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Prepared for Cherwell Software

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The Total Economic Impact™ Of Cherwell Service Management Single Company Analysis

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Executive Summary

In August 2009, Cherwell Software commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying Cherwell Service Management. Cherwell Service Management is a fully integrated software solution for management of service desk, help desk, or customer call centers. Cherwell is a Web-enabled product using Microsoft's .NET technology and out-of-the-box Pink Elephant-verified ITIL v3 best practices. The product is available through a traditional licensing model (Cherwell On-Premise) or as a subscription service (Cherwell On-Demand), implementing the latest in the SaaS evolution: SaaS 3.0. Either model supports a "browser-based" or "rich client" user experience. This study illustrates the financial impact of implementing on premises Cherwell Service Management for the information services department (ISD) of a US-based research company with 14 major locations.

As the organization has grown considerably over the past five years, the IT director wanted to align the ISD with the organization's long-term business needs through managing costs, processes, and services. The IT director initially implemented a manual change management process and developed a homegrown solution for service management. Struggling with the need for a more sophisticated solution for change management and reporting requirements, the organization purchased a service management solution for the enterprise.

The organization attempted to implement the solution for more than a year but was unable to do so due to challenges with upgrade compatibility, contractors, and matching the software configuration with its requirements.

The organization ultimately decided to discontinue the implementation of the previously purchased software and to start its search for an IT service management software solution from scratch. The organization conducted an extensive requirements and needs assessment phase for three months, identifying 33 different possible software vendors. This field was narrowed to four vendors. After a series of site visits, two vendors were selected to pilot their software over 30 days with the organization. After this evaluation process, the organization picked Cherwell Service Management.

In conducting in-depth interviews with the organization, Forrester found that with the selection and implementation of Cherwell, it achieved:

- Productivity savings from improved IT service management processes around incident and problem management.
- Savings from cost avoidance of software maintenance fees for the previous IT service management solution.
- Labor savings from cost avoidance of additional administration for the previous IT service management solution.
- Additional savings from solution development, such as a project and portfolio management solution, using Cherwell Service Management
- Improved reporting in terms of timing, accuracy, and flexibility.
- Improved accountability to address continuous service improvements.

- Better perception of IT within the organization through improved customer service.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Cherwell Service Management 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 Cherwell Service Management.

Methodology

Cherwell selected Forrester for this project because of its industry expertise in IT systems management — particularly IT service management — and Forrester's Total Economic Impact™ (TEI™) methodology. TEI not only measures costs and cost reduction (areas that are 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 the four fundamental elements of TEI in modeling IT service management:

1. Costs and cost reduction.
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 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 four-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to Cherwell Service Management and the IT service management market in general.
2. Forrester interviewed Cherwell Service Management's executive leadership, marketing, product management, and sales personnel to fully understand the potential (or intended) value proposition of Cherwell Service Management.
3. Forrester conducted a series of in-depth interviews with an organization currently using Cherwell Service Management.
4. 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 the following key findings:

- **ROI.** Based on the interviews with the organization, Forrester constructed a TEI framework for the organization and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the ROI for the organization is 108% with a breakeven point (payback period) of 9.7 months after deployment.
- **Benefits.** The main quantified benefits for the organization were: 1) productivity savings from improved service management processes such as incident and problem management; 2) the avoidance of software maintenance fees due to the replacement of the previous purchased service management solution; 3) the avoidance of administrative costs from the previously purchased service management solution; and 4) additional savings from development of a project and portfolio management solution using Cherwell Service Management. These benefits comprise a net present value (NPV) of \$842,182 over a three-year analysis.
- **Costs.** The costs of Cherwell Service Management include: 1) software license fees; 2) associated annual maintenance fees; 3) additional software costs; 4) implementation fees for external contractors; 5) training fees; 6) internal labor fees for implementation; and 7) annual administrative costs. The costs add up to an NPV of \$405,381 over three years.

Table 1 illustrates the risk-adjusted cash flow for the 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 impact 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: ROI, Risk-Adjusted

Ref.	Project cash flow	Initial cost	Year 1	Year 2	Year 3	Total	PV/NPV
J1	Total costs	(\$243,064)	(\$65,270)	(\$65,270)	(\$65,270)	(\$438,874)	(\$405,381)
K1	Total benefits	\$0	\$366,530	\$322,592	\$322,592	\$1,011,713	\$842,182
L1	Net savings		\$301,260	\$257,322	\$257,322	\$572,840	\$436,801
M1	ROI						108%
P3	Payback period						9.7 months

Source: Forrester Research, Inc.

Please note that this ROI only reflects what the organization Forrester interviewed realized through the use of Cherwell Service Management. ROI may vary by organization.

Numbers may not align due to rounding.

Disclosures

The reader should be aware of the following:

- The study is commissioned by Cherwell and delivered by the Forrester Consulting group.
- Cherwell 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 its meaning.
- The customer contacts for the interviews were provided by Cherwell.
- 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 Cherwell Service Management.
- This study is not meant to be used as a competitive product analysis.

Cherwell Service Management: Overview

According to Cherwell, it provides an integrated ITIL help desk and IT service management software solution. Cherwell Service Management is a fully integrated software solution for your service desk, help desk, or customer call center. Cherwell is a Web-enabled product using Microsoft's .NET technology and out-of-the-box Pink Elephant-verified ITIL v3 best practices. The product is available through a traditional licensing model (Cherwell On-Premise) or as a subscription service (Cherwell On-Demand). Either model supports a "browser-based" or "rich client" user interface. Cherwell notes that its software is designed with the power needed by a global enterprise company but with the pricing and ease of use of a midmarket solution. Cherwell insures customer satisfaction through a 60-day money-back guarantee, which not only applies to the entire system but also to concurrent licenses, allowing for immense flexibility in gauging the number of licenses an organization needs as it implements Cherwell. Cherwell Software provides:

- **Concurrent, all-inclusive, simply priced licensing model.** A concurrent license of Cherwell Service Management includes all the fully integrated core functionality of incident management, problem management, configuration management (CMDB), change management, release management, service-level management, self-service, knowledge management, LDAP integration, and more.
- **.NET-scalable technology.** CSM is written in .NET as an XML-based, three-tier application that provides enterprise-class scalability. Both Cherwell's "browser-based" and "rich-client-based" user interfaces communicate over the Web using Simple Object Access Protocol (SOAP) and other technologies that allow for easy access to centralized data from any point. The product is scalable from two technicians to thousands — at multiple geographic locations.
- **On-premises or SaaS 3.0 deployment.** Cherwell gives organizations a choice with a range of deployment methods — from traditional on-premises to fully hosted on-demand. Cherwell consults with organizations to determine which deployment best suits their needs. Should business requirements change, Cherwell Service Management offers the ability to switch from one deployment model to another.
- **Configurability/customization.** The Cherwell development environment enables Cherwell Service Management to be completely configurable/customizable by IT. Customers use Cherwell's administrative console to create seamlessly integrated business objects for bug tracking, procurement, sales, marketing, and more — without the need for a programmer. If it can be drawn on the whiteboard, IT can build it with Cherwell. Through its WYSIWYG administration tools, Cherwell provides flexibility that allows organizations to make any changes they desire to screens (forms), business processes, workflows and escalations, and approval processes — even the ability to add new business objects.
- **Management tools/reporting.** Cherwell Service Management takes advantage of SQL's full-text search for enhanced "Google-like" search capabilities. Additional reporting support allows users to launch Crystal Reports Writer and MS SQL Reporting Services or use its built-in Report Writer. Dashboards are completely customizable. External table support provides the ability to talk to data in other systems and include such data in Cherwell forms as if it were part of the Cherwell system. Additionally, iPhone customers should consider iCherwell, a native iPhone application that allows customers to, for example, modify incidents, approve changes, utilize drilldown dashboards, and much more.

Analysis

As stated in the Executive Summary, Forrester took a multistep approach to evaluate the impact of implementing Cherwell Service Management in an organization:

- Interviews with Cherwell executive leadership, marketing, engineering, and sales personnel.
- Review and analysis with a Forrester analyst whose focus includes the Information Technology Infrastructure Library (ITIL), the implementation of IT service management from a holistic or partial perspective, business service management (BSM), and other aspects of IT operations.
- In-depth interviews with an organization currently using Cherwell Service Management.
- Construction of a financial framework for the implementation of Cherwell Service Management.

Interview Highlights

The in-depth interviews with the organization uncovered that:

- To match the organization's business requirements as it grew, the organization's ISD formalized operational processes, such as change management, using ITIL and initially implemented a basic homegrown service management solution (see Appendix C for a description of ITIL). The organization then purchased an enterprise IT service management software solution to address the need for better reporting and flexibility. The organization attempted to implement this solution for over a year, but upgrade compatibility challenges, contractor issues, and software configuration and production environment issues led to the its decision to find a replacement IT service management software solution.
- The organization conducted an extensive requirements and needs assessment process for three months, identifying 33 different possible software vendors. This field was narrowed to four vendors. The organization noted that throughout its evaluation process, it was searching for: 1) a company that approached their relationship as a "true business partnership" and that had focused on on-the-ground customer service for implementation and support, and 2) an application with the option of a nonbrowser UI because most of its personnel would "live in this app."
- After a series of site visits and extensive interviews with the candidates, the organization selected two vendors to pilot their software over 30 days. After this evaluation process, the organization picked Cherwell Service Management. The organization noted that it was "impressed with the professionalism" of Cherwell. While it recognized that it was a young company, Cherwell's expertise, professionalism, and solution overcame the organization's concerns. The organization also said Cherwell went to great lengths to address the concerns around the software being in "version 2.0 at the time of evaluation," even going so far as to offer a code escrow agreement. "I was amazed," commented one of the evaluators. "It made absolute sense and eliminated all our fears."
- The main modules that the organization uses are Incident Management, Problem Management, Knowledge Management, CMDB and Service Catalog. While the organization initially intended to deploy Cherwell out of the box, as the organization refined and improved its processes, it realized that it needed a more customized approach. The

organization confirmed that the flexibility and customization capabilities of Cherwell Service Management allowed it to easily implement these customizations without needing to find developer resources. As the ITSM systems administrator for the organization noted, “ITIL is a framework; you still have to understand the concept and see how you can apply it in your company to create value. This is where I’m glad [we chose Cherwell Service Management], as it was easy to customize and simple to implement.”

- Customizations included modifying the incident and problem management modules for more flexible prioritization, modifying the service catalog, simplifying the routing process, and driving ISD work toward remote resolution. The latter customization completely integrated Cherwell Service Management and CMDB with Microsoft’s System Center Configuration Management Server. This allowed the organization to get real-time data for the ISD’s customers into the CMDB and increase the number of remote resolutions for the group from 2.3% prior to Cherwell to 12%.
- The flexibility of Cherwell Service Management was also noted as a benefit to the organization. The ability to customize the solution allowed the organization to implement service management processes that its personnel were familiar with, thus leading to increased adoption of the solution within the ISD. Over the past year of implementation, as the solution gained traction within the ISD, the ITSM systems administrator could “fine-tune” the processes toward a more ITIL-prescribed direction.
- Cherwell Service Management also provided baseline metrics for the organization to measure its progress, which was very helpful in refining effective initiatives. This gave it the ability to see where it was struggling and adjust accordingly. The ITSM systems administrator deemed this a “really successful methodology.”
- The organization observed that the transition of its customizations from one release to subsequent releases of Cherwell Service Management has been smooth and seamless. It is currently running Cherwell v3.01h.
- The organization also commented on Cherwell’s ability to listen and respond to it as a customer and Cherwell’s partnership with its user community. A number of features in new releases, such as that of the portal redesign for Web applications, were culled from recommendations by its users. Another example included in a release was a request by the organization to refine the self-service portal to include service requests and not just incidents.
- With Cherwell’s concurrent-user licensing structure, the organization is looking at expanding the use of Cherwell Service Management outside the ISD. The enterprise resource planning (ERP) functional leads have been identified as a good fit for expansion where the organization can leverage existing work in Cherwell and customize the needs of the ERP group without additional cost.

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 Cherwell Service Management. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that impact the investment decision.

Framework Assumptions

Table 2 lists the discount rate used in the present value (PV) and NPV calculations and the 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 team 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 the fully loaded compensation assumptions used within this analysis.

Table 3: Compensation 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 Service Management systems administrator		\$122,200
A6	Hourly	(A5/A3)	\$58.75

Source: Forrester Research, Inc.

Costs

The key cost categories associated with implementing Cherwell Service Management are: 1) software license fees; 2) associated annual maintenance fees; 3) additional software costs; 4) implementation fees for external contractors; 5) training fees; 6) internal labor fees for implementation; and 7) annual administrative costs.

The financial analysis is made over a three-year period. The following are the cost inputs to the financial model.

Cherwell Service Management License Fees

The organization noted that the license structure of Cherwell Service Management gives it the capability to do multitenancy. This flexibility allows it to expand the usage of Cherwell outside of the ISD as long as the organization does not exceed the limit of the number of purchased licenses. The organization has purchased 45 licenses of Cherwell Service Management at a total cost of **\$112,500** in license fees.

Cherwell Service Management Maintenance Fees

Maintenance fees for Cherwell Service Management are estimated at 20% of the license cost. Total maintenance fees for the organization over the three-year analysis are **\$67,500**.

Additional Software Costs

In implementing Cherwell Service Management, the organization incurred costs for the server software. No hardware costs were incurred, as Cherwell was implemented on virtual machines. Forrester estimates the total cost for additional software at **\$4,200**.

Implementation Costs — External Labor

The organization used a value-added reseller (VAR) for the testing and validation required during the implementation phase for Cherwell Service Management as well as for ITIL guidance. The organization estimated that it spent **\$26,000** on external contractors for implementation.

Training Costs

The organization estimated training fees of **\$5,000** for Cherwell Service Management's implementation. This training session was given to the ITSM systems administrator who was responsible for implementing Cherwell Service Management.

Implementation Costs — Internal Labor

The organization implemented Cherwell Service Management over a period of five months. Majority of that time consisted of 1.5-hour meetings every two weeks for a group of 14 people within the organization to determine data and configuration requirements for the processes within the ISD. The ITSM systems administrator was managing the project throughout the five-month implementation, equivalent to 840 hours. One additional staff member worked on the implementation at 50% of his time. Total internal labor costs for the organization are estimated at **\$86,979** for the five-month implementation.

Table 4: Implementation Labor Costs

Ref.	Metric	Calculation	Per period	Year 1	Year 2	Year 3	Total
A1	Number of people		1.5				
A2	Hourly rate per person		\$58.75				
A3	Hours		840				
A4	Number of people		14				
A5	Hourly rate per person		\$58.75				
A6	Hours	$((4.2*5)/2)*1.5$	15.75				
At	Implementation costs — internal labor	$(A1*A2*A3) + (A4*A5*A6)$	\$86,979				
Ato	Total (original)		(\$86,979)	\$0	\$0	\$0	(\$86,979)

Source: Forrester Research, Inc.

Administrative Costs

The organization estimates the ongoing management and administrative costs of Cherwell Service Management at 35% for one ITSM systems administrator. At a fully burdened compensation of \$122,200 annually, ongoing internal management and administration will cost the organization **\$42,770** annually.

Total Costs

Table 5 summarizes all the costs associated with the organization's implementation of Cherwell Service Management.

Table 5: Total Non-Risk-Adjusted Costs

Costs	Initial	Year 1	Year 2	Year 3	Total
Cherwell Service Management software license fees	(\$112,500)				(\$112,500)
Cherwell Service Management software maintenance fees (yearly)		(\$22,500)	(\$22,500)	(\$22,500)	(\$67,500)
Additional software costs	(\$4,200)				(\$4,200)
Implementation costs — external labor	(\$26,000)				(\$26,000)

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Training costs	(\$5,000)				(\$5,000)
Implementation costs — internal labor	(\$86,979)				(\$86,979)
Administrative costs		(\$42,770)	(\$42,770)	(\$42,770)	(\$128,310)
Total	(\$234,679)	(\$65,270)	(\$65,270)	(\$65,270)	(\$430,489)

Source: Forrester Research, Inc.

Benefits

According to the organization, the main quantified benefits of using Cherwell Service Management have been productivity savings from improved incident and problem management for the organization's ISD, savings from avoiding maintenance fees and administration costs for the previous IT service management solution, and additional savings from development projects on Cherwell Service Management's platform such as a project and portfolio management solution.

Productivity Savings

"We had no problem management before, and now, we have a consistently implemented problem process. We're also pushing more data through the system and completing tasks faster." (ITSM systems administrator, Cherwell customer)

Through Cherwell Service Management, the organization improved the incident and problem management process of its ISD. In the ISD's old system, the organization averaged 320 open incidents and 1,347 closed tasks that took an average of five days to complete. With Cherwell Service Management, the organization now tracks at 1,600 closed tasks taking an average of 4.3 days to complete.

Through Cherwell, the organization can extensively capture and classify the work that it is doing. "We can now distinguish what is a service request and what is an incident," noted the ITSM systems administrator. The organization can also do incident trending and has established a knowledge database with a central repository for solutions. It has also established a consistent prioritization process, driven accountability within the ISD organization, and created "better and more accurate reporting" for its service desk. With better reporting and insight into its processes, the operations group within the ISD has also improved its planning for the department. "We're doing so much more than we ever were," commented one member of the business operations group.

Customizations made with Cherwell Service Management that provide real-time data on the ISD's customers have also driven up the number of remote resolutions for the group from 2.3% prior to Cherwell to 12%. By doing work remotely, the group has saved time it would otherwise have spent coordinating with its customers or doing on-site work.

The organization conservatively estimates that these process improvements have saved the 63 people in the ISD who use Cherwell Service Management about 5% of their time on average. This translates to savings of 104 hours per person for a team consisting of systems administrators, programmers, managers, and desktop and administrative personnel. The organization also noted that personnel in the desktop group and the service desk team would save more time compared with the rest of the team who used the solution. The average fully loaded compensation for these 63 staff at the organization is estimated at \$102,000 annually.

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When calculating productivity savings, Forrester estimates that not all time saved will be directly converted to productive time. With Forrester conservatively estimating that only 50% of these productivity gains will be captured by the organization, the savings in this benefit area for the organization are \$481,950 over the three-year analysis.

Table 6: Productivity Savings

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Number of workers		63			
A2	Annual rate per worker		\$102,000			
A3	Hours per year		2080			
A4	Number of hours (saved)		104			
A5	Percent captured		50%			
At	Aggregate incremental output per worker	$A1*(A2/A3)*A4*A5$	\$160,650			
Ato	Total (original)		\$160,650	\$160,650	\$160,650	\$481,950

Source: Forrester Research, Inc.

Cost Avoidance — Maintenance Fees On Previous System

By replacing its previous service management solution with Cherwell, the organization saved the annual maintenance fees that it paid on this solution. The cost avoidance savings on these maintenance fees are \$76,000 annually, which translates to \$228,000 over the three-year analysis.

Table 7: Cost Avoidance — Maintenance Fees

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Maintenance fee of previous solution		\$76,000			
At	Cost avoidance — maintenance fees	A1	\$76,000			
Ato	Total (original)		\$76,000	\$76,000	\$76,000	\$228,000

Source: Forrester Research, Inc.

Cost Avoidance — Administration

The organization also saw labor savings from replacing the previous software management solution with Cherwell Service Management. The organization noted the ease of making categorization and routing changes within Cherwell Service Management compared with the previous system, which would have required changing code. This contributes to shorter time spent by the organization on administration on Cherwell.

The organization estimates that administrative duties for the previous solution would require one full-time equivalent (FTE). Administration of Cherwell Service Management currently takes up only 35% of one FTE’s time, saving 65% for the ITSM systems administrator. At 2,080 working hours per year, this translates to savings of 1,352 hours or \$238,290 over the three-year analysis.

Table 8: Cost Avoidance Of Administration

Ref.	Metric	Calculation	Per period	Year 2	Year 3	Total
A1	Hourly rate per person		\$58.75			
A2	Hours		1,352			
At	Cost avoidance — administration	A1*A2	\$79,430			
Ato	Total (original)		\$79,430	\$79,430	\$79,430	\$238,290

Source: Forrester Research, Inc.

Additional Savings — Solution Development

“The tool is so powerful and flexible. We have this infrastructure in place that if there is a business need, the first question is ‘Can we do that in Cherwell?’” (ITSM systems administrator, Cherwell customer)

The organization noted that one of the “big benefits” of Cherwell Service Management was the ability to use Cherwell to quickly develop software solutions for a number of its business needs. Cherwell is designed for nondevelopers, so the organization did not have to rely on developer resources to create these solutions, leading to a quicker implementation process. As a systems administrator from the interviewed organization noted, “Cherwell is like Access on steroids; you can create a field and drag it out there. You don’t have to know code to do it.”

The organization was struggling with finding resources to create a system to track ISD services and the corresponding costs for each. With the Cherwell implementation, the ITSM systems administrator completely rewrote and customized the service catalog within 12 hours. The organization is now able to understand the costs (such as labor, material, and fixed cost) for each service and roll those costs up from the technical service (such as MS Exchange, MS Outlook, and MS Office) to the dependent business service (such as email). Labor costs were now also linked to capacity and burden rate within the ISD. In the previous system, the organization estimates that rewriting the service catalog would have taken at least a month.

The organization also has an operation planning and management process that translates strategic company goals to goals for the business operations group. The organization replaced its previously

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cumbersome system of tracking this process on spreadsheets with a project and portfolio management module created with Cherwell Service Management. This streamlined information recording and improved the reporting process, contracting what was a 30-day reporting turnaround time to 5 minutes. By developing in Cherwell, the business operations group could also link projects and portfolio management to the incident and service request modules within Cherwell Service Management and track the work as it was being done.

The organization estimates that using an external software solution for project and portfolio management would have cost the organization five weeks of implementation time compared with two weeks using Cherwell Service Management. These three weeks or 120 hours of labor savings translate to \$7,050 at a fully loaded cost per hour of \$58.75 per FTE. By developing within Cherwell and not purchasing an external portfolio management solution, the organization also avoids the costs of a server, the portfolio external connector that would allow others access to business operations group data, and license fees and associated maintenance costs as well as annual administrative costs. The organization estimates that it would have needed to purchase 50 licenses at a cost of \$185 per license and 18% in maintenance fees. Labor costs would also have been 15% of an administrator's time at an annual fully loaded compensation of \$70,000 per FTE. In total, the organization has saved **\$83,740** over the three-year analysis by using Cherwell Service Management for developing a project and portfolio management module.

Table 9: Cost Avoidance — Project/Portfolio Management Solution

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
A1	Server		\$3,500			
A2	Portfolio external connector		\$27,445			
A3	Avoided cost of implementation	3*40*\$58.75	\$7,050			
A4	Client access license	50*\$185	\$9,250			
A5	Maintenance on license	A4*18%	\$1,665	\$1,665	\$1,665	
A6	Administration	\$70,000*15%	\$10,500	\$10,500	\$10,500	
At	Direct cost avoidance — project/portfolio management solution	A1 + A2 + A3 + A4 + A5 + A6	\$59,410	\$12,165	\$12,165	
Ato	Total (original)		\$59,410	\$12,165	\$12,165	\$83,740

Source: Forrester Research, Inc.

Total Benefits

Table 10 illustrates the total three-year benefits as a result of implementing Cherwell Service Management at the organization’s ISD. The total PV benefits equate to \$859,247.

Table 10: Total Benefits — Non-Risk-Adjusted

Benefits	Initial	Year 1	Year 2	Year 3	Total	Present value
Productivity savings		\$160,650	\$160,650	\$160,650	\$481,950	\$399,513
Cost avoidance — maintenance fees		\$76,000	\$76,000	\$76,000	\$228,000	\$189,001
Cost avoidance — administration		\$79,430	\$79,430	\$79,430	\$238,290	\$197,531
Direct cost avoidance — project/portfolio management solution		\$59,410	\$12,165	\$12,165	\$83,740	\$73,203
Total		\$375,490	\$328,245	\$328,245	\$1,031,980	\$859,247

Source: Forrester Research, Inc.

Additional Benefits Not Quantified

The organization identified the following benefits of using Cherwell Service Management; however, it was not able to quantify these benefits at this time:

Improved Reporting

Through Cherwell Service Management, the organization now has a central repository for solutions and has developed a knowledge database that is accessible to its team. The organization also remarked that its reporting has improved, noting improvement in accuracy as more data is captured through consistent incident and problem management processes. With Cherwell, the organization could now provide detailed reports as needed. While this data was available in its previous system, it took a lot of time to compile and present this data from the many spreadsheets that the ISD maintained. This also enabled ISD’s performance versus goals to be more visible to the rest of the organization.

Improved Accountability

One of the big problems that the ISD had in the previous system was that tasks would get shunted from group to group, delaying problem resolution. With the improved processes under Cherwell Service Management, issues are categorized and tickets are assigned to a group and tracked. There is now a clear line of responsibility, and the ISD can track ownership and timelines. With this improved accountability, each member of the team who contributes to a service request gets the necessary credit, and each team member’s performance is now more accurately tracked for performance planning and review.

Better Perception Of IT Through Improved Customer Service

The organization noted that since implementing Cherwell Service Management, there has been an “elevated perception of IT within the organization.” As the ISD has implemented a consistent prioritization process as well as a self-service/remote desktop option, the organization noted that it has become “much better at customer focus.” Customer issues are resolved faster. And with better prioritization, the ISD is able to align its services with business needs. This improvement in customer service is tracked through customer surveys: Since Cherwell Service Management’s implementation, customer ratings for the ISD on the survey have “gone up and gotten better.”

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, as 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, take the case of internal implementation costs. The \$86,979 value used in this analysis can be considered the “most likely” or expected value. Implementation costs may vary based on the length of time required to establish processes, the modules required for the initial implementation, and other factors. This variability represents a risk that must be captured as part of this study. Forrester uses a risk factor of 125% on the high end, 100% as the most likely, and 100% on the low end. 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 108% as the mean (108% is equal to the sum of 125%, 100%, and 100% divided by three). Forrester applies this mean to the most likely estimate — \$86,979 — to arrive at a risk-adjusted value of \$93,938.

In this study, Forrester discovered that the interviewed organization mitigated the risk of engaging with Cherwell by undergoing a very thorough requirements process and vendor evaluation process. Apart from site visits, the organization tested Cherwell Service Management’s results with other competing solutions during the evaluation period. By establishing a deep partnership with Cherwell, including receiving an offer of a code escrow agreement as assurance, the organization managed the risks of the project implementation.

The following risks were considered in this analysis:

- Implementation risks, due to the variability that may occur in the planning and execution of both external and internal resources.
- Variability of labor savings, in the areas of productivity savings for current resources and implementation of additional software deployments
- Costs savings risks, due to the variability in size of previous contracts.

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- Contract fees, which are set with Cherwell before purchase; software license fees and maintenance were not risk-adjusted.

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

Table 11: Risk Factors — Costs

Costs	Original estimate	Low	High	Mean
Software license fees	100%	100%	100%	100%
Software maintenance fees (yearly)	100%	100%	100%	100%
Additional software costs	100%	100%	110%	103%
Implementation costs — external labor	100%	100%	115%	105%
Training costs	100%	100%	100%	100%
Implementation costs — internal labor	100%	100%	125%	108%
Administrative costs	100%	100%	100%	100%

Source: Forrester Research, Inc.

Table 12: Risk Factors — Benefits

Benefits	Original estimate	Low	High	Mean
Productivity savings	100%	95%	100%	98%
Cost avoidance — maintenance fees	100%	100%	100%	100%
Cost avoidance — administration	100%	95%	100%	98%
Direct cost avoidance — project/portfolio management solution	100%	80%	100%	93%

Source: Forrester Research, Inc.

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The risk factors in Tables 11 and 12 are applied to the benefits and costs listed earlier, resulting in the risk-adjusted cost and benefit values in Tables 13 and 14:

Table 13: Total Costs, Risk-Adjusted

Costs	Step 1:		Step 2:		
	Original estimate	Low	High	Risk adjustment	
				Percentage	Value
Software license fees	\$112,500	\$112,500	\$112,500	100%	\$112,500
Software maintenance fees	\$67,500	\$67,500	\$67,500	100%	\$67,500
Additional software costs	\$4,200	\$4,200	\$4,620	103%	\$4,326
Implementation costs — external labor	\$26,000	\$26,000	\$29,900	105%	\$27,300
Training costs	\$5,000	\$5,000	\$5,000	100%	\$5,000
Implementation costs — internal labor	\$86,979	\$86,979	\$108,724	108%	\$93,938
Administrative costs	\$128,310	\$128,310	\$128,310	100%	\$128,310

Source: Forrester Research, Inc.

Table 14: Total Benefits, Risk-Adjusted

Benefits	Step 1:		Step 2:		
	Original estimate	Low	High	Risk-adjustment	
				Percentage	Value
Productivity savings	\$481,950	\$457,853	\$481,950	98%	\$472,311
Cost avoidance — maintenance fees	\$228,000	\$228,000	\$228,000	100%	\$228,000
Cost avoidance — administration	\$238,290	\$226,376	\$238,290	98%	\$233,524
Direct cost avoidance — project/portfolio management solution	\$83,740	\$66,992	\$83,740	93%	\$77,878

Source: Forrester Research, Inc.

Flexibility

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for some future additional investment. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

Cherwell Service Management can potentially enable future benefits in other areas within the organization such as:

- Creating a methodology for dependent tasks within Cherwell Service Management that will mandate process adherence for workflow. This customization will involve linking and tracking tasks for personnel in the ISD that will improve coordination and streamline processes through emails and alerts. This cuts down on waiting time for the people performing the tasks and leads to further productivity savings for the ISD team. Rolling Cherwell Service Management and this customization out to other teams within the organization will also increase productivity savings.
- Expanding the use of Cherwell Service Management to other groups in the organization that also use a help desk system. This would leverage existing work in Cherwell while customizing it for the needs of these groups, such as redesigning forms and changing fields with no additional cost apart from the internal labor for customization.
- Creating a centralized site for end user support with features such as FAQs, technical documentation, and self-provisioning available, as Cherwell is releasing a portal version of Cherwell Service Management and rewriting its Web applications
- Expanding the use of Cherwell Service Management to the group functional leads for ERP software. The organization estimates that this initiative will reduce the burden of work for the ERP team within the ISD by offloading ticket creation to the group functional leads. The organization estimates that this will save the seven people within the ERP group about 5% of their total time. This effort will take the ITSM systems administrator a day to develop.

The flexibility component of TEI captures the value of rolling out Cherwell Service Management to the group ERP leads using either the financial industry standard Black-Scholes or the binomial option pricing models.

This analysis assumes an annual fully loaded compensation of \$125,000 per FTE for the ERP team and a fully loaded cost per hour of \$58.75 per FTE for the ITSM systems administrator. With a two-year time frame to use this flexibility option, Forrester values the above option at \$43,307. This value exists in addition to the risk-adjusted benefits and ROI described in this analysis.

Table 15: Flexibility Analysis — Expansion To ERP Functional Leads

Ref.	Metric	Calculation	Per period
A1	Asset value (benefit)	$\$125,000 * 5\% * 7$	\$43,750
A2	Cost to acquire	$\$58.75 * 8$	\$470
A3	Expiration (time-to-expire, in years)		Two years

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At	Flexibility	Black-Scholes model	\$43,307
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Source: Forrester Research, Inc.

The value of flexibility is unique to each organization, and the willingness to measure its value varies from company to company (see Appendix A for additional information regarding the flexibility calculation).

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 the return on investment, NPV, and payback period. Table 15 shows the consolidation of the numbers for the organization.

Table 15: Total Costs And Benefits, Non-Risk-Adjusted

Ref.	Project cash flow	Calculation	Initial cost	Year 1	Year 2	Year 3	Total	PV/NPV
E1	Total costs		(\$234,679)	(\$65,270)	(\$65,270)	(\$65,270)	(\$430,489)	(\$396,996)
F1	Total benefits		\$0	\$375,490	\$328,245	\$328,245	\$1,031,980	\$859,247
G1	Net savings			\$310,220	\$262,975	\$262,975	\$601,491	\$462,251
H1	ROI	(F1-E1)/E1						116%
P3	Payback Period							9.1 months

Source: Forrester Research, Inc.

Table 16 below shows the risk-adjusted values, applying the risk adjustment method indicated in the “Risk” section.

Table 16: Total Costs And Benefits, Risk-Adjusted

Ref.	Project cash flow	Calculation	Initial cost	Year 1	Year 2	Year 3	Total	PV / NPV
J1	Total costs		(\$243,064)	(\$65,270)	(\$65,270)	(\$65,270)	(\$438,874)	(\$405,381)
K1	Total benefits		\$0	\$366,530	\$322,592	\$322,592	\$1,011,713	\$842,182
L1	Net savings			\$301,260	\$257,322	\$257,322	\$572,840	\$436,801
M1	ROI	(K1-J1)/J1						108%
P3	Payback Period							9.7 months

Source: Forrester Research, Inc.

It is important to note that the values used throughout the TEI framework are based on in-depth interviews with the organization. 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 Cherwell Service Management.

Study Conclusions

Based on information collected in interviews with a current Cherwell Service Management customer, Forrester found that organizations can realize benefits in the form of:

- Productivity savings from improved IT service management processes around incident and problem management.
- Savings from cost avoidance of software maintenance fees for the previous IT service management solution.
- Labor savings from cost avoidance of additional administration for the previous IT service management solution.
- Additional savings from solution development, such as a project and portfolio management solution, using Cherwell Service Management.
- Improved reporting in terms of timing, accuracy, and flexibility.
- Improved accountability to address continuous service improvements.
- Better perception of IT within the organization through improved customer service.

The financial analysis provided in this study illustrates the potential way an organization can evaluate the value proposition of Cherwell Service Management. Based on information collected in the in-depth customer interviews, Forrester calculated a three-year risk-adjusted ROI of 108% for the interviewed organization with a payback period of less than 10 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 Cherwell Service Management can see gains around the benefits of improved efficiency in IT service management, productivity savings, and cost avoidance. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 17: ROI: Original And Risk-Adjusted

Summary of financial results	Original estimate	Risk-adjusted
ROI	116%	108%
Payback period (months)	9.1	9.7
Total costs (PV)	(\$396,996)	(\$405,381)
Total benefits (PV)	\$859,247	\$842,182
Total (NPV)	\$462,251	\$436,801

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 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: What Is ITIL?

ITIL defines and leverages best practices for management and operations of IT organizations. ITIL is a set of policies and concepts for managing information technology infrastructure, development, and operations. ITIL v3, introduced in June 2007, has gone one step further and defined how IT should be working with the business in designing and transitioning services, whereas ITIL v2 was solely focused on operating services. ITIL describes the "what" part for an IT ops professional but does not describe the quality or how to improve processes.

ITIL v3 addresses the life-cycle stages of service management to embrace a more holistic service management practice that includes business and IT at strategic, tactical, and operational layers. ITIL v2 focused just on the operational layer of IT operations.

Why Is ITIL Important?

For most large IT organizations, the pressure to drive down costs while improving efficiency is unrelenting. Forrester's research clearly shows that infrastructure and operations (I&O) teams in particular are the leading edge of restructuring efforts — transitioning from a technology-silo-based structure to a process- and service-centric orientation.

The skills transition alone is daunting, but that's only the beginning. You will also need some kind of organizing framework that links the technology components in your infrastructure to the process steps that exist within IT. You will then need a guiding framework that links those IT processes to actual business activities and allows you to create service-level metrics that you will be held to. IT management frameworks like ITIL are designed to:

- **Improve the management of IT.** IT organizations are increasingly required to justify services, account for costs, and identify and deliver value to the enterprise. Proficient capital planning and astute investment management are necessary to satisfy the expectations of the customers of IT. An effective and efficient IT management framework emphasizes the importance of meeting business/program goals and objectives as well as cost-effective life-cycle management of the delivered services. The intent of IT management frameworks is to improve the management of IT so that it enables more efficient delivery of services to the organization. ITIL describes how to define and manage an effective service strategy that entails the guidance to questions such as "What services should we offer and to whom?" or "How do we truly create value for our customers?"
- **Allow for the systematic and least disruptive path to adoption.** IT organizations have to deliver IT services without interruption. Because of this, it is necessary to adopt processes and frameworks in small portions without disrupting the delivery of the service. IT management frameworks allow for focusing on certain pain points in the IT organization and improving them and then working on the next subject area. ITIL v2 has two primary core master processes — one is the service delivery process; another is the service support process. Service delivery — which includes financial management, for example — takes primarily a strategic view, guiding the relationship with the customer and the IT supplier. Service support includes, for example, incident management and change management, which are more tactical processes. Depending on the IT organization, the ITIL framework can be implemented one process at a time.
- **Support IT governance imperatives.** The IT Governance Institute describes in detail the process, roles, and benefits of IT governance, but it does not describe how IT should deliver and support the required services. IT management frameworks such as ITIL ensure that you adopt standardized and — where possible — automated processes for consistent,

cost-effective, and quality delivery of services to the business. This is an integral part of enterprise governance, which is comprised of the leadership and organizational processes that ensure that IT sustains and extends the organization's strategies and objectives. IT governance is primarily concerned with IT's delivery of value to the business and the mitigation of IT risks. There are a variety of methodologies available that allow the measurement of IT's business value.

- **Integrate new technologies and architectures into a service-oriented operation.** Consider that almost half of the enterprises Forrester surveyed are interested in pay-per-use hosting of virtual servers by service providers and 44% are interested in building internal clouds. You must be able to successfully integrate new infrastructure technologies like virtualization and new approaches to outsourcing like cloud computing into a process-centric, service-driven organization easily — without creating additional bureaucracy and bottlenecks.

Appendix D: About The Project Manager

Michelle Bishop Consultant

Michelle S. Bishop is a 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, risks, and flexibility of investments.

Prior to joining Forrester, Michelle held leadership roles in operations, technology, and marketing in such large organizations as Shell and Avaya. At Shell, she was a product manager for LPG retail distribution initiatives as well as project lead for quality and information security at Shell Philippines. While working at Avaya, she led the inventory reduction program and consulted on various aftermarket operations projects. Michelle also came to Forrester with process improvement and account management experience in high-growth startups in media and digital services.

Michelle holds a B.S. in industrial engineering from the University of the Philippines and an M.B.A. from the MIT Sloan School of Management.