

Prepared for Progress Actional
February 2009

The Total Economic Impact™ Of Progress Actional Management For Interconnected Applications

Implemented by a communication and media service
provider

Project Directors: Paul Devine and Sebastian Selhorst



Headquarters

Forrester Research, Inc., 400 Technology Square, Cambridge, MA 02139 USA
Tel: +1 617.613.6000 • Fax: +1 617.613.5000 • www.forrester.com

TABLE OF CONTENTS

Executive Summary	3
Purpose	4
Methodology.....	4
Approach.....	5
Key Findings	5
Disclosures.....	6
Progress Actional Management for Interconnected Applications: Overview	7
Analysis.....	8
Interview Highlights.....	8
TEI Framework	9
Costs	10
Benefits	10
Risk.....	17
Flexibility.....	19
TEI Framework: Summary.....	20
Study Conclusions.....	21

© 2009, Forrester Research, Inc. All rights reserved. Unauthorized reproduction is strictly prohibited. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change. Forrester®, Technographics®, Forrester Wave, RoleView, TechRadar, and Total Economic Impact are trademarks of Forrester Research, Inc. All other trademarks are the property of their respective companies. For additional information, go to www.forrester.com.

Executive Summary

In February 2009, Progress Actional commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying Progress Actional. The Progress Actional solution provides visibility, security, and control of the activities of services and end-to-end business transactions in a runtime environment. This study illustrates the financial impact of deploying Progress Actional at an organization that has asked to remain anonymous: a large communication and media service provider based in the United States.

While conducting in-depth interviews with this existing in-production customer, Forrester found that the primary driver for the deployment of Progress Actional solution was a desire to increase the stability and performance of a mission-critical CRM environment. Service-oriented architecture (SOA) had notably improved the effectiveness of the CRM application, but it had also increased its complexity. Legacy systems, rapidly changing requirements from the business, and the loosely coupled SOA infrastructure combined to create an urgent need to provide better visibility into application operations. Using the basic capabilities of Progress Actional, the reference organization developed a better understanding of and faster reactions to whatever might affect system availability and performance. As the organization gets more familiar with the solution, it plans to use its more advanced features to further improve proactive management of CRM, including automatic policy enforcement, fine-grained error handling, and advanced security capabilities.

The increased visibility provided by Actional enables the reference organization to anticipate problems and proactively analyze areas where problems occur. The two main benefits stemming from these capabilities were:

- **Increased systems availability.** The reference organization recognized that the deployment of Progress Actional enabled network and systems engineers to identify when and where performance is deteriorating and uncover the root cause of the problem **before** customers are affected. The shorter time to repair improves the productivity of the network operations groups and increases systems availability for call center staff and sales representatives. The result? Increased revenues due to a reduction in lost or failed customer orders.
- **Cost avoidance in preproduction and production environment.** Costs were avoided in both production and preproduction environments:
 - **Faster time to problem identification and resolution in a production environment.** The deployment of Progress Actional reduced the time taken to identify and resolve problems.
 - **Smaller fire drill teams.** Before the investment, large groups of highly paid engineers and developers were brought together to analyze each part of the system. The extra visibility provided by Progress Actional narrowed the list of potential root causes, therefore enabling support teams to call together a targeted and smaller group of people. The Progress Actional tools also reduced the time needed to fix problems — in total, **85% less effort was required to resolve problems.**
 - **Less custom coding work and faster problem identification in testing and quality assurance environment.** In preproduction, more incidents need to be assessed and resolved as new functionality makes its way through the testing and QA environment. This magnifies the benefit of reduced team size and shorter time to resolution. The reference organization avoided costs in placing its SOA services under management because service management is configured into Actional, rather than having developers write management code into each service. Progress

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Actional also reduced the requirement for developers to be building custom management and reporting tools.

The Progress Actional deployment had further benefits that were difficult to quantify but still important for the reference organization. This included:

- **Improved communication with the business.** Progress Actional enabled IT staff to have more effective business improvement conversations with their colleagues in the call center environment. For example, if a large customer service transaction takes 20 seconds, and this disrupts the flow of the conversation with the customer, then IT can use Progress Actional to identify precisely which of 40 different parts of the transaction is causing the hold up. Business and IT can then work together to assess the criticality of each part and identify system enhancements and new ways to structure the service flow.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Progress Actional on its 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 Progress Actional.

Methodology

Progress Actional selected Forrester for this project because of its industry expertise in SOA 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); it also weighs the enabling value of a technology in increasing the effectiveness of overall business processes.

For this study, Forrester employed four fundamental elements of TEI in modeling the Progress Actional solution:

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 multistep approach for this study:

1. Forrester gathered data from existing Forrester research relative to Progress Actional solution and the SOA management market in general.
2. Forrester interviewed Progress Actional marketing and sales personnel to fully understand the potential (or intended) value proposition of their solution.
3. Forrester conducted a series of in-depth interviews with an organization currently using Progress Actional solution *in production*.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.
5. Forrester populated the framework using data from the interviews.

Key Findings

Forrester's study yielded three key findings:

- **ROI.** Based on the interviews with a customer using the Progress Actional solution, Forrester constructed a TEI framework and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the three-year risk-adjusted ROI for this reference company is 41%, with a breakeven point (payback period) within two years of deployment.
- **Benefits.** Faster time to identify and resolve problems increased systems availability and also reduced operations costs in both production and preproduction environments. Development costs were avoided because custom monitoring and reporting tools were not required any more. Security-related development work was also reduced.
- **Costs.** The main cost categories for adoption of the Progress Actional solution are: a) one-off software license fees, b) investment in additional hardware; c) installation costs; d) ongoing monthly maintenance fees for the Progress Actional product; and e) internal ongoing costs for administering and maintaining the solution over the years.

Table 1 illustrates the risk-adjusted cash flow for the reference 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: Reference Company ROI, Risk-Adjusted

Ref.	Category	Calculation	Year 1	Year 2	Year 3	Total	PV
R1	Total costs		\$(733,588)	\$(121,088)	\$(121,088)	\$(975,763)	\$(943,740)
R2	Total benefits		\$420,359	\$501,691	\$549,923	\$1,471,974	\$1,330,924
R3	Total	R1+R2	\$(313,229)	\$380,604	\$428,836	\$496,210	\$387,184
R4	Return on investment	R3/(-R1)					41%

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Ref.	Category	Calculation	Year 1	Year 2	Year 3	Total	PV
R5	Payback period						Within 24 months

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study was commissioned by Progress Actional and delivered by the Forrester Consulting group.
- Progress Actional reviewed and provided feedback to Forrester, but Forrester maintained editorial control over the study and its findings and did not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- The customer names for the interviews were provided by Progress Actional.
- 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 the Progress Actional solution.
- This study is not meant to be used as a competitive product analysis.

Progress Actional Management For Interconnected Applications: Overview

Progress Actional accelerates business results by quickly detecting, diagnosing, and reacting to problems before the business is affected. The solution ensures the performance and availability of end-to-end runtime environments — across heterogeneous systems, without coding or configuration, and without performance impact.

Actional's patented Flow Mapping technology automatically provides end-to-end visibility, revealing the “big picture” of underlying transaction paths with insight into interdependencies and behavior. With this level of visibility, organizations can monitor service interactions, understand dependencies, and begin to proactively manage every single important business transaction.

Leveraging a centralized approach to management, Actional fully decouples the policy life cycle from the service development life cycle, where policies such as service-level agreements are created centrally and distributed across the enterprise for a more efficient, cost-effective solution. As policy violations and deviations are generated, alerts are triggered, and flow maps of “violating” transaction are displayed, enabling organizations to quickly find the root cause of issues — eliminating hours of IT and development diagnostics.

Users can pinpoint the exact location of problems across all applications, down to the specific service, operation, or process step, and capture and analyze details down to the message content level. Progress Actional makes sure the most important customers, partners, and channels always have the best service by dynamically optimizing select transactions. The solution makes it easy to maintain key service-level agreements, and dimensional analysis tools help catch problems before they even occur.

Companies can use Progress Actional to keep an eye on process metrics, and key performance indicators with real-time operational views and user-configurable, browser-based dashboards. With real-time insight into IT operations, businesses can optimize critical business processes and technology investments to deliver faster, more effective services to customers. IT organizations don't need to worry about failed transactions or downtime — they can stay focused on what matters: revenue generation, employee productivity, and customer satisfaction.

Progress Actional also provides organizations with comprehensive runtime SOA governance capabilities. These complement governance tools such as registries and repositories and form an essential part of a comprehensive SOA governance strategy.

Analysis

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

- Interviews with Progress Actional marketing and sales personnel.
- In-depth interviews with one organization currently using Progress Actional in production.
- Construction of a financial framework for the implementation of Progress Actional for this organization.

Interview Highlights

The organization interviewed for this study was a large communication and media service provider based in the United States. The organization's network operations group runs the infrastructure that supports CRM applications (order processing and order management) and back-end provisioning and billing systems (OSS/BSS). In 2007, Progress Actional was deployed by the network operations group to monitor the CRM and OSS/BSS systems.

The customer interviews uncovered the context of the customer's environment and a number of insights, including:

- The CRM system has more than 3,000 seats. The CRM implementation interfaces through a service abstraction layer with more than 10 back-end OSS/BSS systems. By providing organized and efficient access to numerous back-end systems, SOA has enabled the CRM system to provide customer service associates with more complete and comprehensive data for handling customer inquiries and requests. For example, SOA has enabled integrated selling of bundles across three major product lines. To do this, the reference organization used SOA to provide connections to 12 back-end systems. The CRM system itself directly uses about 100 service operations (spread among seven to 10 major services), but these access about 20 more services and hundreds of additional operations.
- The customer had been monitoring the development of the SOA management solutions marketplace since 2001 and was familiar with the available solutions. When the CRM application group had the opportunity to fund the purchase of a solution, its overriding goal was to ensure stability of the CRM system. Thus, the team placed high value on soft benefits like service associate confidence in the CRM system and the resulting confidence of customers in the organization's ability to provide high-quality service.
- Before Progress Actional, the Network Operations Group had limited insight into application performance. Progress Actional allows systems administrators to see when network performance is deteriorating and uncover the root cause of the problem before customers are affected.
- Progress Actional is deployed in both preproduction/quality assurance and production environments. The applications are complex, and the velocity of business changes and requests in the environment that the organization has to satisfy is high. The use of Actional in a preproduction environment enables the reference organization to get an understanding of the impact of changes within these applications on the system.
- Today, the reference organization mainly uses Progress Actional for basic monitoring, troubleshooting, and reporting tasks, but as it gets more familiar with the product, it plans to make use of the more advanced features, such as, for example, the automatic policy enforcement, fine-grained error handling and advanced security capabilities. It saw benefit

The Total Economic Impact™ Of Progress Management for Interconnected Applications

in future use of Actional's "service stabilizer" features to redirect requests when certain production conditions existed: For example, if a back-end system were offline for maintenance, Actional could help the organization configure a clean "service not available" response rather than having the service request simply fail. The organization is particularly interested in future use of Actional's security features, which would allow it to avoid having developers create security code in each application — which it sees both as wasted effort and as a security risk (because of the risk of inconsistent security approaches by different developers).

TEI Framework

Introduction

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

Framework Assumptions

Table 2 lists the discount rate used in the PV and NPV calculations and time horizon used for the financial modeling. It also contains the assumed working days per year, working hours per day, fully loaded hourly salary and annual salary inflation rate employed in this model.

Table 2: General Assumptions

Ref.	General assumptions	Value
A1	Yearly discount rate	10%
A2	Length of analysis	Three years
A3	Working days per year	238
A4	Working hours per day	8
A5	Fully loaded hourly salary	\$100
A6	Annual salary inflation rate	3%

Source: Forrester Research, Inc.

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

Costs

This section summarizes the costs that the reference organization incurred deploying the Progress Actional solution.

The initial investment included one-off license fees of \$451K, the costs of additional hardware required (\$40K), and \$122K of the internal and external labor costs for preparing, testing, and installing the solution.

Recurring costs can be broken down into annual maintenance fees for the Progress Actional product of \$90K, and the internal costs associated with the administration and maintenance of this solution corresponding to 15% of one FTE.

Table 3 summarizes the costs expended by the reference organization in deploying and maintaining the Progress Actional solution over a three-year period.

Table 3: Total Costs

Ref	Costs	Calculation	Year 1	Year 2	Year 3	Total	PV
B1	One-time license costs		\$451,000	\$0	\$0	\$451,000	\$451,000
B2	Initial hardware investment		\$40,000	\$0	\$0	\$40,000	\$40,000
B3	Initial installation costs (internal and external labor)		\$122,400	\$0	\$0	\$122,400	\$122,400
B4	Annual maintenance fees		\$90,200	\$90,200	\$90,200	\$270,600	\$246,745
B5	Annual admin/maintenance (internal)		\$28,560	\$29,417	\$29,417	\$87,394	\$79,614
B6	TOTAL costs	sum(B1:B5)	\$732,160	\$119,617	\$119,617	\$971,394	\$939,759

Source: Forrester Research, Inc.

Benefits

The main driver for the deployment of Actional was to understand what was affecting the availability and performance of the mission-critical CRM and OSS/BSS systems. The increased visibility delivered by Actional enabled the reference organization to anticipate problems before they occurred. The reference organization identified benefits in two distinct areas: 1) Preproduction and quality assurance and 2) production. The different types of benefits achieved in these two areas are explained in the subsections below.

Benefits Related To The Preproduction And QA Environment

Costs were avoided because developers were not required to code authorization and authentication features for each service. Progress Actional also reduced the requirement for developers to be building custom management and reporting tools.

Development Time Savings

Progress Actional automatically discovers and monitors all services. Without Actional, the reference company would have had to spend time enhancing each service's implementation with a minimal level of monitoring support (e.g., writing log records). The reference organization estimated a net

The Total Economic Impact™ Of Progress Management for Interconnected Applications

gain of about 25 man days (i.e., 200 hours) saved per year due to having fewer customized tools to develop. Also, the Progress Actional deployment meant that developers did not have to code management functions into each service. This benefit saved 12 hours of developer time per instrumented service.

Table 4: Development Benefits

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
C1	Number of service operations		100	10	10		
C2	Average number of development man hours gained for not having to code authorization and authentication features for each service		12	12	12		
C3	Average number of development man hours gained for not having to develop custom management and reporting tools per year		200	200	200		
C4	Number of man hours gained	$(C1 \cdot C2) + C3$	1 400	320	320		
C5	Average fully loaded hourly rate		\$100	\$103	\$106		
C6	TOTAL development benefits	$C4 \cdot C5$	\$140 000	\$32 960	\$33 949	\$206 909	\$198 020

Source: Forrester Research, Inc.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Reduced Time-To-Repair In Preproduction/QA Environment

The reference organization has to handle almost 100 incidents a year in the testing and QA environment for its CRM and OSS/BSS systems. They reported a reduction in the number of people required to investigate a problem and 50% less time spent per person resolving a problem. Table 5 illustrates the time savings enjoyed in the preproduction/QA environment.

Table 5: Reduced Time-To-Repair Benefits (Preproduction Environment)

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
D1	Number of major preproduction incidents per year		92	88	84		
D2	Average number of people involved in problem solving before Actional		5	5	5		
D3	Average number of hours per person spent in problem resolution before Actional		6	6	6		
D4	Man hours spent per year resolving problems before Actional	D1*D2*D3	2 760	2 640	2 520		
D5	Average number of people involved in problem solving with Actional		3	3	3		
D6	Average number of hours per person spent in problem resolution with Actional		3	3	3		
D7	Man hours spent per year resolving problems with Actional	D1*D5*D6	828	792	756		
D8	Average fully loaded hourly rate, without Actional		\$100.0	\$103.0	\$106.1		
D9	Average fully loaded hourly rate, with Actional		\$80.0	\$82.4	\$84.9		
D10	Ramp-up; percentage of benefit taken into account		75%	100%	100%		
D11	Total problem solving benefits (preproduction environment)	[(D4*D8) - (D7*D9)]* D10	\$157,320	\$206,659	\$203,184	\$567,163	\$513,112

Source: Forrester Research, Inc.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Benefits Related To The Production Environment

The key business benefit achieved in the production environment was improved service availability for call center staff, which ultimately improved their ability to service and sell to customers. The IT organization also avoided costs associated with reporting and problem resolution in a runtime production environment.

Increased Service Availability

Progress Actional enabled the reference organization to reduce the time to repair and resolve mission-critical incidents. This improves systems availability for call center staff and sales representatives. If the systems are down or performance levels are reduced, then there is a risk that customers can't complete orders, and transactions are lost. If there's a problem with a specific service call or transaction that's delaying or causing problems, then the customer will see the benefit as well.

Table 6: Benefits Due To Increased Service Availability

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
E1	Total revenues lost per hour of downtime or reduced performance		\$50,000	\$50,000	\$50,000		
E2	Average downtime/ reduced performance of service during a major production incident (in hours)		1	1	1		
E3	Number of major production incidents per year before Actional		12	12	12		
E4	Number of major production incidents per year with Actional		10	8	7		
E5	Additional uptime for services due to Actional (in hours/ year)	$(E3-E4)*E2$	2	4	5		
E6	Ramp-up; percentage of benefit taken into account		75%	100%	100%		
E7	TOTAL increased service availability benefits	$E1*E5*E6$	\$75,000	\$200,000	\$250,000	\$525,000	\$463,430

Source: Forrester Research, Inc.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Reporting Benefits

This benefit is based on the amount of time saved when establishing weekly reports regarding service usage, performance, etc. Such reports are a primary feature of Progress Actional. Without Progress Actional, the data must be manually gathered, correlated, and reported. The reference organization estimated the time gained to 3 hours per week. Only 75% of the annual benefit amount is accrued in Year 1 during the ramp period. Table 7 presents the calculation and the resulting three-year benefit amount.

Table 7: Reporting Benefits

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
F1	Number of hours gained per week for reporting		3	3	3		
F2	Number of hours gained per year for reporting	F1*52	156	156	156		
F3	Average fully loaded hourly rate	A5 (incl. inflation)	\$100.0	\$103.0	\$106.1		
F4	Ramp-up; percentage of benefit taken into account		75%	100%	100%		
F5	TOTAL reporting benefits	F2*F3*F4	\$11,700	\$16,068	\$16,550	\$44,318	\$39,985

Source: Forrester Research, Inc.

Reduced Time-To-Repair In Production Environment

Organizations that do not have full real-time and end-to-end visibility of their services spend more time and effort resolving problems with services. Often, it is not clear which layer in a service's implementation is causing the problem. Hunting down the source of the problem requires multiple support teams to scan log files, run test scenarios, and manually correlate results with other teams to find the origin of a problem. This benefit applies to the production and the preproduction/testing environment.

According to the reference organization, before having a service management solution in place, a major problem in the production environment involved, on average, about 10 people for about 6 hours each to perform root-cause analysis, fix the problem, and test the resolution. With Progress Actional's ability to identify the offending layer of the service implementation, it requires, on average, only three persons for about 3 hours each. Additionally, the reference organization said that problem resolution may be accomplished by less expensive personnel. They were able to avoid bringing developers in early in a production problem. Operations people can now pinpoint where the areas of concern are, and then, when they've narrowed it down to a particular subsystem or a particular service, they can get the developers involved. This has been taken into account in the following calculations by reducing the fully loaded hourly salary by 20%.

Seventy-five percent of the annual benefit amount is accrued in Year 1 during the ramp period. Table 8 presents the calculation and the resulting three-year benefit amount for the production environment.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Table 8: Reduced Time-To-Repair (Production Environment)

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
G1	Number of major production incidents per year		10	8	7		
G2	Average number of people involved in problem solving before Actional		10	10	10		
G3	Average number of hours per person spent in problem resolution before Actional		6	6	6		
G4	Man hours spent resolving problems per year before Actional	$E1 * E2 * E3$	600	480	420		
G5	Average number of people involved in problem solving with Actional		3	3	3		
G6	Average number of hours per person spent in problem resolution with Actional		3	3	3		
G7	Man hours spent resolving problems per year with Actional	$G1 * G5 * G6$	90	72	63		
G8	Average fully loaded hourly rate, without Actional	A5 (incl. inflation)	\$100.0	\$103.0	\$106.1		
G9	Average fully loaded hourly rate, with Actional	$G8 * 80\%$	\$80.0	\$82.4	\$84.9		
G10	Ramp-up; percentage of benefit taken into account		75%	100%	100%		
G11	TOTAL problem solving benefits (production environment)	$[(G4 * G8) - (G7 * G9)] * G10$	\$39,600	\$43,507	\$39,211	\$122,318	\$111,558

Source: Forrester Research, Inc.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

IT Benefits Due To Reduced Number Of Incidents In Production

Progress Actional's monitoring and alerting capabilities allow IT operations to take proactive measures to prevent production problems before they occur. The reference organization experienced a decrease in the number of production incidents. These are problems that did not occur, and thus took zero time to fix, resulting in direct cost savings. The costs for solving a production incident are derived from Table 8, above.

Table 9: Benefits Due To Reduced Number Of Incidents

Ref	Metric	Calculation	Year 1	Year 2	Year 3	Total	PV
H1	Number of major production incidents per year		10	8	7		
H2	Number of production incidents per year without Actional		12	12	12		
H3	Number of avoided incidents due to Actional		2	4	5		
H4	Costs to solve one incident (without Actional)	G2* G3*G8	\$6,000	\$6,180	\$6,365		
H5	TOTAL IT benefits from avoided production incidents	G3*G4	\$12,000	\$24,720	\$31,827	\$68,547	\$60,776

Source: Forrester Research, Inc.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

Total Benefits

Table 10 resumes the total benefits that were quantifiable for this study and explained above.

Table 10: Total Benefits

Ref	Benefits	Calculation	Year 1	Year 2	Year 3	Total	PV
I1	TOTAL development benefits	C6	\$140,000	\$32,960	\$33,949		
I2	Total problem solving benefits (preproduction/QA environment)	D11	\$157,320	\$206,659	\$203,184		
I3	TOTAL benefits due to increased service availability	E7	\$75,000	\$200,000	\$250,000		
I4	TOTAL reporting benefits	F5	\$11,700	\$16,068	\$16,550		
I5	Total problem solving benefits (production environment)	G11	\$39,600	\$43,507	\$39,211		
I6	TOTAL IT benefits from avoided production incidents	H5	\$12,000	\$24,720	\$31,827		
I7	TOTAL benefits	I1+I2+I3+I4+I5+I6	\$435,620	\$523,914	\$574,720	\$1,534,255	\$1,386,881

Source: Forrester Research, Inc.

Risk

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

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

For example, take the case of the annual internal administration costs. The \$87,394 value used in this analysis can be considered the "most likely" or expected value. However this value might vary based on the complexity of the changing environment. This variability represents a risk that must be captured as part of this study. Forrester uses a risk factor of 110% on the high end, 105% as the medium, 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 105% as

The Total Economic Impact™ Of Progress Management for Interconnected Applications

the mean. Forrester applies this mean to the most likely estimate, \$87,394, to arrive at a risk-adjusted value of \$91,763.

However, most of the cost figures in this study are not risk-adjusted. License costs, for example, can be determined with a high degree of certainty (and contractually set) before a project is started. License, upfront investment, initial installation, and maintenance costs presented in this study are not risk-adjusted for this reason.

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

Table 11: Cost Category Risk Adjustments

Ref	Risk to cost	Low	Medium	High	Risk-adjusted
J1	One-time license costs	100%	100%	100%	NA
J2	Hardware investment	100%	100%	100%	NA
J3	Installation costs (internal)	100%	100%	100%	NA
J4	Annual maintenance fees	100%	100%	100%	NA
J5	Annual admin/maintenance (internal)	100%	105%	110%	105%

Source: Forrester Research, Inc.

Risk adjustments for benefits reduce the original benefits estimates. For example, Forrester applies a risk range of 90% on the low end of the estimate, 95% on the medium, and 100% on the high end for increased uptime/productivity. This has the effect of reducing the benefit estimate by 5%, equal to 95% of the original value.

Table 12: Benefit Category Risk Adjustments

Ref	Risk to benefit	Low	Medium	High	Risk-adjusted
K1	Development time savings	96%	98%	100%	98%
K2	Reduced time for reporting	96%	98%	100%	98%
K3	Reduced time-to-repair in production environment	92%	96%	100%	96%
K4	Reduced time-to-repair benefits in oreproduction environment	92%	96%	100%	96%
K5	IT benefits due to reduced number of incidents in production	90%	95%	100%	95%
K6	Increased service availability	90%	95%	100%	95%

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).

To date, the customer uses Progress Actional's basic monitoring, troubleshooting, and reporting capabilities. However, there are numerous other advanced features available for future further optimization of its SOA environment.

While data for calculating the monetary value of several flexibility options was not available at the time of publication, the customer identified the following areas that present additional uses of Progress Actional that could be built upon the existing implementation:

- **Use of Progress Actional's service stabilizers to configure smarter and automated responses to production conditions.** Specifically, the customer mentioned the situation where a given back-end system is down, which means that the CRM system would receive an error response to a service request. Without Actional, the CRM system would have to be enhanced to distinguish between true errors and "down for maintenance" scenarios. With service configuration done via Actional, the CRM system could receive a message indicating that the service is unavailable, and service associates will know they must try again later.
- **Implement comprehensive security and policy enforcement for services.** The customer has yet to leverage Progress Actional's advanced security features. Without Actional, implementing deeper, more comprehensive security would require developers to add code to each service operation for authentication and authorization of service requesters. This would incur time and costs for developing security functions, for complete regression testing of each service, and for redeployment of service code. In addition, it would incur the security risks that different programmers might implement security functions differently. With Actional, security can be configured for groups of services (or for individual services) and enforced with a single integrated environment, monitored and managed by security experts.
- **Enable more flexible evolution of business functionality.** One of the benefits of SOA — that multiple applications can share a single service — can also present a challenge. When the service changes to accommodate new business requirements, all the applications using the service should be retested to ensure that they still work properly. But this requires the multiple applications to synchronize their testing and deployment schedules, which slows down the speed of business change — sometimes quite dramatically. With Actional, the customer anticipates implementing a versioning strategy that will allow multiple versions of a service to run in production simultaneously, thus eliminating the need for synchronized testing and speeding their pace of business change. The result? Business improvements make it to production faster and start accruing benefits sooner.
- **Additional proactive problem analysis.** Before Actional, some problems, such as slow response time for a given service, might not receive IT's attention — unless the problem were severe enough, it simply took too much time to look into the source of the problem. Progress Actional makes problem analysis efficient enough that it intends to look into a wider range of production issues in the future, proactively making the business run more efficiently and effectively.
- **Further improve problem determination processes.** After achieving its initial benefits of faster, cheaper problem resolution, the company now sees the opportunity to further improve its processes by redesigning them using Progress Actional's features. Whereas the tool first allowed the company to streamline its existing process, it also provides it with the flexibility to design a new and better problem resolution process.

The Total Economic Impact™ Of Progress Management for Interconnected Applications

- Leverage Progress Actional as SOA expands to other mission-critical applications.**
 As the customer expands its use of SOA for improving its business, many or even most of the major back-end systems are now already under management by Progress Actional. Thus, new SOA-based solutions will automatically get the benefits that the CRM application has achieved.

TEI Framework: Summary

Considering the financial framework constructed above, the results of the costs, benefits, risk, and flexibility sections using the representative numbers can be used to determine a return on investment, net present value, and payback period. Table 13 shows the consolidation of the numbers for the reference organization.

Table 13: Reference Company ROI, Non-Risk-Adjusted

Ref	Category	Calculation	Year 1	Year 2	Year 3	Total	PV
N1	Total costs	-B6	\$(732,160)	\$(119,617)	\$(119,617)	\$(971,394)	\$(939,759)
N2	Total benefits	I7	\$435,620	\$523,914	\$574,720	\$1,534,255	\$1,386,881
N3	Total	N1+N2	\$(296,540)	\$404,298	\$455,103	\$562,861	\$447,122
N4	Return on investment	N3/(-N1)					48%

Source: Forrester Research, Inc.

Table 14 below shows the risk-adjusted values, applying the risk adjustment method indicated in the "Risks" section and the values from Tables 11 and 12 to the numbers in Tables 3 and 10.

Table 14: Reference Company ROI, Risk-Adjusted

Ref	Category	Calculation	Year 1	Year 2	Year 3	Total	PV
O1	Total costs	-B6 (risk adj)	\$(733,588)	\$(121,088)	\$(121,088)	\$(975,763)	\$(943,740)
O2	Total benefits	I7 (risk. adj)	\$420,359	\$501,691	\$549,923	\$1,471,974	\$1,330,924
O3	Total	O1+O2	\$(313,229)	\$380,604	\$428,836	\$496,210	\$387,184
O4	Return on investment	O3/(-O1)					41%
O5	Payback period						Within 24 months

Source: Forrester Research, Inc.

It is important to note that values used throughout the TEI Framework are based on in-depth interviews with one 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 Progress Actional.

Study Conclusions

This study is meant to provide the reader with a framework to examine the costs and benefits of deploying the Progress Actional solution. Based on our in-depth discussions with a large communications and media service provider, Forrester found that this organization expects a **three-year risk-adjusted ROI of 41%**. The **net present value** for this investment is **\$387,184** (risk-adjusted). And, additional soft benefits of this deployment should not be underestimated. The soft benefits were important enough to the customer that it did not even require an ROI calculation before buying the product. Its intent in acquiring a solution was focused heavily on CRM stability, and it required only that the system provide that benefit at an affordable cost. It knew that the solution's initial benefits would be extended, at relatively lower cost, to other applications and business process in the future.

For the reference organization, the Progress Actional solution is perceived as a true time saver. Development time has been saved because less custom coding work is needed. The IT operations group was able to solve incidents more rapidly and with fewer resources. Also, the time needed to create weekly reports decreased. By continually monitoring and optimizing the environment by taking proactive measures, the reference organization saw the number of production incidents diminish by 20% per year which had a positive impact on service availability.

The benefits that have been quantified in this study are:

- **Benefits related to the preproduction and QA environment**
 - **Development time savings.** Due to the introduction of the Progress Actional solution, the development team saved time and efforts for not having to instrument every single service and creating less custom tools.
 - **Reduced time-to-repair.** Organizations that do not have full real-time and end-to-end visibility of their services spend more time and effort for resolving problems with services. After the introduction of Progress Actional, the reference company saw the amount of efforts needed to resolve a problem in the preproduction environment reduced by 70%.
- **Benefits related to the production environment**
 - **Increased service availability.** Progress Actional enabled the reference organization to reduce the time to repair and resolve mission critical incidents. This improves systems availability for call center staff and sales representatives.
 - **Reporting benefits.** Before the introduction of Progress Actional, usage and performance reports were based on data that had to be gathered and correlated manually. With Progress Actional, the data is readily available, which resulted in a net time savings of 3 hours per week.
 - **Reduced time-to-repair.** After the introduction of Progress Actional, the reference company saw the amount of efforts involved in production problem resolutions cut by 85%.
 - **IT benefits due to reduced number of incidents.** Through continuous service optimization efforts, the reference organization was able to reduce the number of production incidents by 20% per year, and thus saved time and efforts.

Apart from these categories, organizations may think of other potential benefits and other areas for cost avoidance. The interviewed organization currently uses Progress Actional for basic monitoring,

The Total Economic Impact™ Of Progress Management for Interconnected Applications

troubleshooting, and reporting. In the future, it will also look into more advanced features offered by the Progress Actional product such as policy enforcement, service stabilizers, fine-grained error handling or other more sophisticated security features.

Forrester makes no assumptions regarding the effects of the Progress Actional solution at other organizations. This study examines the financial impact attributable to one organization. The underlying objective of this document is to provide guidance to technology decision-makers seeking to identify areas where value can potentially be created by using the Progress Actional solution.

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: About The Project Managers

Paul Devine Consultant, Forrester Consulting

Paul is a consultant for Forrester's Total Economic Impact (TEI) products and services. The TEI methodology focuses on measuring and communicating the value of IT and business decisions and solutions and providing an ROI business case based on the costs, benefits, flexibility, and risk of investments.

Paul has more than eight years consulting experience in the telecommunications and IT sector. Paul spent five years working as a consultant in Frost & Sullivan's ICT practice. During his time at Frost & Sullivan, Paul managed large primary research projects and consulting engagements across Europe, the Middle East, and Africa.

Paul earned a B.Sc. in Chemistry with Management Studies and a Master's in Technology and Innovation Management, from the University of Sussex in the UK.

Paul is currently located in London.

Sebastian Selhorst Consultant, Forrester Consulting

Sebastian is a consultant for Forrester's Total Economic Impact (TEI) products and services. The TEI methodology focuses on measuring and communicating the value of IT and business decisions and solutions and providing an ROI business case based on the costs, benefits, flexibility, and risk of investments.

Sebastian has more than eight years of professional experience in the telecommunications and IT outsourcing industry. Prior to joining Forrester, Sebastian worked as a project manager and consultant for EDS, where he engaged in large IT infrastructure and telecommunications on- and offshore outsourcing projects. His work included general project, account and financial management tasks, management of third-party relations and sales support. Sebastian began his career at Alcatel where he was responsible for analyzing needs for new mobile network features and translating them into high-level technical requirements.

Sebastian holds a French and German M.Sc. from Ecole Centrale Paris and RWTH Aachen with a specialization in computer science and telecommunications. He is fluent in English, German, and French.