### Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Total Management Suite on their organizations. Readers should use this study to better understand and communicate a business case for investing in Altiris' Total Management Suite. Since individual companies start from different places, differ in maturity, and have different needs, the specific values within the report are less important than the structure for conducting such an analysis within a company-specific contextual framework.

### Methodology

Altiris selected Forrester for this project because of its industry expertise in enterprise applications and Forrester's Total Economic Impact™ (TEI) methodology. TEI not only measures costs and cost reduction (areas typically accounted for within IT) but also weighs the enabling value of a technology in increasing the effectiveness of overall business processes.

For this study, Forrester employed four fundamental elements of TEI in modeling Total Management Suite:

1. Costs and cost reduction.
2. Benefits to the entire organization.
3. Risk.
4. Flexibility.

Given the increasing sophistication that enterprises have regarding cost analyses related to IT investments, Forrester's TEI methodology serves an extremely useful purpose by providing a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

### Approach

Forrester used a five-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to Altiris Total Management Suite and the enterprise market in general.

## The Total Economic Impact Of Total Management Suite

---

2. Forrester interviewed Altiris marketing and sales personnel to fully understand the potential (or intended) value proposition of Altiris Total Management Suite solutions.
3. Forrester conducted a series of in-depth interviews with four organizations currently using Altiris Total Management Suite solutions.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.
5. Forrester created a composite organization based on the interviews and populated the framework using data from the interviews as applied to the composite organization.

### Key Findings

Based on our interviews with four Altiris customers, Forrester constructed a composite company, a TEI framework, and an associated ROI analysis. By aggregating the findings from the customer interviews and portraying the results from the perspective of a composite organization, the study illustrates the financial impact of Total Management Suite.

Forrester created a composite company to describe the costs and benefits applicable to a business services firm. With approximately \$1 billion in revenue and 2,600 employees, the composite company is headquartered in the US and manages 20 locations worldwide. Prior to the investment in Altiris, the organization had 120 servers, two data centers, and employed 100 IT staff. Since the implementation, over the past 24 months, the organization has grown its sales, customer base, employee headcount, and expanded internationally. As a result, it has increased the total number of servers and end-user PCs for its growing customer base and staff, without increasing its IT staff headcount.

Forrester's study yielded several key findings:

- **ROI.** Based on the interviews with the four existing customers, Forrester constructed a TEI framework and the associated ROI analysis, illustrating the financial impact areas for a composite organization (see Appendix A). As seen in Table 1, the ROI for our composite company is 103%, with a breakeven point (payback period) of 10.2 months after deployment. The cost estimates do not include any discounts that could further improve the ROI and payback for a company investing in TMS.
- **Benefits.** The benefits of deploying Total Management Suite include: 1) reduction in cost to acquire and manage software and hardware assets; 2) improved audit of IT assets; 3) reduced operational efforts required to plan, manage, track, communicate, and implement ongoing IT initiatives and processes; and 4) reduced IT help desk calls. The present value (PV) of the risk-adjusted total benefits is equal to \$3,046,888.
- **Costs.** Costs to implement Total Management Suite include: software, hardware, ongoing maintenance, implementation and training, and administration costs. The PV of the risk-adjusted total costs is equal to **\$1,502,195**.

Table 1 illustrates the risk-adjusted cash flow for the composite organization based on data and characteristics obtained during the interview process. Forrester risk-adjusts these values to take into account the potential uncertainty that exists in estimating the costs and benefits of a technology investment. The risk-adjusted value is meant to provide a conservative estimation, incorporating any potential risk factors that may later affect the original cost and benefit estimates. For a more in-

depth explanation of risk and risk adjustments used in this study, please see the Risk section. (Note: Numbers have been rounded throughout the document).

**Table 1: Composite Company ROI, Risk-Adjusted**

Summary financial results	Original estimate	Risk-adjusted
ROI	119%	103%
Payback period (months)	9.2	10.2
Total costs (PV)	(\$1,492,070)	(\$1,502,195)
Total benefits (PV)	\$3,269,244	\$3,046,888
Total (NPV)	\$1,777,174	\$1,544,693

Source: Forrester Research, Inc.

## Disclosures

The reader should be aware of the following:

- The study is commissioned by Altiris and delivered by the Forrester Consulting group.
- Altiris reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- The customer names for the interviews were provided by Altiris.
- Forrester makes no assumptions as to the potential return on investment that other organizations will receive. Forrester strongly advises that readers should use their own estimates within the framework provided in the report to determine the appropriateness of an investment in Altiris Total Management Suite.
- This study is not meant to be used as a competitive product analysis.

## Altiris Total Management Suite: Overview

According to Altiris, Total Management Suite is a comprehensive suite of IT life-cycle automation solutions designed to help IT organizations manage, secure, and support all IT assets, promoting effective service delivery. With Total Management Suite, organizations can reduce operational costs and increase operational efficiencies, set the foundation for future growth, and align IT with business strategies. Total Management Suite (TMS) dramatically reduces costs by automating, simplifying, and integrating essential IT management functions from a single Web-based console.

TMS includes many natively integrated Altiris products in a single suite, like Altiris client and mobile, server and infrastructure, security and compliance, and service and asset management solutions, which are designed to snap into a common Web-based console and configuration management database (CMDB) to provide control over the IT infrastructure.

### Service And Asset Management

TMS combines enterprise service and asset management disciplines into a single Web-based console helping to unite disparate departments and processes. By actively managing the entire asset life cycle, the suite helps organizations eliminate unnecessary software and hardware costs, manage vendor contracts proactively, and align service resources with the IT Infrastructure Library (ITIL) to ensure that IT investments and resources are optimized.

TMS service and asset management provides integrated incident, problem, change, and release, service-level agreement, and configuration management coupled with financial asset and contractual management on a single, extensible architecture. TMS produces a single source of truth, which helps customers to quickly collect inventory and usage data to create asset relationships within a single CMDB. The extensible repository manages hierarchical relationships of assets, including assets to other configuration items, services, users, locations, departments, cost centers, and associated contracts. The 360-degree view of asset relationships reduces the risk associated with change, empowers the service desk to quickly resolve incidents, creates a baseline for security audits, enforces corporate standards, and provides the foundation for all change and configuration management activities. TMS saves money and maximizes software investments by:

- Identifying software usage patterns to avoid over- or underpurchasing.
- Reallocating and retiring unused licenses.
- Reducing support costs by standardizing application versions.
- Eliminating costly penalties or fees by automatically aligning license counts to software license agreements.

Altiris has improved the service and asset management environment by providing technicians with context-aware integration for incident and problem resolution and by changing execution tools so that technicians no longer have to leave a service desk record. The single repository and embedded knowledge management reduce resolution time and enhance knowledge capture.

Total Management Suite brings the IT organization closer to employees by providing self-help tools that allow end users to solve their own issues without the assistance of the service desk. TMS self-help features allow employees to research knowledge-based articles to solve their own issues, request service, log incidents, and download available software from a software catalog within an

employee self-help portal. The comprehensive suite supports and extends (ITIL) service support and service delivery processes.

### Client And Mobile

Total Management Suite provides an easy-to-use systems management solution that reduces the total cost of ownership for desktops, notebooks, and handheld devices. Developed for IT professionals who manage computing devices on a regular basis, the suite enables administrators to deploy, manage, and troubleshoot systems from virtually anywhere. Simplified and lower-cost management IT departments are faced with a challenging task: daily management of numerous, constantly changing client and mobile computers. Altiris addresses these demanding challenges with comprehensive solutions that help to optimize and control the environment and reduce the cost of management.

TMS provides a complete migration solution designed to assist with migrating operating systems through pre-migration hardware and software assessment, OS deployment, software installation, personality restoration, and post-migration status reporting in a single migration tool.

### Server And Infrastructure

With the evolution of server hardware and the advent of blade computing, organizations must respond more quickly to rapidly changing business requirements. TMS reduces the complexity of operating servers by providing comprehensive management that includes automated deployment, patch management, desired-state management, and recovery for servers, including the network fabric. TMS increases server speed and reliability to improve availability, business continuity, and data center staff efficiency. It increases cost savings by providing these capabilities:

- **Deployment:** Bare-metal OS, network, and application stack imaging for rapid installation.
- **Patch:** Centrally controlled hardware, OS, third-party application security patch.
- **Desired-state:** Automated application self-healing and configuration settings management.
- **Recovery:** Integrated server snapshot prior to configuration management.
- **Monitoring:** Improving operations and enhancing performance.

### Security And Compliance

The coordination of vulnerability mitigation activities is complicated by the need to manage security changes while maintaining availability and service goals. TMS combines the Seven-Area Vulnerability Assessment with best-of-breed remediation tools to eliminate the root cause of vulnerabilities. Altiris' unique multilayered approach to security and configuration management is designed to help protect business assets against human-, network-, and system-level threats and vulnerabilities. Security configuration policy compliance and endpoint security solutions are also available from Altiris as discounted add-ons to TMS.

Included in the Total Management Suite:

- Service & Asset Management Suite software combines enterprise service and asset management disciplines into a single unified CMDB and asset repository, helping to determine asset total cost of ownership (TCO) and achieve the highest level of service.

## The Total Economic Impact Of Total Management Suite

---

- Client Management Suite software enables administrators to deploy, manage, and troubleshoot systems from virtually anywhere.
- Server Management Suite software provides a comprehensive solution for managing business-critical servers and operations in the environment.

These integrated standalone solutions are included with Total Management Suite:

- Altiris Application Management Solution software
- Altiris Application Metering Solution software
- Altiris Asset Control Solution software
- AuditExpress software
- Altiris Barcode Solution software
- Altiris Carbon Copy Solution software
- Altiris Connector Solution software
- Altiris Contract Management Solution
- Altiris Deployment Solution software
- Altiris Helpdesk Solution software
- Inventory Solution software
- Patch Management Solution software
- Real-Time System Manager Solution software
- Recovery Solution software
- Software Delivery Solution software
- Software Virtualization Solution software
- Wise Package Studio Standard Edition

Also available as an add-on to Total Management Suite is SecurityExpressions for security configuration policy compliance.

Because of consolidation and role expansion, IT responsibilities and organizational boundaries are blurring. Altiris TMS helps to embrace consolidation by providing a solution set driven by automation that crosses server, desktop, handheld, and network device configuration management, security, service, and asset management boundaries. In addition to driving automation across multiple domains, TMS eliminates overlapping technologies, provides centralized management of heterogeneous environments, and ensures consistent and accurate data for budgeting, planning, forecasting, and implementation.

### Analysis

As stated in the Executive Summary, Forrester took a multistep approach to evaluate the impact that implementing Total Management Suite can have on an organization:

- Interviews with Altiris marketing and sales management.
- In-depth interviews of four organizations currently using Total Management Suite.
- Construction of a common financial framework for the implementation of Total Management Suite.
- Construction of a composite organization based on characteristics of the interviewed organizations.

### Interview Highlights

A total of four interviews were conducted for this study, involving representatives from the following companies (Altiris customers based in the United States):

1. A major operator of timeshare resorts, a wholly owned subsidiary of a Fortune 500 hospitality organization. It employs about 3,900 and operates 30 properties worldwide.
2. A not-for-profit organization that employs 900 and provides health insurance products and related services to some 400,000 members regionally.
3. An information technology services firm (a division of a Fortune 1,000 worldwide technical service and outsourcing organization) that employs 400 and provides computer and networking system services to 5000 + customers and over 6500 systems from 175 district offices in major metropolitan areas.
4. A general retailer that employs 80,000 in 170 stores in the Midwest.

These four in-depth interviews revealed:

- The interviewed customers purchased the entire Total Management Suite (TMS); however, to date, they have implemented only 40% to 70% of the total suite. TMS offers many capabilities however customers typically purchase the product to address an particular need. Some customers mentioned that they recognized the value of TMS but at least initially, did not realize the full capabilities of TMS. Each customer decided on a phased rollout approach therefore, there are capabilities that they have not activated but they are considering it in the future.
- The interviewed organizations implemented Altiris because they were struggling to manage multiple disparate systems and needed to reduce operational and administrative IT costs. For example, by standardizing desktop configurations and processes, including patch management, customers were able to save IT labor costs and eliminate human errors.
- As a result of the Symantec acquisition of Altiris, interviewed customers are currently reviewing Backup Exec, from Symantec, as a replacement for Server/Recovery solutions and PC Anywhere as a replacement for Carbon Copy. Both products offer similar

functionality, but they require that organizations invest in additional training. Interviewees indicated that the additional license costs for these solutions would increase the overall cost of ownership.

- Greater knowledge about installed assets and their use allows for better management of IT asset inventory, software metering, and utilization of data. Interviewees indicated that the TMS implementation kept IT managers informed of the number of licenses currently in use. This allowed the organizations to revise their IT software expenditure budget by reinstalling inactive licenses and monitoring usage patterns to enhance future purchase decisions. In addition, it allowed business managers and company executives to reduce auditing costs by designing a role-based employee software allocation plan.
- By implementing Total Management Suite, the organization was able to reallocate existing resources — freeing up IT personnel to devote their time and skill to new strategic initiatives. For example, the organizations agreed that while they have nearly doubled their servers, they have not increased headcount to manage these assets.

## TEI Framework

### *Introduction*

From the information provided in the in-depth interviews, Forrester has constructed a TEI framework for those organizations considering the implementation of Total Management Suite. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision.

### *Composite Organization*

Forrester created this composite company to reflect a business services firm headquartered in the US. It manages 20 locations worldwide, with approximately \$1 billion in revenue and 2,600 employees. Prior to investing in Altiris, the organization had 120 servers, two data centers, and employed 100 IT staff. Since the implementation, the organization has grown its sales, customer base, employee headcount, and expanded internationally. As a result, it has expanded the total number of servers and PCs or laptops required, but it has been able to meet this growing demand without increasing its IT staff headcount.

The composite organization invested in TMS to:

- Reduce service resolution response time and improve the speed of deployment for OS and application patch management, while increasing the quality of service and reducing imaging, deployment, and migration time.
- Reduce the cost of auditing for IT, as well as business managers. By providing a role-based approach for end user system configuration, the business managers and IT can agree on a standardized system rollout approach — allowing them to improve security and compliance with Sarbanes-Oxley (SOX), Gramm-Leach-Bliley ACT (GLBA), Health Insurance Portability and Accountability ACT (HIPAA), and software license compliance.
- Increase system availability and automate the service desk process to speed resolution time.

## The Total Economic Impact Of Total Management Suite

---

- Improve system management planning through standardization and consolidation of hardware, software, management tools, processes and methodologies. Require all employees — domestic and international — to use the help desk as a first stop to report all system-related issues. This process will create a mechanism to manage, track, and solve end user issues. Historically, the organizations that we interviewed used various support tiers to complete service requests. Today, tier one support assesses all issues and forwards them to tier two and tier three support when required. This initiative has not only improved help desk efficiency, but it has also improved the allocation of resources required to process ongoing issues. The organizations are tending to the problem proactively, even before the end users identify the issues.

### *Framework Assumptions*

Table 2 lists the discount rate used in the PV and NPV calculations and the time horizon used for the financial modeling.

**Table 2: General Assumptions**

General assumptions	Value
Discount rate	10%
Length of analysis	Three years

Source: Forrester Research, Inc.

Organizations typically use discount rates between 8% and 16%, based on their current environment. Readers are urged to consult with finance to determine the most appropriate discount rate to use within their own organizations.

In addition to the financial assumptions used to construct the cash flow analysis, Table 3 provides salary assumptions used within this analysis.

**Table 3: Salary Assumptions**

Ref.	Metric	Calculation	Value
A1	Hours per week		40
A2	Weeks per year		52
A3	Hours per year (M-F, 9-5)		2,080
A4	Hours per year (24x7)		8,736
A5	IT support staff		\$100,000
A6	Hourly	(A5/A3)	\$48

Source: Forrester Research, Inc.

## Costs

The key cost categories associated with TMS include: a) software license fees; b) hardware to operate the solution; c) labor costs to implement and maintain the solution; d) professional services for implementation and testing; e) training fees; and f) annual maintenance costs. The project is measured on a three-year basis. The following are the cost inputs to the financial analysis. Note that the costs listed below do not include any discounts to the list prices.

### *Total Management Suite Software License Fees*

The TMS license cost represents 35% of the total cost. The annual license fee for Altiris Total Management Suite is \$203.50 per seat. This cost does not include any Symantec products that may replace specific TMS modules in the future.

The composite organization purchases 2,600 seats, for a total of \$529,100. Please refer to the overview section of the study for a complete list of the modules and features sets included in TMS. Table 4 illustrates this calculation.

**Table 4: Total Management Suite License Cost**

Ref.	Metric	Calculation	Per period
B1	License fees		\$203.50
B2	Number of seats		2,600
Bt	Software license fees	B1*B2	\$529,100

Source: Forrester Research, Inc.

### *Hardware Cost*

Based on the information gathered from four interviewed Altiris customers, the composite organization requires additional hardware to operate the TMS solution. This includes two high-speed servers with disk arrays for recovery operations, one SQL server, and six application servers. Hardware cost is a one-time cost and represents 9% of the overall investment. Table 5 illustrates this calculation.

**Table 5: Hardware Cost**

Ref.	Metric	Calculation	Per period
C1	2 high-speed servers — recovery	2 * \$35,000	\$70,000
C2	1 SQL server (NSD)		\$42,000
C3	6 application servers	6 * \$4,000	\$24,000
Ct	Hardware costs	C1+C2+C3	\$136,000

Source: Forrester Research, Inc.

*Internal Labor Cost*

Interviewees explained that, while they did not add new headcount to their IT department with the deployment of TMS, they did allocate staff to manage TMS and perform various administrative and reporting tasks. Forrester estimates that for the composite organization, one full-time employee dedicates 100% of his/her time to manage TMS activities, and three full-time employees each dedicate 40% of their time to TMS. At an average rate of \$60 per hour (\$125,000 fully loaded annual compensation), this amounts to a cost of \$275,000 annually and represents 47% of the overall investment. Table 6 demonstrates this calculation.

**Table 6: Internal IT Labor Cost For Altiris Administration**

Ref.	Metric	Calculation	Per period
D1	Altiris administrator		1.00
D2	Percent dedicated to maintenance		100%
D3	Number of internal staff		3
D4	Percent dedicated to maintenance		40%
D5	Hours per year		2,080
D6	Cost per hour (fully burdened)		\$60
Dt	Internal IT labor cost for Altiris administration	$(D1 \cdot D2 + D3 \cdot D4) \cdot D5 \cdot D6$	\$275,000

Source: Forrester Research, Inc.

*Consulting Fees*

TMS customers typically engage the services of one of the Altiris' third-party service providers for assistance with the installation, deployment, and testing of the product. This one-time cost represents 4% of the overall investment. For the composite organization, this would amount to \$66,500, which would include five weeks of consulting at \$10,800 per week, plus \$12,500 in travel and expenses.

**Table 7: Consulting Fees**

Ref.	Metric	Calculation	Per period
E1	Weekly cost of Altiris Enterprise Consulting — five weeks	$5 \cdot \$10,800$	\$54,000
E2	Standard daily expense and travel unit (Americas)	$25 \cdot \$500$	\$12,500
Et	Consulting fees	$E1 + E2$	\$66,500

Source: Forrester Research, Inc.

*Training Costs*

Based on the interviews with Altiris customers, Forrester estimates that the composite organization engages Altiris-designed training courses for four IT staff. The financial framework also takes into consideration the opportunity cost of the time required for IT staff to attend training courses. Training costs and labor opportunity costs each represent 2% of the overall investment in TMS.

These sessions would consist of:

- **The Notification System Foundation.** A five-day course focused on the daily tasks that customers perform with Altiris solutions. The course covers setup and configuration options available with Notification Server, as well as best practices for network design, package server configuration, and Web report generation.
- **Deployment Solution Foundation.** A five-day course that teaches participants how to upgrade computers to a new operating system by capturing a computer's existing data, installing and configuring a new operating system, and then restoring the computer data using Altiris Deployment Solution.
- **Service & Asset Management Suite User Essentials.** A three-day course on the life-cycle management process and how to configure the proper tools for use at each stage in the process.
- **Helpdesk Solution.** A three-day course providing a comprehensive overview of Altiris Helpdesk Solution, including Notification Server infrastructure, Inventory Solution, Carbon Copy Solution, and Web Administrator for Windows.

**Table 8: Training Costs**

Ref.	Metric	Calculation	Per period
F1	Notification System Foundation — five-day training course	4*\$2,195	\$8,780
F2	Deployment Solution Foundation — five-day training course	4*\$2,195	\$8,780
F3	Service & Asset Management — User Essentials three-day	4*\$1,395	\$5,580
F4	Helpdesk Solution — admin. and configuration — three-day	4*\$1,395	\$5,580
Ft	Training fees	F1+F2+F3+F4	\$28,720

Source: Forrester Research, Inc.

**Table 9: Training — Labor Opportunity Costs**

Ref.	Metric	Calculation	Per period
G1	Notification System Foundation — five-day training course	5*4*8*60	\$9,615
G2	Deployment Solution Foundation — five-day training course	5*4*8*60	\$9,615
G3	Service & Asset Management — User Essentials three-day	3*4*8*60	\$5,769
G4	Helpdesk Solution — admin. and configuration — three-day	3*4*8*60	\$5,769
Gt	Labor opportunity cost — training	G1+G2+G3+G4	\$30,769

Source: Forrester Research, Inc.

### *Ongoing Support Costs*

Altiris offers several levels of support. Forrester assumes that the composite organization would contract for annual Premium 25 support, which provides priority routing for a total of 25 incidents per year. This support level includes basic incident support (Knowledge Base and Support Forum), and the customer can also track incidents online through the Altiris Support Portal. For Severity 1 issues, customers can contact Altiris on a 24x7 basis.

The first year’s Annual Upgrade Protection (AUP) is included in the purchase price. This service allows registered Altiris software users to upgrade to any new version of the registered product, released during the coverage period, without paying an upgrade charge. Customers with AUP can also receive service packs, patches, and other enhancements to the products as they are released. In subsequent years, AUP can be purchased for 15% of the license fee amount. The annual cost is \$6,875 and represents 1% of the overall investment. Table 10 illustrates this cost.

**Table 10: Support Costs**

Ref.	Metric	Calculation	Per period
H1	Annual support fees		\$6,875
Ht	Premium 25 Support	H1	\$6,875

Source: Forrester Research, Inc.

### *Total Costs*

The costs described above are summarized in Table 11.

Table 11: Total Costs — Non-Risk-Adjusted

Cash Flow Analysis (Original Estimates)						
Costs	Initial	Year 1	Year 2	Year 3	Total	Present value
Software license fees	(\$529,100)	-	-	-	(\$529,100)	(\$529,100)
Hardware costs	(\$136,000)		-	-	(\$136,000)	(\$136,000)
Internal IT administration cost		(\$275,000)	(\$275,000)	(\$275,000)	(\$825,000)	(\$683,884)
Consulting fees	(\$66,500)	-	-	-	(\$66,500)	(\$66,500)
Training fees	(\$28,720)				(\$28,720)	(\$28,720)
Labor opportunity cost — training	(\$30,769)				(\$30,769)	(\$30,769)
Premium 25 Support		(\$6,875)	(\$6,875)	(\$6,875)	(\$20,625)	(\$17,097)
Total costs — non-risk-adjusted	(\$791,089)	(\$281,875)	(\$281,875)	(\$281,875)	(\$1,636,714)	(\$1,492,070)

Source: Forrester Research, Inc.

## Benefits

IT decision-makers at the interviewed organizations identified many benefits of TMS, most notably the server and asset management capabilities of the product. While there are many features and capabilities within the TMS product line, much of the potential of TMS is not fully explored in this case study because Forrester’s TEI methodology relies on actual experience of interviewed companies to document the benefits of a product. At the time of this study, interviewed customers had only implemented 40% to 70% of the functionality of TMS. Readers of this case study should consider all TMS benefits that their organizations may realize. Please see the Overview section of the study for a description of TMS features and functionality.

### *Reduction in cost to acquire and manage software and hardware assets*

Interviewees use TMS to monitor their software and hardware assets. TMS consolidates disparate asset life-cycle data into a single repository where it becomes part of the CMDB. Improved visibility enables customers to better match software assets with the needs of users, resulting in fewer licenses purchased for standard and non-standard applications. The interviewed companies have reallocated inactive software licenses to other users, and customers now have a more precise account of licenses prior to renewal dates.

TMS keeps track of how many copies of an application an organization possesses, while capturing data on versions, configurations, OS settings, and utilizations. Utilization information can be key in matching usage with purchase license counts to produce more accurate forecasts of future requirements.

## The Total Economic Impact Of Total Management Suite

The same functionality enables customers to set policies to prevent users from installing unauthorized software, thus increasing security and compliance. Table 12 demonstrates the assumption and calculation for this benefit.

**Table 12: Software License Management Cost Saving**

Ref.	Metric	Calculation	Per period
I1	Est. number of standard applications	2,600 * 7	18,200
I2	Average cost		\$300
I3	Percent captured		10%
I4	Non-standard applications		5
I5	Average cost		\$500
I6	Total licenses per type		40
I7	Percent captured		25%
It	Software license management benefits	$I1 * I2 * I3 + I4 * I5 * I6 * I7$	\$571,000

Source: Forrester Research, Inc.

The asset management capabilities of TMS enable customers to save on inventory costs. Forrester assumes that the composite organization can reduce its inventory of repair components by 50% by leveraging more accurate reporting and physical tracking of available spares. Table 13 illustrates this calculation.

**Table 13: Reduction In Miscellaneous Hardware And Spare Parts**

Ref.	Metric	Calculation	Per period
J1	Number of replacement parts		3,000
J2	Average cost per item		\$50
J3	Percent captured		50%
Jt	Inventory parts management	$J1 * J2 * J3$	\$75,000

Source: Forrester Research, Inc.

Our interviews also verified that the TMS asset management allows customers to carry out more precise purchasing of new laptops by using better knowledge of available laptops collected from departing employees. Table 14 illustrates this calculation.

**Table 14: Laptop Purchases Avoided**

Ref.	Metric	Calculation	Per period
K1	Number of employees		2,600
K2	Percent of new employees hired		5%
K3	New employee hired	$K1 * K2$	130
K4	Percent of new notebooks PCs purchased		25%
K5	Cost per asset		1,200
Kt	Laptop purchases avoided	$K3 * K4 * K5$	\$39,000

Source: Forrester Research, Inc.

### *Improved Audit Of IT Assets*

Improvement in asset management also translates into labor-cost savings in auditing activities. The organizations that we interviewed have implemented processes to proactively standardize software placed on end user desktops or laptops.

For example, based on compliance requirements, IT has outlined a role-based software implementation road map to proactively monitor existing user systems and reduce the time required to build and create new systems. Forrester estimates that the asset management and inventory reporting features of TMS can save the composite company 20 person-days of labor in this area.

In addition, the interviewees all expressed that this effort has been very effective in reducing time to complete their Vista readiness audit. One interviewee stated that without Altiris, the effort to assess its Vista readiness would have been tripled. The difference translated into another 30 person-days of labor in this area. For most organizations with end user systems and employees scattered across the globe, this assessment is a tedious task. However, by using Altiris TMS, the organizations that we interviewed improved their existing processes and improved methodologies for completing these types of assessments.

In addition to reducing IT staff time during the audit season, customers also recognized time savings for business managers who were required to review and approve system requirements. Forrester assumes that the composite organization's 15 business managers save 8 hours annually with the implementation of TMS. Table 15 and 16 demonstrate these calculations.

**Table 15: IT Asset Audit Cost Savings**

Ref.	Metric	Calculation	Year 1
L1	Number of workers		2
L2	Hourly rate per worker		\$48
L3	Number of working hours per day		8
L4	Reduction in number of days		50
Lt	Improve IT asset audits	$L1*L2*L3*L4$	\$38,462

Source: Forrester Research, Inc.

**Table 16: Improvement In End User Productivity**

Ref.	Metric	Calculation	Per period
M1	Number of managers		20
M2	Hourly rate per worker		72
M3	Number of hours (saved)		16
M4	Percent captured		100%
Mt	Incremental output per worker	$M1*M2*M3*M4$	\$23,077

Source: Forrester Research, Inc.

*Reduced Operational Effort Required To Manage Ongoing IT Activities*

Other key benefits include the reduction in ongoing operational activities, such as backup, re-imaging, patch management, and migration, as well as a reduction in tape shipping and new PC shipping costs. The TMS recovery solution enables customers to create remote backups over the WAN to a central location. Prior to implementing TMS, the composite organization was creating daily backup tapes for servers at each of its 20 locations. Backup tapes were shipped daily by priority overnight service, at a rate of \$10 per day per location, to a central location for archiving. TMS eliminated this cost with its Recovery Solution Module, which creates backup data over the customer's network.

The quality of the backup data has also improved. Backup tapes were unreliable. Customers reported that backup tape restoration was about 40% successful due to the poor quality of the tapes and poor archiving processes.

Table 17 illustrates the calculations for labor and priority overnight shipping cost savings.

**Table 17: Tape Backup Labor Cost Savings**

Ref.	Metric	Calculation	Value
N1	Number of locations		20
N2	Number of tapes		2
N3	Number of working days		260
N4	Number of hours for preparation		0.25
N5	Hourly rate per worker		\$48
N6	Shipping cost priority overnight		\$10
N7	Number of shipments		1.0
N8	Number of branches		20
Nt	Cost savings in backup preparation time	$N1*N2*N3*N4*N5 + N3*N6*N7*N8$	\$177,000

Source: Forrester Research, Inc.

Re-imaging laptops and desktops for new machines, redeployments, or to repair damaged systems is a costly process when performed manually. TMS automates the process and eliminates the need for a technician and a machine to be in the same place. This produces a cost savings for the composite company of \$112,400 per year. Forrester assumes that 10% of the PCs in daily use will require re-imaging over the course of a year. Calculations for this benefit for the composite company are shown in Table 18.

**Table 18: Re-Imaging Labor Cost Savings**

Ref.	Metric	Calculation	Per period
P1	Total number of assets		2,600
P2	Percent requiring re-imaging		10%
P3	Labor cost per re-image (technician)	$4*\$48$	\$192
P4	Cost per re-image (user productivity)	$4*\$60$	\$240
Pt	Re-imaging costs avoided	$P1*P2*(P3+P4)$	\$112,400

Source: Forrester Research, Inc.

Using the software provisioning capabilities of TMS, the composite organization can reduce the shipment cost for each new PC by 50%. Prior to implementing TMS, the organization used to ship each new machine to its central IT office, where it was prepared and configured for a new user, and

then send it to the intended branch office. After the deployment of TMS, a new machine can be shipped directly to the branch office and provisioned remotely, resulting in an annual savings of \$13,000.

**Table 19: PC Shipping And Initial Imaging Cost Savings**

Ref.	Metric	Calculation	Per period
Q1	Number of new PCs purchased	2,600 * 5%	130
Q2	Shipping cost avoided (HQ to branch)		\$100
Q3	Percent captured		100%
Qt	Shipping cost avoided: new PC setup	Q1*Q2*Q3	\$13,000

Source: Forrester Research, Inc.

Another ongoing operational benefit is patch management for applications and network utilities. This can require significant time and effort on the part of IT resources. TMS reduces this burden by automating patch management. Forrester assumes that, prior to the adoption of TMS, the composite company carries out patch management every other week. Using the assumptions shown in Table 20, the annual cost savings for this task with Altiris is \$50,000.

**Table 20: Patch Management Cost Savings**

Ref.	Metric	Calculation	Per period
R1	Number of locations		20
R2	Number of IT staff		1.0
R3	Labor cost per hour		\$48
R4	Hours per week saved		2.0
R5	Times per year		26
Rt	Patch management	R1*R2*R3*R4*R5	\$50,000

Source: Forrester Research, Inc.

Software Virtualization Solutions (SVS) is a tool set within TMS that places applications and data into managed units called virtual software packages. SVS allows administrators to instantly activate, deactivate, or reset applications to completely avoid conflicts between applications without altering the base Windows installation. It ensures that applications use correct files and registry settings without modifying the OS and without interfering with other applications. This software management solution allows hosting multiple versions of an application on the same system without conflicts between older and newer files. Staff can easily activate or deactivate applications based on need by sending a single command to the client system.

## The Total Economic Impact Of Total Management Suite

---

By implementing SVS, the composite organization reallocated IT staff to other tasks and improved user productivity throughout the software management life cycle.

The composite organization could derive even greater value from the original investment in TMS for only modest additional cost (in this case, only the labor cost to set up SVS — the software is included in TMS). The flexibility to subsequently deploy SVS at a later date and create additional value from the functionality included in the original investment has quantifiable value.

In calculating the value of the option, Forrester conservatively assumes that the implementation of SVS can provide 1 hour per year for each of the 2,600 employees (2,600\*1\*\$60). Forrester further assumes that SVS will free 2 hours per year for each of the company's 100 IT staff (100\*2\*\$48). Table 21 demonstrates this calculation.

**Table 21: Software Virtualization Cost Savings**

Ref.	Metric	Calculation	Per period
S1	Asset value: user productivity		\$156,250
S2	Asset value: IT hours saved		\$14,423
St	Software virtualization saving	S1+S2	\$170,673

Source: Forrester Research, Inc.

### *Reduced IT Help Desk Calls*

Interviewees experienced a reduction in help desk incidents as a result of implementing TMS. With TMS, customers may proactively identify technology incidents, and in 30% of instances do so before end users notice a problem. Interviewees also reported that the help desk functionality in TMS fosters better help desk communications and ticket transfers, resulting in better end user satisfaction.

For the composite organization, Forrester estimates a reduction in workload as a result of: a) employees' ability to resolve many of their own problems by finding answers in the TMS knowledge base, and b) the application self-healing and rationalization of files that TMS creates across the organization. TMS contains functionality for preparing applications for deployment and controls for standardizing software installation, reinstalling registry files, and properly configuring PCs to run the applications. The suite contains logic for automated self-healing — ensuring that the correct version of required files are installed and reinstalling missing components. The result is greater first-time application delivery success rate, application conflicts avoided, and fewer calls to the help desk.

Forrester assumes that this 2,600 employee organization can reduce the number of help desk incidents by 936 per year. Multiplied by the hourly labor rate and an average time to resolve each incident, the annual savings in this area is equal to \$45,000. Table 22 illustrates the result.

**Table 22: Help Desk Incident Avoided**

Ref.	Metric	Calculation	Per period
T1	Total number of employees		2,600
T2	Percent of employees with incidents per month		5%
T3	Total number of help desk incidents per month	$T1 * T2$	130
T4	Percent reduction in help desk incidents		60%
T5	Reduction in monthly number of help desk incidents	$T3 * T4$	78
T6	Average time to handle incidents (hours)		1
T7	Worker hourly rate		\$48
Tt	Improving help desk efficiency	$T5 * 12 * T6 * T7$	\$45,000

Source: Forrester Research, Inc.

***Total Benefits***

The sum of the accrued benefits of TMS for the composite organization is \$3,943,836, with a present value of \$3,269,244. Readers should note that Forrester has calculated only the benefits that TMS customers have actually experienced and were able to quantify in a range of estimates. Readers who are considering a TMS implementation should use this study as a starting point for their organization’s business case for TMS. There may be other quantifiable benefits from features and functions of TMS that have not been quantified in this study. Table 23 summarizes the annual, total, and present value of the benefits described above.

**Table 23: Total Benefits — Non-Risk-Adjusted**

<b>Cash Flow Analysis (Original Estimates)</b>					
<b>Benefits</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>	<b>Present value</b>
Software license management benefits	\$571,000	\$571,000	\$571,000	\$1,713,000	\$1,419,992
Inventory parts management	\$75,000	\$75,000	\$75,000	\$225,000	\$186,514
Laptop purchases avoided	\$39,000	\$39,000	\$39,000	\$117,000	\$96,987
Improve IT asset audits	\$38,462	\$38,462	\$38,462	\$115,386	\$95,649
Users productivity gain	\$23,077	\$23,077	\$23,077	\$69,231	\$57,389
Cost savings in backup/recovery	\$177,000	\$177,000	\$177,000	\$531,000	\$440,173
Re-imaging costs avoided	\$112,400	\$112,400	\$112,400	\$337,200	\$279,522
Shipping cost avoided: new PC setup	\$13,000	\$13,000	\$13,000	\$39,000	\$32,329
Patch management	\$50,000	\$50,000	\$50,000	\$150,000	\$124,343
Software virtualization saving	\$170,673	\$170,673	\$170,673	\$512,019	\$424,438
Improving help desk efficiency	\$45,000	\$45,000	\$45,000	\$135,000	\$111,908
<b>Total</b>	<b>\$1,314,612</b>	<b>\$1,314,612</b>	<b>\$1,314,612</b>	<b>\$3,943,836</b>	<b>\$3,269,244</b>

Source: Forrester Research, Inc.

## **Risk**

Risk is the third component within the TEI model. It is used as a filter to capture the uncertainty surrounding different cost and benefit estimates. If a risk-adjusted ROI still demonstrates a compelling business case, it raises confidence that the investment is likely to succeed because the risks that threaten the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as realistic expectations, since they represent the expected values considering risk. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates.

For the purpose of this analysis, Forrester risk-adjusts cost and benefit estimates to better reflect the level of uncertainty that exists for each estimate. The TEI model uses a triangular distribution method to calculate risk-adjusted values. To construct the distribution, it is necessary to first estimate the low, most likely, and high values that could occur within the current environment. The risk-adjusted value is the mean of the distribution of those points.

For example, in the case of software license management benefit, the \$1,713,000 value used in this analysis can be considered the “most likely” or expected value. This benefit amount varies based on the number, type, and usage status of all licensed software throughout the organization. Accurate knowledge of the environment prior to implementation of TMS is difficult to obtain. To capture this

## The Total Economic Impact Of Total Management Suite

---

variability as part of this study, estimates are made and ranges are established for the anticipated benefit. Forrester uses a risk factor of 120% on the high end, 90% as the most likely, and 50% on the low end. This has the effect of decreasing the benefit estimate, taking into account that original benefit estimates are more likely to be revised downward than upward. Forrester then creates a triangular distribution to reflect the range of expected costs, with 87% as the mean (the sum of 120%, 90%, and 50% divided by three). Forrester applies this mean to the most likely estimate, \$1,713,000, to arrive at a risk-adjusted value of \$1,419,992.

The following *general* management and process risks were considered in this study:

- IT staff turnover could lead to an additional investment in training for new hires.
- Installation and testing could require more days of consulting services, resulting in higher project costs.
- The level of infrastructure (server hardware, software, and labor) investment could be higher than originally anticipated.

The following categories specific to Total Management Suite were considered in this study:

- Data could be lost when implementing the recovery solution. This risk was mitigated by operating both old and new backup agents working in parallel during pilot testing and slowly moving off the old system onto Altiris.
- Training and knowledge transfer risk could increase the cost of implementing and operating TMS.

The following tables show the values used to adjust for uncertainty in cost and benefit estimates. Different cost and benefits estimates have different levels of risk adjustments. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

## The Total Economic Impact Of Total Management Suite

**Table 29: Total Costs — Risk-Adjusted Cash Flow Analysis**

Costs	Initial	Year 1	Year 2	Year 3	Total	Present value
Software license fees	(\$529,100)				(\$529,100)	(\$529,100)
Hardware costs	(\$142,800)				(\$142,800)	(\$142,800)
Internal IT administration cost		(\$275,000)	(\$275,000)	(\$275,000)	(\$825,000)	(\$683,884)
Consulting fees	(\$69,825)				(\$69,825)	(\$69,825)
Training fees	(\$28,720)				(\$28,720)	(\$28,720)
Labor opportunity cost — training	(\$30,769)				(\$30,769)	(\$30,769)
Premium 25 Support		(\$6,875)	(\$6,875)	(\$6,875)	(\$20,625)	(\$17,097)
<b>Total costs — risk-adjusted</b>	<b>(\$801,214)</b>	<b>(\$281,875)</b>	<b>(\$281,875)</b>	<b>(\$281,875)</b>	<b>(\$1,646,839)</b>	<b>(\$1,502,195)</b>

Source: Forrester Research, Inc.

**Table 30: Total Benefits — Risk-Adjusted Cash Flow Analysis**

Benefits	Year 1	Year 2	Year 3	Total	Present value
Software license management benefits	513,900	513,900	513,900	1,541,700	1,277,993
Inventory parts management	\$67,500	\$67,500	\$67,500	\$202,500	\$167,863
Laptop purchases avoided	\$35,100	\$35,100	\$35,100	\$105,300	\$87,289
Improve IT asset audits	\$34,616	\$34,616	34,616	103,847	86,084
Users productivity gain	\$23,077	\$23,077	\$23,077	\$69,231	\$57,389
Cost savings in backup/recovery	\$177,000	\$177,000	\$177,000	\$531,000	\$440,173
Re-imaging costs avoided	\$112,400	\$112,400	\$112,400	\$337,200	\$279,522
Shipping cost avoided: new PC setup	\$13,000	\$13,000	\$13,000	\$39,000	\$32,329
Patch management	\$50,000	\$50,000	\$50,000	\$150,000	\$124,343
Software virtualization saving	\$153,606	\$153,606	\$153,606	\$460,817	\$381,995
Improving help desk efficiency	\$45,000	\$45,000	\$45,000	\$135,000	\$111,908
<b>Total</b>	<b>\$1,225,199</b>	<b>\$1,225,199</b>	<b>\$1,225,199</b>	<b>\$3,675,595</b>	<b>\$3,046,888</b>

Source: Forrester Research, Inc.

## Flexibility

As defined by TEI, flexibility represents an investment in additional capacity or capability that could be turned into business benefit for some future additional investment. Flexibility benefits typically increase with the scalability of the technology investment. This provides an organization with the “right” or ability to engage in future initiatives, but not the obligation to do so. In the case of this investment, there are multiple scenarios in which a customer might choose to activate additional functionality within TMS with the intention of future scalability.

The interviewed customers purchased TMS to meet their growing business needs — specifically to reduce operational costs of managing existing and future IT initiatives. The customers indicated that the implementation of TMS allowed their organizations to meet their growing needs while avoiding the need to expand the IT headcount. The organizations that we interviewed are currently using 40% to 70% of the TMS offering. The opportunity to expand exists. In addition to the Altiris offering, there are complementary Symantec products that can integrate with TMS. The value of flexibility is unique to each organization, and the willingness to measure its value varies from company to company (described in more detail in Appendix A).

## TEI Framework: Summary

Considering the financial framework constructed above, the results of the costs, benefits, risk, and flexibility sections using the representative numbers can be used to determine a return on investment, net present value, and payback period.

Table 31 and 32 present the risk-adjusted values after applying the risk-adjusted method indicated in the Risk section.

It is important to note that values used throughout the TEI Framework are based on in-depth interviews with four organizations and the resulting composite organization built by Forrester. Forrester makes no assumptions as to the potential return that other organizations will receive within their own environment. Forrester strongly advises that readers use their own estimates within the framework provided in this study to determine the expected financial impact of implementing Total Management Suite.

**Table 31: Summary Financial Non-Risk-Adjusted Cash Flow**

Category	Initial	Year 1	Year 2	Year 3	Total	Present value
Total costs	(\$791,089)	(\$281,875)	(\$281,875)	(\$281,875)	(\$1,636,714)	(\$1,492,070)
Total benefits		\$1,314,612	\$1,314,612	\$1,314,612	\$3,943,836	\$3,269,244
Total (non-risk-adjusted)	(\$791,089)	\$1,032,737	\$1,032,737	\$1,032,737	\$2,307,122	\$1,777,174
Return on investment	119%					
Payback period (months)	9.2					

Source: Forrester Research, Inc.

**Table 32: Summary Financial Risk-Adjusted Cash Flow**

Category	Initial	Year 1	Year 2	Year 3	Total	Present value
Total costs	(\$801,214)	(\$281,875)	(\$281,875)	(\$281,875)	(\$1,646,839)	(\$1,502,195)
Total benefits		\$1,225,199	\$1,225,199	\$1,225,199	\$3,675,595	\$3,046,888
Total (non-risk-adjusted)	(\$801,214)	\$943,324	\$943,324	\$943,324	\$2,028,756	\$1,544,693
Return on investment	103%					
Payback period (months)	10.2					

Source: Forrester Research, Inc.

## Study Conclusions

Forrester’s in-depth interviews with Total Management Suite customers yielded several important observations:

Based on information collected in interviews with current Total Management Suite customers, Forrester found that organizations can realize benefits in the form of: 1) improved software and hardware asset management; 2) improved audit of IT assets; 3) reduced operational efforts required to plan, manage, track, communicate, and implement ongoing IT initiatives and processes; and 4) reduced IT help desk calls.

The financial analysis provided in this study illustrates the potential way an organization can evaluate the value proposition of Altiris’ products. Based on information collected in four in-depth customer interviews, Forrester calculated a three-year risk-adjusted ROI of 96% for the composite organization with a payback period of 10.7 months. All final estimates are risk-adjusted to incorporate potential uncertainty in the calculation of costs and benefits.

Based on these findings, companies looking to implement Total Management Suite can expect productivity benefits and cost savings. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

**Table 1: Composite Company ROI, Risk-Adjusted**

Summary financial results	Original estimate	Risk-adjusted
ROI	119%	103%
Payback period (months)	9.2	10.2
Total costs (PV)	(\$1,492,070)	(\$1,502,195)
Total benefits (PV)	\$3,269,244	\$3,046,888
Total (NPV)	\$1,777,174	\$1,544,693

Source: Forrester Research, Inc.

## Appendix A: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility. For the purpose of this analysis, the impact of flexibility was not quantified.

### Benefits

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed product or project. Often product or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

### Costs

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the forms of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

### Risk

Risk measures the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: the likelihood that the cost and benefit estimates will meet the original projections and the likelihood that the estimates will be measured and tracked over time. TEI applies a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the underlying range around each cost and benefit.

### Flexibility

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point in time. However, having the ability to capture that benefit has a present value that can be estimated. The flexibility component of TEI captures that value.

## Appendix B: Glossary

**Discount rate:** The interest rate used in cash flow analysis to take into account the time value of money. Although the Federal Reserve Bank sets a discount rate, companies often set a discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16%, based on their current environment. Readers are urged to consult their organization to determine the most appropriate discount rate to use in their own environment.

**Net present value (NPV):** The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

**Present value (PV):** The present or current value of (discounted) cost and benefit estimates given an interest rate (the discount rate). The PV of costs and benefits feed into the total net present value of cash flows.

**Payback period:** The breakeven point for an investment. The point in time at which net benefits (benefits minus costs) equal initial investment or cost.

**Return on investment (ROI):** A measure of a project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

### *A Note On Cash Flow Tables*

The following is a note on the cash flow tables used in this study (see the Example Table below). The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1. Those costs are not discounted. All other cash flows in Years 1 through 3 are discounted using the discount rate shown in Table 1 at the end of the year. Present value (PV) calculations are calculated for each total cost and benefit estimate. Net present value (NPV) calculations are not calculated until the summary tables and are the sum of the initial investment and the discounted cash flows in each year.

### **Example Table**

Ref.	Category	Calculation	Initial cost	Year 1	Year 2	Year 3	Total

Source: Forrester Research, Inc.