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The Total Economic Impact™ Of Microsoft SharePoint Server 2010

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Executive Summary

As organizations build their competitive positions based on the skills and talents of their knowledge workers, better tools are required to make those key resources more efficient and effective. As collaboration initiatives become more closely aligned with organizational goals, the need for a well-orchestrated strategy becomes apparent. At the same time, collaboration has become a critical competency to drive an organization to a more competitive position by making its knowledge workers more productive as individuals and in teams. Timely access to information, expertise, organizational wisdom, and communities that can drive innovation and efficiency will be hallmarks of well-run organizations in the new economy. As we once addressed the challenges of structured data and processes, organizations now need to improve management of unstructured data and information while simultaneously advancing innovation, execution, design, and customer/partner intimacy.

In December 2009, Microsoft commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) that enterprises may realize by deploying Microsoft SharePoint Server 2010. To understand the financial impact of investing in the latest version of SharePoint, Forrester conducted in-depth interviews with 11 Microsoft customers that have started using the product and compiled their results and forward-looking expectations into a composite case study of a 5,000-worker professional services company.

In conducting the interviews with Microsoft customers, Forrester found that organizations can achieve significant financial benefits from consolidating collaboration, document management, internal and external portal software, and search onto SharePoint Server 2010. The new capabilities of SharePoint 2010 can encompass line-of-business applications — accounting and finance, business intelligence, search, and other complex workloads for some customer organizations — allowing organizations to reduce the number of vendors and achieve lower software license and maintenance costs. Additional benefits can be accrued from lower IT administration and simplified application development by upgrading SharePoint 2003 and 2007 environments to SharePoint Server 2010.

The study also uncovered benefits of improved collaboration and information worker productivity and indications of even stronger collaboration in the future as customer organizations take advantage of new capabilities in SharePoint Server 2010.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Microsoft SharePoint 2010 on their organizations. Forrester's aim is to clearly show all calculations and assumptions used in the analysis. Readers should use this study to better understand and communicate a business case for investing in Microsoft SharePoint 2010.

Methodology

Microsoft selected Forrester for this project because of Forrester's Total Economic Impact™ (TEI) methodology, as well as Forrester's industry expertise in enterprise collaboration strategy and tools, computer architectures, server and data center management, and the emerging trend of using Microsoft Office as a front end for line-of-business information and processes.

Forrester employs four fundamental elements of TEI in modeling the financial implications of migrating or upgrading to SharePoint Server 2010:

1. Costs.

2. Benefits to the entire organization.
3. Flexibility.
4. Risk.

Given the increasing sophistication that enterprises have regarding cost analyses related to IT investments, Forrester's TEI methodology serves a valuable purpose by providing a complete picture of the total economic impact of purchase decisions.

Approach

Forrester used a five-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to next-generation collaboration tools, the enterprise collaboration platforms market in general, as well as the emerging trend of using Microsoft Office as a front end for line-of-business information and processes.
2. Forrester interviewed Microsoft marketing and strategy personnel to fully understand the potential value proposition of SharePoint Server 2010.
3. Forrester conducted a series of in-depth interviews with 11 organizations currently using SharePoint Server 2010.
4. Forrester created a composite organization based on the interviews and populated the framework using data from the interviews as applied to the composite organization.
5. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.

Key Findings

Forrester's study yielded a number of key findings:

- **ROI.** Based on the customer interviews, Forrester constructed a TEI framework for a composite organization and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the risk-adjusted ROI for the composite company — not including any productivity benefits (see pages 21 to 24) — is 108%, with a breakeven point (payback period) of fewer than 12 months after deployment.
- **Benefits.** Quantified benefits accruing to the composite organization, which reflect the experience and the expectations of the companies interviewed for the study, amount to approximately **\$3.1 million** (risk-adjusted, present value [PV]) over a three-year period. These financial benefits include cost savings related to avoiding replacement or upgrades to the company document management system and its portal platform.
- **Costs.** The costs for the upgrade to SharePoint 2010 sum to almost **\$1.5 million** (risk-adjusted, PV) over the first three years. These costs include implementation labor, professional services fees for taxonomy development of an information architecture, and additional server hardware costs as the company expands its SharePoint footprint from the existing collaboration platform to include document management and portal system

capabilities. The composite organization in this study is assumed to have a Software Assurance agreement, so these results do not include license costs or maintenance fees for the SharePoint Server 2010 product, as those costs are covered by Software Assurance.

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.

Table 1: Composite Company ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	140%	108%
<i>Payback period (months)</i>	9.0	10.4
Total costs (PV)	(\$1,383,372)	(\$1,503,338)
Total benefits (PV)	\$3,322,503	\$3,128,567
Total (NPV)	\$1,939,131	\$1,625,229

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study is commissioned by Microsoft and delivered by the Forrester Consulting group.
- Microsoft reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings.
- The customers for the interviews were provided by Microsoft.
- Forrester makes no assumptions as to the potential ROI 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 SharePoint Server 2010.
- This study is not meant to be used as a competitive product analysis.

SharePoint Server 2010: Overview

According to Microsoft, SharePoint Server 2010 enables organizations to connect and empower people through an integrated set of rich features. SharePoint 2010 facilitates business collaboration in a broadest sense and helps colleagues, partners, and customers work together in new and effective ways. The enterprise capabilities of SharePoint include the following.

Sites

SharePoint delivers a single infrastructure to provide portal and collaboration capabilities across intranet, extranet, and Internet sites. It brings users together to share information, data, and expertise across organizations.

Search

SharePoint gives users the ability to find the content, information, and people they need by combining an integrated, easy-to-manage platform with best-of-breed enterprise search technology.

Communities

SharePoint empowers people to work together in ways that are most effective for them. Communities allow people to collaborate in groups, share knowledge and ideas, connect with colleagues, and find information and experts easily.

Insights

SharePoint enables users to access and interact with information across unstructured and structured data sources. It empowers users to discover the right people and expertise to make better and more agile business decisions.

Content

With SharePoint, all users can participate in a governed, compliant content management life cycle. SharePoint makes it possible to expertly balance user experience with policy and process.

Composites

Users can rapidly respond to business needs by creating their own no-code solutions on-premises or in the cloud, through a rich set of building blocks, tools, and self-service capabilities.

For IT professionals, the enhancements in SharePoint 2010 help drive productivity by offering a scalable unified infrastructure and flexible deployment options.

For developers, SharePoint 2010 provides a development platform to rapidly build solutions and respond to business needs. Developers can be efficient and productive by using familiar tools like Microsoft Visual Studio and SharePoint Designer.

Analysis

Forrester's approach to evaluate the financial impact that implementing SharePoint 2010 can have on an organization includes the following steps:

- Interviews with Microsoft marketing, sales, and strategy personnel.
- In-depth interviews of 11 organizations currently using the product under study.
- Construction of a composite organization based on characteristics of the interviewed organizations.
- Construction of a common financial framework for the implementation of SharePoint 2010.

Interview Highlights

Representatives from the following Microsoft customer organizations were interviewed for this study:

1. A multinational food company.
2. A multinational consulting firm.
3. A leading supplier of electricity and natural gas.
4. A global entertainment company.
5. An international news wire service.
6. A nationwide retail financial services firm.
7. An electronic discovery services company.
8. A global IP network services provider.
9. A North American telecommunications company.
10. A North American producer of natural gas.
11. A state department of transportation.

The interviews revealed a number of valuable insights on the implementation and use of SharePoint Server 2010 within these organizations. Key drivers for investing in SharePoint 2010 varied among the companies in the study, including the following:

- Achieving cost savings by consolidating enterprise functionality and implementing new capabilities offered in SharePoint 2010. Companies in the study cited actual, or potential for, lower costs of software with the move to consolidate on the Microsoft platform, thus eliminating older, more expensive software and support agreements with other vendors.

- Consolidating the proliferation of collaboration tools. As one interviewee stated, “Having too many tools becomes an impediment to collaboration.”
- Empowering business units to manage more of their own collaboration and content tools, while freeing IT resources that were previously tied to administrative, maintenance, and customization tasks.
- Easing the efforts required to find structured and unstructured content inside the organization as well as externally.
- Improving process efficiencies and workflow management and improving collaboration across the enterprise.
- Building capabilities for integrating legacy data stores, financial data, and a wide variety of enterprise content and business intelligence applications in SharePoint 2010.
- Creating options to gain potential future benefits from relatively easy integration of business intelligence, and ERP, CRM, and other line-of-business applications.
- Changing training from traditional instructor-led classroom courses, requiring travel, to self-serve and just-in-time delivery of corporate education.
- Improving worker productivity by providing integrated content and record management that uses a consistent data classification interface, as well as more end user-accessible content management.
- Enabling enterprise governance and policies around currently unstructured data processes to enhance risk management.
- Taking advantage of the co-authoring capabilities so that more than one employee at a time can work on a content item.
- Leveraging .NET development skills within the organization to build new classes of content-centric applications.
- Reducing hardware footprint.

All companies in the study are in the early stages of SharePoint 2010 adoption, making productivity measurement and estimates less reliable than for mature software investments. Yet a strong business case exists based on hard cost savings. Most of the companies in the study described their SharePoint 2010 investment as a natural upgrade path from SharePoint 2003 and 2007 to continue to build a collaborative information system of record and to move away from disparate software applications and file shares to team and personal sites, blogs, wikis, and other Web 2.0 functionality. Most companies reported an expected drop in IT staff dedicated to servicing business unit applications and collaboration tools, enabling IT staff to be reassigned to more strategic projects.

TEI Framework

With the information obtained in the customer interviews, Forrester has constructed a TEI framework for those organizations considering an implementation of the collaboration platform. The

objective of the framework is to identify the cost, benefits, risk factors, and flexibility that affect the decision to invest in Microsoft's collaboration products.

Composite Organization

Based on interviews with 11 Microsoft SharePoint 2010 customers, Forrester constructed a composite company and an associated ROI framework to reflect the investment in an *on-premise* SharePoint 2010 implementation. The composite organization that Forrester synthesized from these interviews is a professional services firm that provides employee compensation and benefits, talent management, and strategic human capital services for growing companies. The following are key characteristics of the composite organization described in the case study.

Organization Size And Dimensions

- \$1 billion in revenue.
- 7,000 office workers and 5,000 users of SharePoint.
- Offices in 25 North American locations and 15 offices in Europe, South America, and Asia Pacific; the majority of work is done remotely by small teams located at client sites.

Environment Prior To Investment

Prior to investing in SharePoint 2010, the company's collaboration environment was supported with a range of separate tools and applications. The collaboration environment included tools that had been customized for the way the company worked five years ago, and users were increasingly frustrated with mismatches of tool functionality and the requirements of their jobs.

- Third-party software used for portal, document management, Web content management, and database engine for portal and Web, project portfolio management, blogging, wikis, and other applications; homegrown learning management system.
- SharePoint is in wide use throughout every area of the company, including a mixture of SharePoint 2007, in use for more than a year, and SharePoint 2003.
- Prior investment in much of the required 64-bit hardware.
- The organization covers its SharePoint software with Software Assurance.

Reasons For Investment In SharePoint 2010

The composite company sees a growing need to build a culture of collaboration and to use modern tools and infrastructure to support collaboration trends that will enhance employee productivity and create competitive advantages for client service. Furthermore, the company has identified significant cost savings opportunities from tool and technology consolidation:

- Build a collaboration platform that is not "hard-coded" and can be flexible toward changing business requirements, standards and legal requirements, communication patterns, workflows, and reporting.
- Consolidate the proliferation of tools, technologies, and vendors for cost savings, lower maintenance, and management demands.

- Consolidate collaboration environment and support team activities on a single platform.
 - Deploy new capabilities in SharePoint 2010 for document and records management, blogging, wikis, and other applications; replace a homegrown learning management system.
 - Deploy a unified Web content management and enterprise content management platform.
 - Leverage user and IT staff familiarity with MS Office tools.
- Replace some instructor-led training in favor of self-service tutorials and team learning, generating benefits from just-in-time learning, lower time requirements, and travel cost savings.
- Push the development of simple SharePoint applications and new collaboration capabilities to the business units, freeing IT for more strategic projects.
- Increase business user/knowledge worker productivity.
 - Integrate content and records management using a common data classification interface.
 - Allow multiple users to simultaneously work on documents without check-in and checkout delays via co-authoring capabilities.
 - Improve search capabilities, and save knowledge worker time spent locating corporate, client, and external content.
 - Provide more effective support for telecommuters and virtual teams.
 - Support the kinds of Social Computing and Web 2.0 functions that are familiar to employees with My Sites, Team Sites, and knowledge and idea sharing, and support better access to experts and communities of interest.
- Increase IT staff productivity.
 - Reassign IT resources from administrative tasks and small app development.
 - Consolidate IT efforts on .NET programmers and de-emphasize Java and other technologies.
 - Build enterprise Web services with reuse in mind, thus doing more with fewer IT resources.
- Achieve hardware cost savings.

Framework Assumptions

Table 2 lists the discount rate used in the PV and net present value (NPV) calculations and time horizon used for the financial modeling.

Table 2: General Assumptions

Ref.	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 their finance department to determine the most appropriate discount rate to use within their own organizations.

Costs

The main costs associated with this implementation of SharePoint 2010 are: 1) implementation labor costs; 2) professional services for taxonomy development and governance; and 3) server hardware upgrade costs. The following are the cost inputs to the financial analysis.

Client Software

The composite organization is assumed to have a Software Assurance agreement, like the companies interviewed in this study, so the financial framework does not include license costs or maintenance fees — costs that are covered by Software Assurance.

Internal Labor — Collaboration Platform Upgrade

The customers interviewed for this study described the internal labor required to set up and launch the collaboration capabilities of SharePoint 2010 and upgrade from their SharePoint 2007 platforms. For the composite company, four IT resources — one project manager, two developers, and one administrator — will be required for eight weeks. With an average fully loaded (including benefits) hourly compensation of \$65, the total cost for this stage is \$83,200. This effort encompasses the upgrade from SharePoint 2007 (and some SharePoint 2003) of like-for-like capabilities that existed on the older platform.

Table 3: Implementation Labor Cost — SharePoint Collaboration Platform

Ref.	Metric	Calculation	Initial/ Year 0	Year 1	Year 2	Year 3	Total
A1	Number of FTEs		4				
A2	Fully loaded hourly rate		\$65				
A3	Hours	40*8 weeks	320				
At	Implementation labor — SharePoint 2010 collaboration platform	A1*A2*A3	\$83,200				\$83,200

Source: Forrester Research, Inc.

Internal Labor — Document Management Platform Migration

The composite company will implement the document management capabilities in SharePoint and gradually phase out reliance on its previous document management tools. The incumbent document management system is approaching the point where it requires replacement, and the latest version of SharePoint has been designed to make this consolidation possible and financially attractive. In order to make this shift, internal IT resources will be employed to affect various tasks to enable the company's 5,000 users to manage documents as an integral function to their collaboration activities. Four resources working a total of 400 hours during the initial period will generate a cost of \$104,000 as shown in Table 4. This work will consist of customizing SharePoint to meet specific organizational requirements. The legacy document management system will be left in place indefinitely (although no new documents are to be added after Year 1).

Table 4: Implementation Labor Cost — SharePoint 2010 Document Management Platform

Ref.	Metric	Calculation	Per period	Year 1	Year 2	Year 3	Total
B1	Number of FTEs		4				
B2	Fully loaded hourly rate		\$65				
B3	Hours		400				
Bt	Implementation labor — SharePoint 2010 document management platform	B1*B2*B3	\$104,000				\$104,000

Source: Forrester Research, Inc.

Internal Labor — Rebuilding Portal Stack In SharePoint 2010

The company's existing portal software stack and hardware are nearing the need for replacement as well, so the composite company will end their use in 2011 in favor of parallel functionality in SharePoint 2010. The portal stack will be rebuilt on SharePoint 2010, eliminating the need for a separate application engine, Web server, HTML host, and database. A third-party component will be used to link SharePoint 2010 with the legacy document management environment.

This initiative will require a project manager, two developers, two administrators, and .5 database administrators. It is estimated that 5.5 IT resources will spend approximately four months or a total of 700 man-hours of IT time on implementing SharePoint 2010 for use as a new portal platform. At an average blended rate of \$70 per hour per FTE and 700 hours, the total implementation cost for the composite organization is \$269,500 as shown in Table 5.

Table 5: Rebuilding Portal Stack In SharePoint 2010

Ref.	Metric	Calculation	Initial/Year 0	Year 1	Year 2	Year 3	Total
C1	Number of FTEs		5.5				
C2	Fully loaded hourly rate		\$70				
C3	Hours		700				
Ct	Rebuilding portal stack in SharePoint 2010	C1*C2*C3	\$269,500				\$269,500

Source: Forrester Research, Inc.

Internal Labor — Rebuilding Portal Sites In SharePoint 2010

Rebuilding internal and external Web sites and moving content to the new portal platform will initially require the effort of a project manager, two developers, one administrator, and a designer. Fewer resources will be required in Year 1 as this work is completed. Table 6 shows the initial period cost of \$219,375 and work in Year 1 amounting to \$146,250, for a total of \$365,625.

Table 6: Rebuilding Portal Sites In SharePoint 2010

Ref.	Metric	Calculation	Initial/Year 0	Year 1	Year 2	Year 3	Total
D1	Number of FTEs		4.5	3			
D2	Fully loaded hourly rate		\$65				
D3	Hours		750				
Dt	Rebuilding portal sites	D1*D2*D3	\$219,375	\$146,250			\$365,625

Source: Forrester Research, Inc.

Professional Services — Taxonomy

A number of the companies interviewed for this study indicated plans to employ professional services for assistance in creating and implementing taxonomy and defining metadata. Other companies expected to accomplish this work using in-house resources. One of the goals in implementing SharePoint is to make currently unstructured data more usable and manageable, and in order to accomplish this, an information architecture based on a well-planned taxonomy is a necessity.

Forrester assumes that the composite company will engage a consulting firm to assist and to bring best practices at a cost of \$200,000 as shown below.

Table 7: Taxonomy Consulting Services

Ref.	Metric	Calculation	Initial/Year 0	Year 1	Year 2	Year 3	Total
E1	Number of consultants		2				
E2	Hourly rate		\$200				
E3	Hours		500				
Et	Professional services — taxonomy	$E1 \times E2 \times E3$	\$200,000				\$200,000

Source: Forrester Research, Inc.

Hardware Costs

To support the SharePoint 2010 implementation, Forrester assumes the composite company will need to purchase 20 additional 64-bit servers at \$10,000 each. The total hardware cost is \$200,000. And to run two instances of FAST search will require server hardware costing \$25,000 per instance.

Table 8: Hardware Costs

Ref.	Metric	Calculation	Initial/Year 0
F1	Cost per server		\$10,000
F2	Number of units		20
F3	Search server hardware	$\$25,000 \times 2$	\$50,000
Ft	Hardware costs	$(F1 \times F2) + F3$	\$250,000

Source: Forrester Research, Inc.

Legacy Document Management — Annual Maintenance

As the company will maintain its legacy document management system for the documents stored there and to preserve archival integrity, an annual maintenance cost of \$50,000 per year will continue to be incurred.

Total Costs

Total costs for the initial implementation and series of initiatives on the SharePoint 2010 platform are shown in Table 9 below.

Table 9: Total Costs (Non-Risk-Adjusted)

Costs	Initial	Year 1	Year 2	Year 3	Total
Implementation labor — SharePoint 2010 collaboration platform	83,200				83,200
Implementation labor — SharePoint 2010 document management platform	104,000				104,000
Rebuilding portal stack in SharePoint 2010	269,500				269,500
Rebuilding internal portal sites	219,375	146,250			365,625
Professional services — taxonomy	200,000				200,000
Hardware costs	250,000				250,000-
Legacy document management — annual maintenance		50,000	50,000	50,000	150,000
Total	\$1,126,075	\$196,250	\$50,000	\$50,000	\$1,422,325

Source: Forrester Research, Inc.

Benefits

“Overall, we will achieve a total cost reduction while providing all the newest and greatest features of SharePoint 2010. Perhaps the single greatest value is our ability to finally delegate responsibilities down to the business units so they can better utilize the system to fit their precise requirements.”

— System administrator, energy company

In interviews with Microsoft customers, Forrester identified the following key benefits resulting from an investment in Microsoft SharePoint Server 2010: 1) shifting expenditures for software and hardware infrastructure upgrades that would have been required for the company's collaboration platform; 2) avoiding costs of replacing the incumbent document management platform as a result of implementing SharePoint 2010 document management capabilities; 3) cost savings from discontinuing use of the former portal platform in favor of portal functionality in SharePoint 2010; and 4) fewer resources required for IT administration and application development. Finally, customers expect to realize benefits from improved collaboration, user productivity, and process efficiency. Forrester did not quantify all of the benefits of these latter categories in this study, as all of the customers in the study are in the early stages of their SharePoint Server 2010 deployments, and this case study is intended to provide a conservative financial framework for the financial impact of a SharePoint 2010 investment based on hard-dollar benefits.

Consolidating collaboration, document management, internal and external portal software, and search onto SharePoint Server 2010 will allow organizations to reduce the number of vendors and achieve lower software license and maintenance costs. As one IT director explained, “during this tumultuous year, we were challenged with reducing our application vendor support model as well as divesting older technologies instead of upgrading them. We identified applications for which the life span was either about to expire or had already expired and we were paying for extended support.”

Direct Cost Avoidance — Collaboration Platform Upgrade

If the composite company were to proceed on a status quo basis without an investment in SharePoint 2010, the company would face a needed investment in its collaboration platform next year. This would entail upgrading from SharePoint 2003 and 2007 to SharePoint 2010, and it would only include functionality that is comparable with what is available to the organization currently. The cost of labor is the same as shown in Table 3 in the Costs section above, albeit a year later. The plan envisaged shifts these costs from Year 1 to the present; the company will invest in SharePoint 2010 one year earlier and thus “avoid” the same costs later.

Table 10: Collaboration Platform Upgrade — Cost Avoidance

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3	Total
G1	Labor			83,200			
G2	Hardware			200,000			
Gt	Direct cost avoidance — collaboration platform upgrade	G1+G2		\$283,200			\$283,200

Source: Forrester Research, Inc.

Direct Cost Avoidance — Document Management

Like several companies interviewed for this study, the composite company will face a necessary upgrade to its document management platform in the future, which can be eliminated to the extent that the new document management capabilities in SharePoint 2010 replace the dedicated application that is currently in place. The hardware on which the system runs will also require replacement. In accordance with several of the accounts of companies interviewed in this study, Forrester assumes that the composite company will avoid the \$281,000 additional investment in Year 3 to upgrade the incumbent document management system, and avoid rebuilding all of the customized functionality it contains, by adopting SharePoint 2010 for most or all of the company's document management requirements. The incumbent system will, however, remain in place to house legacy documents for the foreseeable future.

Table 11: Document Management — Cost Avoidance

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
H1	Upgrade — labor				156,000	
H2	Hardware				65,000	
H3	Software maintenance		50,000	50,000	60,000	
Ht	Direct cost avoidance — document management platform	H1+H2+H3	\$50,000	\$50,000	\$281,000	\$381,000

Source: Forrester Research, Inc.

Direct Cost Avoidance — Portal Platform Upgrade And Maintenance

The portal software and infrastructure that the composite company uses to operate its internal and external Web sites is aging and costly. An upgrade to the latest version of the software vendors' products would be part of a plan if not for parallel capabilities now available in SharePoint 2010. By migrating its internal and external Web sites and content off of the old system onto SharePoint, the company will avoid a near-term expenditure of \$1.2 million, annual software maintenance fees of \$300,000 for the portal software, and \$171,000 annually for server operations — a total of \$2.2 million over the three-year period. Furthermore, by consolidating portal operations onto the SharePoint platform, the company can run its portals on Windows/Intel hardware versus replacing the incumbent Unix, multivendor infrastructure.

Table 12: Portal Platform — Cost Avoidance

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
I1	Labor		235,000			
I2	Hardware — replacement		585,000			
I3	Portal software maintenance		300,000	300,000	300,000	
I4	Server maintenance	\$9,500*18 servers	171,000	171,000	171,000	
It	Direct cost avoidance — existing portal platform		\$1,291,000	\$471,000	\$471,000	\$2,233,000

Source: Forrester Research, Inc.

More Business Unit Autonomy, Shifting IT Resources

“Because SharePoint is so modular and the security model is such that we can delegate responsibilities on a granular level down to the business,” explained one IT leader interviewed for this study, “we can empower the business to make many of these decisions [and build customized functionality] on their own, all the while supporting a highly available and stable environment.” IT managers expect that the self-service site building capability from SharePoint 2010 will allow their business unit partners to create sites that will be customized to best suit the need of the particular group or business function. IT resources will be deployed for other needs throughout the business, especially as more capability is developed by users via, for example, PowerPivot for self-service BI, improved search, or Visio Services to aid the business information worker.

Furthermore, interviews indicated that companies with early experience with SharePoint 2010 expect that application development times will be reduced due to higher-level programming constructs built into SharePoint, ease of development in a .NET environment, and also by using out-of-the-box functionality, linked lists, browser Web parts, as well as form services and Web services.

Forrester conservatively estimates that four IT resources will eventually be available for more strategic tasks as they are freed from administrative and assistance tasks that currently demand their time. This will provide additional value to the company of nearly \$900,000.

Table 13: Reassignment Of IT Resources

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
J1	Number of FTE IT resources		0.5	2	4	
J2	Fully loaded compensation rate		\$134,000			
Jt	Reassignment of IT resources	J1*J2	\$67,000	\$268,000	\$536,000	\$871,000

Source: Forrester Research, Inc.

Total Benefits

Table 14 summarizes the quantified benefits described above.

Table 14: Total Benefits (Non-Risk-Adjusted)

Benefits	Year 1	Year 2	Year 3	Total
Direct cost avoidance — existing portal platform	1,291,000	471,000	471,000	2,233,000
Direct cost avoidance — collaboration platform upgrade	283,200			283,200
Direct cost avoidance — document management platform upgrade or replacement	50,000	50,000	281,000	381,000
Direct cost avoidance — hardware		200,000		200,000
Reassignment of IT resources	67,000	268,000	536,000	871,000
Total	\$1,691,200	\$989,000	\$1,288,000	\$3,968,200

Source: Forrester Research, Inc.

Additional Benefit Categories Of SharePoint Server 2010

Companies interviewed for this study described numerous categories of benefits actually accruing or expected from their adoption of SharePoint Server 2010. To ascribe financial benefit for the composite company, Forrester included only the categories of benefit that were most compellingly articulated and estimated. Yet the interviews also pointed to next-step usage of the product that is likely to produce benefits that are very likely to be realized by interviewed Microsoft customers in the near future. In related research, and in working with Microsoft and its customers, Forrester has identified additional benefit areas that many prospective SharePoint Server 2010 customers may recognize and realize.

The following categories of benefit were articulated by the companies interviewed for this study, albeit without an amount of data or experience to support quantification.

Greater Collaboration, Process Efficiency, And User Productivity

Companies interviewed for this study described various ways that they expect SharePoint 2010 will generate value in terms of collaboration, efficiency, and greater user productivity for their organizations. To illustrate these categories of value for the composite company, Forrester included only the categories and scenarios of benefit that were most compellingly articulated and, in some case, estimated by study participants. The interviews pointed to next-step usage of the product that is likely to produce benefits in the near future. In related research, and in working with Microsoft and its customers, Forrester uncovered benefit areas that many prospective SharePoint Server 2010 customers may be able to estimate for their own organizations.

“One of the biggest benefits is having people work together on the same content and using the same information,” explained one of the managers interviewed for this study. “Now, using SharePoint, we are getting away from sending emails with attached documents back and forth. Important documents for marketing campaigns, for example, are reached on SharePoint, so everyone has the same version; everyone’s looking at the same thing.”

The companies participating in this study were in the early stages of rollout and user adoption of SharePoint Server 2010 at the time of publication, yet all of these organizations have plans for more extensive use of the SharePoint Server 2010 capabilities once pilot exercises are concluded, including:

- Building basic business workflows for business process, which were formerly accomplished using email and verbal communication. The new workflows will offer visibility and reporting capabilities on the state of each stage of the process as well as better ensure adherence to process, which could have compliance implications.
- Deploying and populating My Sites.
- Broadly deploying Team Sites as an alternative to file shares.

Consolidation of other collaboration tools and application software on SharePoint 2010:

- Replacing custom applications and building new apps in the SharePoint/.NET environment.
- Integrating company data from trusted systems of record, including business intelligence, ERP, and HR systems via the new Business Connectivity Services.
- Integrating self-service content and records management.
- Building libraries of enterprise Web services and parts for rapid reuse without the need for IT involvement.
- Increasing support for telecommuter and virtual teams through extranets, SharePoint Workspace and the new support for mobile phones, and potential integration with Microsoft Unified Communication tools.
- Exploiting powerful new search capabilities.
- Continuing the trend begun with SharePoint 2007 of moving away from email and file shares for collaboration.

The following work process and role scenarios illustrate typical current and planned uses of SharePoint Server 2010. Interviewed customers described the following scenarios, which illustrate many of the benefits of SharePoint Server 2010.

Work Process Scenarios

Training

Training in this professional services firm has traditionally required travel to another location, travel and living expenses, and time away from normal activities and billable client services. By shifting more training away from instructor-led, location-specific classroom programs toward self-serve, collaborative, mixed-content, and flexibly scheduled kinds of professional development, the company can achieve its growth objectives at lower actual cost. Several companies described plans to use more eLearning and just-in-time knowledge transfer via Webinars, video, access to SMEs, virtual books and case studies, and greater support from colleagues via social and collaborative networking through wikis, blogs, and forums. Such tools probably will not eliminate traditional instructor-led training, and indeed they are increasingly complementary. Furthermore, companies in the study expressed the potential for increasing employee job satisfaction, reducing time away from home, and expanding current role engagement as well as career opportunities. Finally, training can be delivered more effectively and efficiently when content, modules, and courses can be flexibly crafted, changed, and customized faster and more precisely targeted to the need of employees and the business.

Table 15 presents a calculation, which assumes that 20% of the information workers in the composite company will receive five days of off-site training annually. If that amount of time away from normal work activities and the basic travel cost are reduced by 50%, then the resultant value is conservatively valued at just more than \$2.5 million.

Table 15: Training Cost Savings

Ref.	Metric	Calculation	Per period
K1	Number of staff/training		1,000
K2	Average hourly compensation		\$67
K3	Number of hours		40
K4	% training converted to self-service, virtual		50%
K5	Travel cost per worker per year		\$1,200
Kt	Training cost reduction — eLearning and self-service	$K1 \times K2 \times K3 \times K4 + (K5 \times K4)$	\$2,540,000

Source: Forrester Research, Inc.

Human Resources

The human resources staff in many companies spend much of their time repeatedly answering the same common questions — via email, telephone, one-on-one meetings, and group presentations. Employees do not have (or do not use) a single source of HR answers. This demand-driven pull on HR staff resources can be greatly relieved using new tools: a weekly blog on high-profile issues and

events, online messaging, and team- or department-specific HR elements added to team sites. The result is less duplicated effort in responding to inquiries and a more knowledgeable workforce. HR staff are more available to work with managers of groups and to spend more of their workday on strategic initiatives, hiring, and assisting executive decision-makers. Previous attempts to deploy this type of capability proved difficult because the publishing systems used were not accessible to HR, and the required IT assistance placed enough friction on the process that content quickly became out of date and users deemed it unreliable. The SharePoint model that enables HR to easily generate and maintain content will drive timelier, trustworthy information.

Assuming that 75 staff will save 30 minutes each day as a result of changes in the demands placed on them — and assuming a conservative ramp rate based on adoption, tool rollout, and time that might not be recaptured for productive use — then the composite company will see more than \$900,000 in value over the three-year period as shown in Table 16.

Table 16: HR Productivity Improvement

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
L1	Number of HR staff		75			
L2	Average hourly compensation		\$67			
L3	Number of hours saved per day		0.5			
L4	Days		250			
L5	Percent captured/realized		25%	50%	75%	
Lt	Incremental productivity — HR staff	$L1 \times L2 \times L3 \times L4 \times L5$	\$157,031	\$314,063	\$471,094	\$942,188

Source: Forrester Research, Inc.

Sales And Account Management

The roles of account executives (AEs) and client partners, combined, include understanding clients' needs, liaison between the client and company SMEs and delivery teams, and quickly developing relationships with new clients to prove the firm's value as a partner — and ultimately closing new business.

Using new tools to address current gaps in client and prospect information, finding relevant prior art faster, stronger linkages to company SMEs, and faster responses to new opportunities or problem situations can make for stronger overall client and prospect engagement. Conversations with clients and prospects can be richer in intelligence and more precisely directed toward their business needs and delivery of matched capabilities. What is the value of timely review of intelligence on the client rather than re-asking questions? A conservative cost-based calculation of this value, based on time "saved" and compensation for AEs and client partners, is shown in Table 17 below.

Table 17: Sales And Account Management Productivity Improvement

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
M1	Number of AEs, client partners		100			
M2	Average hourly compensation		\$100			
M3	Number of hours/week		3			
M4	Weeks		50			
M5	Percent captured		25%	50%	75%	
Mt	Sales productivity — AEs, client partners	$M1 \times M2 \times M3 \times M4 \times M5$	\$375,000	\$750,000	\$1,125,000	\$2,250,000

Source: Forrester Research, Inc.

Alternatively, an estimate of the value of the revenue and profit *result* of new sales and account management capabilities (collaboration tools, timely content access, and new customer intelligence) can be made with assumptions of the changes — namely, net new business — that the sales and account managers together can achieve. Assuming that each of 100 AEs and client partners can close (or salvage) \$750,000 in consulting revenue for three-quarters of a client per year, the value accruing to the firm would be in excess of \$30 million in net.

Table 18: Sales And Account Management Productivity Improvement (Cont.)

Ref.	Metric	Calculation	Per period
N1	Average revenue per client		\$750,000
N2	Gross margin		55%
N3	New clients per AE, client partner		0.75
N4	Number of AEs, client partners		100
Nt	Incremental gross profit	$N1 \times N2 \times N3 \times N4$	\$30,937,500

Source: Forrester Research, Inc.

The value of incremental output is unique to each organization, and the willingness and ability to measure or estimate its value vary from company to company. Interviewees voiced their belief that productivity improvements have accrued for their users, yet some are reticent to estimate the magnitude of such benefit categories at this time. Users are encouraged to consider the value of improved user productivity using a series of simple, conservative calculations similar to those shown above.

These conservative assumptions point toward significant current and future value. Note that if the benefits described below are included in the financial framework, the ROI for this analysis would be greater than 700%.

Risk Reduction: Random Content Reduction

While the benefits of better management of information can accrue from greater efficiency, higher productivity, stronger innovation, and higher sales, there is another economic justification, which is highly correlated from a technology perspective but quite different in terms of cost justification. That issue maps back to the ability to avoid risk through more diligent management of unstructured assets. It is difficult to quantify the cost associated with risk, particularly when the event in question may never happen. In general, the risk items fall into the following categories:

- Better access to all information. By placing information in better managed repositories, the likelihood of a “smoking gun” that was hidden away in a file server or offline email folder is reduced. Additionally, information in a well managed system is easier to locate in the event of a discovery action.
- Better integration with systems of record. In a world where compliance is a growing concern, the ability to place content under records management directly within SharePoint, or through integration between SharePoint and an external system of record, greatly reduces risk of fines for compliance violations.
- Better ability to model processes. Most organizations document manual processes that are common in the activities of knowledge workers like the request and approval of vacation time, and they assume that users will comply. With a system like SharePoint in place, numerous processes can be formalized and tracked through the system.

Risk

Risk is the third major 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 considered as the realistic or “pressure-tested” expectations, as they represent the expected values after consideration of uncertainty. In general, risk adjustments affect costs by raising the original estimates and affect benefits by reducing the original estimates.

For the purpose of this analysis, Forrester risk-adjusts most cost and all 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. The risk-adjusted value is the mean of those points. Cost estimates are risk-adjusted in the same way, except when cost amounts are determined by contract, so no risk adjustment is applied.

To illustrate how this works, examine the internal labor for implementation of the SharePoint 2010 collaboration functionality; the \$83,200 (for four IT administrators for two months) value used in this analysis can be considered the “most likely” or expected value. These costs will vary based on any unforeseen complexity or delay in implementation. Forrester applies a risk-adjustment factor of 150% to this amount to obtain the high estimate, 100% as the most likely, and 100% for the low estimate. This has the effect of increasing the cost estimate to take into account the fact that original cost estimates are more likely to be revised upward than downward. Forrester then creates a

triangular distribution to reflect the range of expected costs, with 117% as the mean risk factor. Forrester applies this mean to the compensation total amount of \$83,200 to arrive at a risk-adjusted value of \$97,344.

Some cost figures are not risk-adjusted. License and software maintenance charges, for example, can be determined with a high degree of certainty (and contractually set) before a project is started, such as the case with the annual cost for legacy document management software maintenance.

The other costs and benefits of the Microsoft implementation considered in this study are risk-adjusted using factors shown in the table below.

Table 19: Risk-Adjustment Factors

Metric		Low	Orig.	High	Mean
Costs	Implementation labor — SharePoint 2010 collaboration platform	100%	100%	150%	117%
	Implementation labor — SharePoint 2010 document management platform	100%	100%	125%	108%
	Rebuilding portal stack in SharePoint 2010	100%	100%	150%	117%
	Rebuilding internal portal sites	100%	100%	125%	108%
	Professional services — taxonomy	100%	100%	125%	108%
	Hardware costs	98%	100%	110%	103%
	Legacy document management — annual maintenance	100%	100%	100%	100%
Benefits	Direct cost avoidance — existing portal platform	80%	100%	110%	97%
	Direct cost avoidance — collaboration platform upgrade	80%	100%	110%	97%
	Direct cost avoidance — document management platform upgrade or replacement	80%	100%	110%	97%
	Direct cost avoidance — hardware	90%	100%	105%	98%
	Reassignment of IT resources	50%	100%	100%	83%

Source: Forrester Research, Inc.

All of the risk-adjusted cost and benefit amounts are shown in Tables 20 and 21 below.

Flexibility

Flexibility, as defined by Forrester's TEI methodology, represents an investment in additional capacity or agility today that can be turned into future business benefits at some additional cost. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so. There a number of scenarios in which a customer might choose to implement SharePoint Server 2010 to address a set of immediate user and IT requirements and later realize

additional uses and business opportunities. By moving to SharePoint 2010 and exploiting a growing set of the software's collaboration features as well as its new capabilities to fold in business functionality that had previously been the domain of other software programs, an organization will have opportunities to gain greater value in the near future from the investment in the SharePoint 2010 platform.

Although data for calculating the value of several flexibility options was insufficient when this study was conducted, Forrester identified the following areas that present flexibility options for the composite organization.

Building On The Basics Of SharePoint Server 2010

For the composite company, like most of the companies interviewed for this study, just deploying many of the basic functionality of SharePoint 2010 presents a range of real options. With the initial investment in SharePoint Server 2010 comes a period of building upon the out-of-the-box functionality of the software. "We are just at the beginning," explained one study participant. "We are not into the cool stuff yet. Yet the door is open to so many things we have not done before because they would have been too expensive. For example, the integration with Microsoft Unified Communications (UC) capabilities could be big, and that's on our road map." For some companies, this early stage entails prioritizing and executing projects that are considered high-value and low-risk. Based on this, many organizations choose to deploy team sites and portal capabilities first and ensure that operational processes are in place and working properly before deploying more complex workloads.

Organizations are aggregating previously unstructured content and structured information, aided by greater exploitation of tools that have long been in use in the organization, like Excel, Word, Visio, and PowerPoint. More business intelligence capabilities are being injected into SharePoint 2010 platform capabilities by integrating business data from multiple sources via Business Connectivity Services, PerformancePoint Services, SQL Server Analysis Services, and third-party BI and ERP systems. Companies interviewed in this study described high expectations for value to be created from PerformancePoint Services, Excel Services, and Visio Services. "We are quickly working toward powerful reporting and really leveraging graphics on the Web," explained one interviewee.

Examples of next-stage real options that have been described by study participants include:

Dashboards By Roles

"Capturing the right information for our executives so that they can make the right decisions is high on our list," explained one IT manager. Interviewees in this study described future projects for customized and role-based dashboards. SharePoint 2010 offers the capability to create different dashboards for various roles, which can then be customized by each individual themselves without IT help. For example, a financial services firm has plans to build "advisor desktops" for 5,000 private client advisors and their sales assistants, which can be customized by each user. These personalized portals will bring together content, communication, and business intelligence elements, which are currently unconnected — leveraging technology (accounting systems, market data feeds) that the firm already owns — for what is expected to be greatly improved client service and sales. Many of the services created for this portal project will be reused to build an investor portal.

Portals For Customers, Suppliers, And Partners

Companies are asking what they can do for their partners and suppliers by using the portal capabilities of SharePoint Server 2010 beyond their own firewalls. "We might do hosted sites for Costco and Best Buy," explained an entertainment company executive. Self-service portals for

clients and customers is a category on many companies' road maps. By consolidating business processes, corporate content, and external Web management operations on SharePoint 2010, extending external portal capabilities is no longer as cost- and resource-prohibitive compared with more siloed environments employing disparate, unconnected tools.

Messaging And Mobility

Mobility was cited by companies in the study. Mobile devices and unified communications tools become more valuable as a means to extend the new platform capabilities. Greater use of laptops has already occurred. Next is expanded support for smartphones with Web 2.0 interactive technologies, connected to the new collaboration, content, search, and business intelligence tools being created from SharePoint 2010 and Office desktop integration. Less travel, cost savings, and work/life balance benefits will be one result. Supporting and accelerating the capabilities described in this study will be another outcome. Forrester has found that presence/instant messaging (IM) is the "gateway application" leading to use of, and demand for, expanded messaging and communication capabilities. It can be the initial step on a road map toward unified communications — the integration of collaboration technology (such as calendaring, email, Web conferencing, team workspaces, and instant messaging) with communication tools, which include telephones (landline and mobile), audio and video, and voice messaging.

SharePoint Online

Cloud-based software solutions have become an increasingly viable alternative to on-premises solutions for many organizations. Software-as-a-service may have advantages over on-premises deployment for all or part of a company's SharePoint 2010 environment. SharePoint Online can offer cost benefits in terms of lower investment in server infrastructure and significantly less system administration. Services can be provisioned as needed, and IT resources can focus on other business-driving projects. SharePoint Online comes in two flavors: Standard, which is built on a multitenant architecture, and Dedicated. While the latest versions based on SharePoint 2010 will offer greater ability to customize, each has constraints when compared with an on-premises implementation. Questions about customization on the SharePoint application development platform and integration of the collaboration platform must be addressed for customer organizations to be able to determine if they should deploy SharePoint on-premises, on a range of hosted options, or in a mixed, hybrid model.

TEI Framework: Summary

Considering the financial framework constructed above, the results of the Costs, Benefits, and Risk sections using the representative numbers can be used to determine a ROI, NPV, and payback period. Tables 20 and 21 below show the risk-adjusted values, applying the risk-adjustment method indicated in the Risks section and the values from Table 19 to the numbers in Tables 9 and 14.

It is important to note that values used throughout the TEI framework are based on in-depth interviews with 11 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 SharePoint Server 2010.

Table 20: Total Risk-Adjusted Cost And Present Value

Costs	Initial	Year 1	Year 2	Year 3	Total	PV
Implementation labor — SharePoint 2010 collaboration platform	97,344				97,344	97,344
Implementation labor — SharePoint 2010 document management platform	112,320				112,320	112,320
Rebuilding portal stack in SharePoint 2010	315,315				315,315	315,315
Rebuilding internal portal sites	236,925	157,950			394,875	380,516
Professional services — taxonomy	216,000				216,000	216,000
Hardware costs — SharePoint platform servers	257,500				257,500	257,500
Legacy document management — annual maintenance		50,000	50,000	50,000	150,000	124,343
Total	\$1,235,404	\$207,950	\$50,000	\$50,000	\$1,543,354	\$1,503,338

Source: Forrester Research, Inc.

Table 21: Total Risk-Adjusted Benefit And Present Value

Benefits	Year 1	Year 2	Year 3	Total	PV
Direct cost avoidance — existing portal platform	1,252,270	456,870	456,870	2,166,010	1,859,259
Direct cost avoidance — collaboration platform upgrade	274,704			274,704	249,731
Direct cost avoidance — document management platform upgrade or replacement	48,500	48,500	272,570	369,570	288,959
Direct cost avoidance — hardware		196,000		196,000	161,983
Reassignment of IT resources	55,610	222,440	444,880	722,930	568,634
Total	\$1,631,084	\$923,810	\$1,174,320	\$3,729,214	\$3,128,566

Source: Forrester Research, Inc.

Study Conclusions

The data collected in this study indicate that standardizing and centralizing on a platform based on SharePoint Server 2010 has the potential to provide a solid return on the investment. The risk-adjusted ROI of 108%, along with a rapid payback period (breakeven point) raises confidence that the investment is likely to succeed, as the risks and uncertainty that may threaten the project have been considered and quantified.

Forrester's interviews with Microsoft customers yielded valuable observations. Forrester found that organizations can realize benefits in the form of:

- Employing the expanded capabilities of SharePoint 2010 to supplant standalone software programs for document and records management, databases, custom applications, older Web 2.0 tools, and development tools.
- Shifting development and administration of collaboration efforts from IT to business units and freeing IT resources for new projects and strategic priorities.
- Infusing SharePoint interfaces with data from line-of-business applications and legacy data stores, ultimately aggregated in dashboards and scorecards.
- More and better portals for more stakeholders (customers, suppliers, partners, etc.) by capitalizing on SharePoint enablement of faster, cheaper development and hosting.
- Building libraries of enterprise Web services and parts for rapid reuse without the need for IT involvement.
- Creating a more compelling path to expanded presence, messaging, and unified communications.
- Business risk reduction due to management of heretofore unstructured content assets, placing information in better managed repositories, and reducing risk of compliance violations and hidden exposures.

Based on these findings, companies looking to implement SharePoint Server 2010 can anticipate significant cost savings and efficiency gains. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 22: Composite Company ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	140%	108%
Payback period (months)	9.0	10.4
Total costs (PV)	(\$1,383,372)	(\$1,503,338)
Total benefits (PV)	\$3,322,503	\$3,128,567
Total (NPV)	\$1,939,131	\$1,625,229

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 enterprise wide 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 2 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.

Appendix C: About The Project Director

Jeffrey North, Principal Consultant

Jeffrey North is a senior consultant with Forrester's Total Economic Impact™ (TEI) consulting practice. The TEI methodology focuses on measuring and communicating the value of IT and business decisions and solutions, as well as providing an ROI business case based on the costs, benefits, risk, and flexibility of investments.

Jeff came to Forrester with consulting and operating experience, notably working with fast-growth companies. He was a founding member of the digital strategy practice at Cambridge Technology Partners, where he specialized in business value justification of technology investments and customer advocacy. As a director in the international and catalog business units at Staples, Jeff built and managed metrics and reporting programs in North America and Europe as the company experienced significant growth. He has also consulted in a business-IT capacity to retailers and life sciences companies.

Jeff holds a B.A. from St. Lawrence University and an M.B.A. with a concentration in international management and finance from Thunderbird, the Garvin School of International Management.