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The Total Economic Impact™ Of CA Technologies' Business Service Insight Solution

Single-Company Analysis

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Table Of Contents

Executive Summary	3
About The CA Business Service Insight Solution	5
CHE Selects The CA Business Service Insight Solution	6
Costs, Benefits, Flexibility, And Risks.....	8
Financial Analysis Summary — CHE	13
Study Conclusions.....	13
Appendix A: Total Economic Impact™ Overview	15
Appendix B: Glossary.....	16
Appendix C: About The Project Manager.....	17

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Executive Summary

In May 2010, CA Technologies commissioned Forrester Consulting to examine the financial impact and potential return on investment (ROI) that an organization might realize from implementing CA's Business Service Insight solution. To determine the impact, Forrester examined the specific costs, benefits, flexibility, and risk elements that a CA customer, Catholic Health East (CHE), experienced over the past three years using the CA Business Service Insight solution.

CHE is a multi-institutional Catholic health system, which includes 34 acute-care hospitals, four long-term acute-care hospitals, 25 freestanding and hospital-based long-term care facilities, 14 assisted-living facilities, four continuing-care retirement communities, eight behavioral health and rehabilitation facilities, 37 home-health/hospice agencies, and numerous ambulatory and community-based health services. CHE facilities employ approximately 54,000 full-time employees.

From interviews conducted by Forrester, it was determined that CHE's use of CA's Business Service Insight solution allowed for a significant redeployment of labor necessary to compile and distribute service-level management reports to its system office customers and enabled a similar labor cost avoidance associated with compiling and distributing reports to its hospitals or Regional Health Corporations (RHCs). Based on our interviews, Forrester projects a three-year, risk-adjusted total net present value (NPV) of **\$173,420**, representing the net costs and benefits attributed to using the CA Business Service Insight solution versus CHE's previous manual processes used in service management reporting. (See details below in Costs, Benefits, Flexibility, and Risks sections). In addition, the risk-adjusted ROI was a favorable 45%, and the payback period was **within 20 months**.

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of implementing the CA Business Service Insight solution. Forrester's aim is to show the calculations and assumptions that go into the analysis. This study should be seen as a guide to better understand and evaluate the CA Business Service Insight solution.

Methodology

CA selected Forrester for this project because of our expertise in service management reporting processes and technologies and because of our Total Economic Impact™ (TEI) analysis methodology. TEI not only measures costs and benefits (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. Forrester's TEI methodology serves an extremely useful purpose by providing a complete picture of the total economic impact of purchase decisions (see Appendix A for additional information on the TEI methodology).

Approach

Forrester used a four-step approach for this study:

1. Forrester interviewed CA marketing, product management, and sales employees to fully understand the value proposition of the CA Business Service Insight solution.
2. Using knowledge of the CA Business Service Insight solution as well as input from existing Forrester research and CA Technologies, a Forrester representative conducted in-depth interviews with Howard Walker, senior project manager specialist for CHE, to understand the costs, benefits, risks, and flexibility options of using the CA Business Service Insight solution.

3. Forrester constructed a financial value model representative of the data collected in the interviews.
4. Forrester created this study, which represents and examines the estimated value of the findings derived from the customer interview and analysis process and from Forrester's independent research.

Key Findings

Table 1 represents a summary of the ROI, costs, and savings that CHE will realize over a three-year period by deploying the CA Business Service Insight solution.

Table 1: Three-Year Summary Financial Results — CHE

Summary of financial results	Risk-adjusted
ROI	45%
Payback period	Within 20 months
Total costs (present value [PV])	(\$381,645)
Total cost savings and benefits (PV)	\$555,065
Total (NPV)	\$173,420

Source: Forrester Research, Inc.

The three-year, risk-adjusted total NPV of **\$173,420** represents the net costs and benefits attributed to using the CA Business Service Insight solution, compared with CHE's previous service management reporting processes (see details below in Costs, Benefits, Flexibility, and Risks sections). In addition, the risk-adjusted ROI was a favorable 45%, and the payback period was **within 20 months**. Forrester Research also identified several significant unquantified benefits attributed to the CA Business Service Insight solution, which are listed beginning on page 10 of this study.

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 value considering risk. Assuming normal success at mitigating risk, the risk-adjusted numbers should more closely reflect the expected outcome of the investment.

The objective of this study is not to illustrate savings that other organizations can obtain by deploying the CA Business Service Insight solution but rather to identify savings and benefits experienced by CHE. These results can be used as a guide to allow other organizations to determine the appropriate benefits for their particular environments.

Disclosures

The reader should be aware of the following disclosures associated with this study:

- The study was commissioned by CA Technologies and delivered by the Forrester Consulting group.

- CA and CHE reviewed and provided feedback to Forrester, but Forrester maintained editorial control over the study, its findings, and financial data.
- Forrester did not accept any changes to the study that contradicted its findings, obscured the meaning of the study, or changed any of the data collected.
- The customer name for the study (CHE) was provided by CA.
- Forrester makes no assumptions as to the potential ROI that other enterprises will receive within their own environments. Forrester strongly advises that the reader use his or her own estimates within the framework provided in the study to determine the appropriateness of implementing the CA Business Service Insight solution.
- This study is not an endorsement by Forrester of CA or its offerings.
- The study is not a competitive product analysis.

About The CA Business Service Insight Solution

According to CA, its Business Service Insight solution enhances an organization's ability to define service catalog and measurement metrics, establish contractual obligations and performance targets, monitor performance against these targets in real time, act based on this performance, and report performance to both the service provider and the service consumer.

What Is CA Business Service Insight?

It is a service-level management solution that offers complete visibility into service-level agreements (SLAs) and proactively manages and measures service delivery across business and technology infrastructures providing a centralized view.

What SLA Challenges Does It Meet?

It helps reduce cost; increases productivity; automates the monitoring, reporting, and management of SLAs; and helps improve customer acquisition, satisfaction, and retention. It offers insight into the cost implications of SLAs for penalties, credits, and ongoing performance, improving corporate governance and reducing business risk. It allows for rapid contract creation and provides transparency into services offered and rendered through real-time performance measurement.

What Features Does It Offer?

It offers a wide variety of features for service providers, internal operations, and outsourcing management — specifically offering robust, real-time reporting views into supplier and vendor service levels as well as flexible mapping of service-level obligations, while ensuring compliance with governance frameworks like ITIL, CoBIT, and eTom. Business-impact analysis enables companies to predict where service levels will underperform. Drilldown capabilities and root cause analysis enables rapid identification of problems, and real-time alerts and reports provide up-to-the-minute information about performance.

What Platform Does It Support?

It supports Microsoft Windows.

CHE Selects The CA Business Service Insight Solution

Background

CHE is a multi-institutional Catholic health system, which is co-sponsored by nine religious congregations and Hope Ministries, a Public Juridic Person within CHE. Based in Newtown Square, Pennsylvania, the System provides the means to ensure the continuation of the Catholic identity and operational strength of the sponsors' health ministries, which are located within 11 Eastern states from Maine to Florida.

The System includes 34 acute-care hospitals aggregated into 19 RHCs, four long-term acute-care hospitals, 25 freestanding and hospital-based long-term care facilities, 14 assisted-living facilities, four continuing-care retirement communities, eight behavioral health and rehabilitation facilities, 37 home-health/hospice agencies, and numerous ambulatory and community-based health services. CHE facilities employ approximately 54,000 full-time employees as partners in ministry.

The primary focus for the CHE Information Services (IS) group was to provide an efficient foundation for its hospitals and RHCs. IS within CHE provides a 24x7 help desk, application hosting, workplace support, application implementation and support, project and IS management, as well as strategic services. The collaborative relationship between CHE IS and the RHCs required SLAs to assist in determining the metrics for measuring the effectiveness of the IS experience for customers.

CHE's Pre-Business Service Insight Environment

Prior to implementing Business Service Insight, CHE was not monitoring or measuring SLAs at the RHCs. Service levels were only being measured at the corporate level, and that process was very manually intensive. In addition, there were numerous internal questions and concerns regarding the accuracy of the service-level reports that were manually created and distributed.

CHE IS wanted to begin tracking SLAs for the RHCs. However, it needed a solution that provided complete visibility into SLAs and proactively managed and measured service delivery across business and technology infrastructures providing a centralized view. It needed to guarantee that management would receive a better and more accurate level of reporting services than in the past. It also wanted to consolidate reporting within CHE IS rather than have each RHC CIO report results to his/her respective CEO. Additionally CEO's needed to be assured that the RHCs would receive the same level of service once the IS reporting structure changed. The IS department needed a solution that would be able to manage and measure service delivery and track what was being delivered and when. And it had to be accurate and credible.

CHE's Goals And Objectives With Business Service Insight

The goal of the Business Service Insight project was to set up an agreement that would improve and guide the collaborative working relationship (e.g., partnership) within the IS department. In support of this operating model, SLAs were established to assist in determining the metrics to measure the effectiveness of the IS experience for the internal customers as well as the roles and responsibilities of CHE IS and the RHC IS and Operations groups.

With the investment in Business Service Insight, CHE will have a real-time measurement tool to accurately track performance levels. The Business Service Insight solution will also provide the opportunity to identify areas where action needs to be taken to improve service to internal customers.

The following were CHE's specific goals and objectives in choosing a service management reporting solution:

- Clearly define customer (corporate and RHC) expectations for service delivery.
- Establish performance metrics around service delivery.
- Maximize economies of skill and scale by consolidating and automating its service delivery reporting processes.
- Install an automated service measurement tool.
- Formalize SLAs for corporate and RHCs.
- Enhance customer service for corporate and RHCs.
- Improve accuracy and consistency of IS performance.

Putting into place clearly defined and mutually agreed upon SLAs will allow the RHCs, the RHC IS departments, and corporate IS to concretely measure the services provided as well as the satisfaction of the end user community (individual RHCs). This service-level management reporting project will allow for specific targets in the areas of help desk call handling, problem/issue resolution times, service requests, and customer satisfaction. Previously there was no agreed upon measurement process in place, which led to many "he said, she said" scenarios when it came to monitoring the levels of service provided by the IS department.

CHE Chooses CA Business Service Insight solution

Having identified the goals and objectives of its service delivery measurement project, CHE began investigating solutions that would enhance its existing service management reporting processes. After a formal vendor evaluation process, CHE chose Business Service Insight to automate its SLA processes, build its service catalog, as well as monitor, manage, and report with more reliable information and data.

CHE installed Business Service Insight to automate the service-level management reporting processes for 19 SLA contracts. Business Service Insight generates about 1,180 reports, which are accessed by about 85 users. As a result of implementing Business Service Insight, CHE was able to accomplish the following:

- Established SLA contracts for each RHC.
- Defined metrics for the target measurements.
- Created adapters to pull the required information from the originating systems.
- Defined reports, dashboards, SLA scorecards, and booklets to distribute to management.
- Streamlined distribution processes for mid-month and month-end reporting.

"With Business Service Insight, accuracy is no longer in question; the reports are viewed as accurate and credible. Business Service Insight provides service-level transparency so there are no more gray areas. It takes the covers off, and once the covers are off, everyone

can see what's going on underneath." (Howard Walker, senior project manager specialist, CHE)

Costs, Benefits, Flexibility, And Risks

To calculate the ROI for CHE's investment in the CA Business Service Insight solution, Forrester analyzed the costs, benefits, flexibility, and risks associated with deploying the CA Business Service Insight solution at CHE.

Costs

CHE's costs associated with selecting, purchasing, implementing, and maintaining the CA Business Service Insight solution total **\$395,500** for the three-year period of this analysis and include the following expenses:

- **Vendor selection and evaluation: \$7,000.** Internal labor costs were \$7,000. The costs represent approximately 30 days' worth of effort of the IS staff to evaluate the capabilities of vendors. This labor expense is based on an average fully loaded cost of \$83,200 per IS staff person.
- **Planning of the implementation: \$55,000.** Internal labor costs were \$55,000, which represents four months' of time and effort on the part of two IS staff (project manager and DBA) to plan the Business Service Insight deployment. Detailed preplanning tasks include: process design, setting up contracts, creating adapters to source data, verifying accuracy of data, creating user training materials, training users, and putting together report booklets. CHE also used CA professional services for preplanning and implementation; see those costs below.
- **CA Business Service Insight software product licensing fees: \$150,000.** This includes perpetual licensing.
- **CA Business Service Insight software maintenance fees: \$81,000.** The maintenance fees were \$27,000 annually for the three years of this analysis.
- **CA professional services: \$90,000.** There was \$90,000 paid for professional services for pre-implementation planning and implementation services. Howard Walker suggests that other organizations implementing the CA Business Service Insight solution should consider engaging CA's professional services for both pre-implementation planning and implementation assistance.
- **CA training: \$12,500.** Four IS staff took on-site CA Business Service Insight training.

Table 2: Total Cost Associated With The CA Business Service Insight Solution At CHE

Project costs	Implementation costs	Year 1	Year 2	Year 3	Total	PV
Vendor selection and evaluation	\$7,000	\$0	\$0	\$0	\$7,000	\$7,000
Planning the implementation	\$55,000	\$0	\$0	\$0	\$55,000	\$55,000
CA Business Service Insight software product licensing fees	\$150,000	\$0	\$0	\$0	\$150,000	\$150,000
CA Business Service Insight software maintenance fees	\$0	\$27,000	\$27,000	\$27,000	\$81,000	\$67,145
CA professional services	\$90,000	\$0	\$0	\$0	\$90,000	\$90,000
CA Business Service Insight training	\$12,500	\$0	\$0	\$0	\$12,500	\$12,500
Total costs	\$314,500	\$27,000	\$27,000	\$27,000	\$395,500	\$381,645

Source: Forrester Research, Inc.

Benefits — Quantified

CHE identified two significant and quantifiable benefits totaling **\$744,000** (non-risk-adjusted), resulting from the implementation of the CA Business Service Insight solution. Forrester wants to point out that CHE's SLAs do not call for penalties for nonachievement of goals or bonus payments for achievement of goals. If the reader's organization uses penalties and bonuses in its SLAs, then implementing Business Service Insight would likely produce more benefits than are listed below.

Forrester also discusses several additional benefits beginning on page 10 that CHE was not able to quantify.

- Redeployment of labor necessary to compile and distribute reports — corporate: \$342,000.** Prior to implementing Business Service Insight, it took three people two weeks per month to compile the monthly service management reporting data and distribute it. This totaled 72 weeks' worth of annual time and effort or 1.38 full-time equivalents (FTEs). With the automated reporting features of Business Service Insight, it now takes one person three hours a month to compile and distribute SLA reports to corporate. CHE was able to redeploy the original FTE's to open positions performing other mission critical initiatives. Hence there is a cost avoidance savings attributed to the CA Business Service Insight solution of 1.37 FTEs or \$114,000 annually (at a fully loaded cost of \$83,200 a year) or \$342,000 over this three-year analysis.
- Labor cost avoidance to compile and distribute reports — RHCs: \$402,000.** Prior to implementing Business Service Insight, CHE IS was not responsible for service management reporting for the RHCs. CHE conservatively estimates that without Business

The Total Economic Impact™ Of CA Technologies' Business Service Insight Solution

Service Insight, it would have taken an additional 3.5 people two weeks per month to compile and distribute the monthly service management reporting data for the RHCs. This totaled 84 weeks' worth of annual time and effort or 1.62 FTEs. With the automated features of Business Service Insight, it only takes one person three hours a month to compile and distribute SLA reports for RHCs for a savings of 1.61 FTEs or \$134,000 annually (at a fully loaded cost of \$83,200 a year) — or \$402,000 over this three-year analysis.

Table 3: Total Benefits Associated With The CA Business Service Insight Solution At CHE (Non-Risk-Adjusted)

Benefits/savings	Year 1	Year 2	Year 3	Total	PV
Redeployment of labor necessary to compile and distribute reports — corporate	\$114,000	\$114,000	\$114,000	\$342,000	\$283,501
Labor cost avoidance to compile and distribute reports — RHCs	\$134,000	\$134,000	\$134,000	\$402,000	\$333,228
Total benefits	\$248,000	\$248,000	\$248,000	\$744,000	\$616,729

Source: Forrester Research, Inc.

“With Business Service Insight you are able to do a lot of things you weren’t able to do before. You can’t even compare; if we were still doing service-level management reporting manually, we probably would have given up and not reported it anymore.” (Howard Walker, senior project manager specialist, CHE)

Benefits — Unquantified

CHE identified the following additional benefits achieved from using the CA Business Service Insight solutions. However, it was *not* able to quantify these benefits:

1. Prior to implementing Business Service Insight, manual processes prevailed that limited the amount of reporting that could be done. Before Business Service Insight, there was an average of 6.5 metrics per contract and it took 4 to 6 hours to gather the data per metric. The automated Business Service Insight solution allows for more metrics per contract and reduces the compilation time for each metric to 3 to 4 minutes.
2. Service-level management reporting by Business Service Insight is viewed with a great deal of confidence by report readers. Prior to Business Service Insight, there was little confidence in the data, even after it was reviewed and approved at several levels in the organization. Business Service Insight has increased the accuracy of reporting so much that reports are not reviewed or approved before distribution anymore.
3. Designing new reports is much easier with Business Service Insight. A new Business Service Insight report can be designed in fewer than 5 minutes versus several hours previously.
4. Making changes to existing contracts is easier with Business Service Insight. These changes include defining: new services, new service-level objectives, and new time-slot options.

"Business Service Insight gives us so much flexibility to do pretty much whatever we want. And it streamlines reporting so that it's a no-brainer to get the reports out every month."
(Howard Walker, senior project manager specialist, CHE)

Flexibility Options — Agility

Flexibility, as defined by Forrester's TEI methodology, represents investing in additional capacity or agility today that can be turned into benefits in the future at some additional cost. The CA Business Service Insight solution offers flexibility to CHE because its service-level management reporting processes can be leveraged in the future when and if CHE acquires more hospitals. These new hospitals can be brought into the Business Service Insight reporting process quickly, in a matter of hours, saving the acquired hospital the labor associated with manual service-level management reporting.

CHE and Forrester believe that there is potential value in having the flexibility to take advantage of Business Service Insight's reporting features when and if hospitals are acquired. However, CHE is not yet ready to quantify the benefits or value of these flexibility options. Therefore, Forrester will not include the value of this flexibility benefit in this analysis.

In some instances, the reader of this study may believe that his or her organization is ready to take advantage of the CA Business Service Insight solution's flexibility and agility, and in that case, the option will have a PV that can be estimated. The flexibility component of TEI captures that value. The value of flexibility is clearly unique to each organization, and the willingness to measure its value varies from company to company (see Appendix A for additional information regarding flexibility).

Risks And Risk Mitigation Strategies

There are two aspects of risk and risk mitigation considered in this study: project risks and risks associated with the estimates of costs and benefits in a business case. Below is a summary of each.

Project Risk And Mitigation

There are risks associated with IS projects in general and specifically with the CA Business Service Insight solution. However, Howard Walker indicated that there were clearly greater risks to the business of not using the Business Service Insight solution than in its implementation. There were, however, four project risks that were considered by CHE in implementing the CA Business Service Insight solution:

1. **Risk:** Potential lack of support from senior management exists.
 - **Mitigation:** Communicate to senior management the benefits achieved by documenting and enforcing service-level agreements.
2. **Risk:** The new automated service management reporting system continues reporting inaccurate and noncredible data.
 - **Mitigation:** CHE spent significant time preplanning the implementation, designing the reports, and ensuring that the sources of data fed correctly into Business Service Insight.
3. **Risk:** CHE staff is not trained in the implementation and use of Business Service Insight.

The Total Economic Impact™ Of CA Technologies' Business Service Insight Solution

- **Mitigation:** Purchase Business Service Insight training for the appropriate IS staff members.
 - **Mitigation:** CHE had a DBA on staff who was able to create the adapter links to the source systems (e.g., ticket management system, server measurement systems, phone system).
4. **Risk:** For readers of this study who do not have prior experience with CA, the main risks are having the internal expertise to manage CA's implementation and the subsequent pre- and post-implementation issues that normally arise.
- **Mitigation:** CHE invested in CA's professional services for planning and implementation assistance.

CHE believes that a CA Business Service Insight deployment will never be risk-free. However, its IS staff recommends that those organizations without prior Business Service Insight experience work closely with CA's professional services before, during, and after implementation to mitigate any project risk.

Risks Associated With Estimates Of Costs And Benefits

Since the future cannot be accurately predicted, there is risk inherent in any project. Risk assessments provide a range of possible outcomes based on the risks associated with IS projects in general and specific risks relative to moving toward a particular technology solution.

With the benefit of hindsight, CHE believes that its investment in the CA Business Service Insight solution carried a significantly lower level of risk, compared with its previous manual service management reporting processes. However, there is still some uncertainty regarding the benefit estimates. To acknowledge this uncertainty, **Forrester assigned a 10% risk reduction factor** to the benefits outlined above in this study, resulting in the following changes.

Table 4: Total Benefits Associated With The CA Business Service Insight Solution At CHE (Risk-Adjusted)

Risk-adjusted benefits/savings	Year 1	Year 2	Year 3	Total	PV
Redeployment of labor necessary to compile and distribute reports — corporate	\$102,600	\$102,600	\$102,600	\$307,800	\$255,151
Labor cost avoidance to compile and distribute reports — RHCs	\$120,600	\$120,600	\$120,600	\$361,800	\$299,914
Total benefits	\$223,200	\$223,200	\$223,200	\$669,600	\$555,065

Source: Forrester Research, Inc.

Financial Analysis Summary — CHE

Key Findings

Table 5 (repeated from the Executive Summary) represents a summary of the ROI and savings that CHE will realize over a three-year period by deploying the CA Business Service Insight solution.

Table 5: Three-Year Summary Financial Results — CHE

Summary of financial results	Risk-adjusted
ROI	45%
Payback period	Within 20 months
Total costs (present value [PV])	(\$381,645)
Total cost savings and benefits (PV)	\$555,065
Total (NPV)	\$173,420

Source: Forrester Research, Inc.

The three-year, risk-adjusted total NPV of **\$173,420** represents the net costs and benefits attributed to using the CA Business Service Insight solution, compared with CHE's previous service management reporting processes (see details below in Costs, Benefits, Flexibility, and Risks sections). In addition, the risk-adjusted ROI was a favorable 45%, and the payback period was **within 20 months**. Forrester Research also identified several significant unquantified benefits attributed to the CA Business Service Insight solution, which are listed beginning on page 10 of this study.

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 value considering risk. Assuming normal success at mitigating risk, the risk-adjusted numbers should more closely reflect the expected outcome of the investment.

Study Conclusions

This study is meant to provide the reader with a framework to examine the costs and benefits of deploying the CA Business Service Insight solution. Based on our in-depth discussions with CHE, Forrester projects a three-year risk-adjusted ROI of 45% and a payback period of **within 20 months**. The NPV for this investment is **\$173,420** (risk-adjusted).

For CHE, a successful, well-planned implementation allowed significant benefits in the form of labor cost savings to be realized within IS. CHE also believes that its investment in the CA solution provides it with the future flexibility to add acquired hospitals (if any) to the existing Business Service Insight process. Although CHE understands the benefits, it was not able to quantify these future benefits for our case study.

Overall, other organizations that are likely to see beneficial results using the CA Business Service Insight solution have the following characteristics or attributes:

The Total Economic Impact™ Of CA Technologies' Business Service Insight Solution

- **Internal IS scenario:** An IS organization has commitments to the business and has the underlying data available to use for service-level management. However, it doesn't have standards in place, reporting automation, or many staff members working on service-level management reports.
- **Internal IS scenario:** The CIO has no visibility to service-level management performance and stands in the hot seat in front of her manager due to angry business-unit managers complaining about service levels.
- **Vendor scenario:** An IT/ enterprise shop has outsourced key components to vendor(s), and IT is getting feedback from its internal business stakeholders that vendor service has deteriorated — and it is unable to specifically articulate the problem to the vendor. Currently, the vendor provides unreliable reports and typically retrospective data that cannot be used to prove service deterioration.
- **Enterprise scenario:** An organization has service-level commitments to its external customers, and they want to show the competitive advantage of a service-level management quality label. Perhaps these customers have government or industry regulations that require SLAs.
- **Service provider scenario:** The service provider has been asked by its customers to provide service-level management tools.
- **Service provider scenario:** The service provider believes that it will have a competitive advantage if it's able to accurately and confidently report on its service levels.

For CHE, the CA Business Service Insight solution carries a relatively low level of risk, a **positive 45% risk-adjusted ROI**, and a **20-month** horizon to recoup the investment.

Forrester makes no assumptions regarding the effects of the CA Business Service Insight solution at other organizations. This study examines the financial impact attributable to one organization, CHE. 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 CA Business Service Insight solution.

Appendix A: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research, Inc., 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 IS initiatives to senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: cost, benefits, flexibility, and risk.

Cost

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IS or the business units may incur costs. These may be in the form of fully-burdened labor, subcontractors, or materials. Costs consider all the investment and expenses necessary to deliver the value proposed. 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.

Benefits

Benefits represent the value delivered to the user organization — IS and/or business units — by the proposed product or project. Often product or project justification exercises focus just on IS cost and cost reduction, leaving little room for analysis of the impact of the technology on the entire organization. The TEI methodology and resulting financial model places equal weight of the measure of benefits to that of costs, allowing for a full examination of the impact 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.

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 initial investment in an enterprisewide upgrade of an office productivity suite can increase standardization (to increase efficiency) and reduce licensing costs. Later, this organization may decide to take advantage of an embedded collaboration feature, which may translate to greater worker productivity if activated. However, this collaboration feature can only be used with an additional investment in user training. The ability to capture the benefit associated with this collaboration feature has a present value that can be estimated. The flexibility component of TEI captures that value using the Black-Scholes option pricing model.

Risk

Risk is the fourth component of the TEI methodology. It is a measurement of the uncertainty of benefit and cost estimates that are contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections, and 2) 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 minimum, three values are calculated to estimate the underlying range around each cost and benefit.

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, organizations 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 15% 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, or 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 a 10% discount rate 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 inflows and outflows in each year.

Example Table

Category	Initial cost	Year 1	Year 2	Year 3	Total

Source: Forrester Research, Inc.

Appendix C: About The Project Manager



Bob Cormier
Principal Consultant

Bob is a principal consultant for Forrester's Total Economic Impact™ (TEI) service. He is a leading expert on deriving business value from technology investments, specializing in advising clients on the TEI framework — services that help organizations understand the overall financial value of IS strategies and investments. He serves the following client roles:

- **CIOs and their staffs.** Bob serves as a trusted advisor to create consistent, repeatable, and best practice processes to justify and add credibility to technology investments business cases using Forrester's TEI methodology.
- **Technology vendor sales enablement professionals.** Bob works with these professionals in their efforts to clearly articulate the unique value proposition of their solutions to prospects and customers using Forrester's TEI methodology.

Bob has authored numerous TEI case studies for Forrester's vendor clients. He has also delivered his acclaimed Justifying Technology Investments (JTI) workshop to more than 800 participants representing 400 organizations.

Bob has more than 25 years experience in the IS and consulting industries. Prior to joining Forrester, he held senior-level positions at two leading eBusiness consulting firms, ZEFER and Cambridge Technology Partners. Bob has successfully led company efforts to optimize financial, operational, and resource planning activities, incorporating leading-edge, professional service automation (PSA) applications and enterprise resource planning (ERP) systems. He has also held senior financial management positions at Digital Equipment and Anixter International.

During his career Bob has consulted with global users and vendors of IS and has been a frequent speaker at conferences, events, and seminars.

Education

Bob earned an M.B.A. from Bentley University and a B.S. in business from the University of New Hampshire. As an adjunct professor, he has taught finance and economics courses for more than 10 years at Southern New Hampshire University and Daniel Webster College.