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The Total Economic Impact of CompuCom Integrated Infrastructure Management Services At PSEG Services Corporation

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Executive Summary

In May 2008, CompuCom Systems commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) that enterprises may realize by engaging Integrated Infrastructure Management services (IIM) from CompuCom. The company's IIM solution encompasses a wide range of outsourced IT capabilities — asset life cycle management, cost-effective service delivery processes, extensive service desk capabilities, and other tools and technologies — that allow the company to deliver sustained IT improvements, at lower cost, while reducing work processes and increasing satisfaction levels.

This study illustrates the financial impact for New Jersey-based PSEG Services Corporation, the shared services provider serving three large business units — Public Service Electric and Gas (PSE&G), PSEG Power, and PSEG Global Holdings — of a major electric and gas utility holding company, Public Service Enterprise Group.

PSEG Services Corporation's decision to outsource certain IT activities to CompuCom Systems, Inc. (CompuCom) was a part of a larger initiative aimed at increasing value to its customers by focusing on core work performed by the corporate services unit, or as managers described, "the rationalization of the work we are doing between core and context."

The project went live in October 2004 for 70 locations in the mid Atlantic states and included the following services. Transition time was about 15 weeks.

Desktop Services

- PC refresh program *
- Break/fixes on PCs and add/move for staff changes
- PC asset management and program management office

End-User Support

- Service Desk Level 1 and 2 support
- VIP/executive support

Software And Application Services

- Software deployment to PCs and software upgrades
- Virus protection, OS patching

IT Staffing Services

- Staff augmentation for the systems and applications on the customer's energy trading floor

* Note: the PC refresh program is not typically a part of a managed services engagement, but rather it is part of a comprehensive IT asset life-cycle management set of processes that are fully integrated into the IT service management approach.

In conducting in-depth interviews with this CompuCom client, Forrester found that the company achieved benefit in terms of a reduction in the number of internal IT support associates required to service the needs of the business units. Additionally, the client experienced better governance (with a disciplined PC refresh program, processes introduced by CompuCom and establishing a governance council), better purchasing (resulting from determining in advance what hardware will be needed), and greater labor flexibility (to meet intermittent spikes in demand for support services).

Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of CompuCom IIM services on their organization. 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 CompuCom Integrated Infrastructure Management (IIM) solution.

Methodology

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

For this study, Forrester employed four fundamental elements of TEI in modeling IIM services:

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

Approach

Forrester used a multi-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to CompuCom and the IT outsourcing market in general.
2. Forrester interviewed CompuCom marketing and sales personnel to fully understand the potential (or intended) value proposition of IIM solutions.
3. Forrester conducted a series of in-depth interviews with one organization currently using CompuCom's IIM services.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.

Key Findings

Forrester's study yielded several key findings:

- **ROI.** Based on the interviews with PSEG Services Corporation, Forrester constructed a TEI framework and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the risk adjusted ROI for the company is 46% with a breakeven point (payback period) two months after deployment.
- **Benefits.** Principal benefits include *annual* labor cost savings of approximately \$5.3 million for IT support services that were previously provided by internal staff.
- **Costs.** Significant cost categories areas include: a) various startup costs amounting to approximately \$262,000, b) annual vendor and contract management costs of about \$578,000, and c) fees paid to CompuCom for IIM services amounting to \$3 million in the first year and decreasing approximately 5% annually thereafter.

Table 1 illustrates the risk-adjusted cash flow for the customer, 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 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 below.

Table 1: Three-Year ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	50%	46%
Payback period (months)	1.8	2.0
Total costs (PV)	(\$9,195,138)	(\$9,313,895)
Total benefits (PV)	\$13,808,792	\$13,574,744
Total (NPV)	\$4,613,654	\$4,260,849

Source: Forrester Research, Inc.

Disclosures

The reader should be aware of the following:

- The study is commissioned by CompuCom and delivered by the Forrester Consulting group.
- CompuCom reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings.
- The client for the interviews was provided by CompuCom.
- 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 CompuCom IIM services.
- This study is not meant to be used as a competitive product analysis.

CompuCom IIM Services: Overview

CompuCom Systems, Inc. provides infrastructure management services, application services, systems integration, and consulting services, as well as the procurement and management of hardware and software. According to the company, CompuCom's Integrated Infrastructure Management (IIM) reduces costs, increases productivity, and helps clients gain maximum value from information technology. CompuCom's Integrated Infrastructure Management (IIM) combines IT asset life cycle management, a cost-effective service delivery processes, state-of-the-art service desk capabilities, and a mutually beneficial relationship methodology.

As part of IIM services, CompuCom uses a proprietary IIM Maturity Assessment Tool to evaluate and index a client's infrastructure maturity level. Developed using industry-standard methodologies and best practices, this unique tool allows CompuCom to quickly evaluate and make recommendations to better integrate the management of a client's IT services, hardware, and software. Moving from one maturity to the next will improve the business value gained from higher levels of integration.

CompuCom can reduce the burden of heavy capital costs and provide added flexibility by delivering a per-seat service that fully integrates hardware, software, and management of a client's work environment — allowing budgets to be used on more strategic initiatives to grow the business and create competitive advantage.

With CompuCom's Service Desk, clients have a single point of contact to resolve desktop, mobile, and software-related issues. The help desk service includes "live" support, innovative and cost-efficient Web-based services, end-user self-assist tools, and on-site services. The use of CompuCom's highly automated Service Desk helps clients rebalance their ratio of on-site, remote, and self-assisted support to lower costs, reduce user downtime, and maximize business value.

Components of the automated Service Desk from CompuCom include:

- Centralized, multi-channel issue tracking that captures a complete history of a client's service experience (Web, phone, email, chat, etc.)
- Self-service, online eSupport tools
- Knowledge management
- Integrated telephony
- Automated reporting and metrics to monitor performance and productivity
- Workforce management system and tools used to manage, predict, and staff to call volumes and maximize agent staffing levels
- Trained, knowledgeable, and industry-certified agents

CompuCom's Service Desk delivers first call resolution (FCR) rates in the low to mid-90% range for problems associated with common, off-the-shelf (COTS) software. This compares to the industry standard FCR rates for client-owned and managed help desks of 54%, and with world-class help desk functions yielding 80% FCR rates. The client benefits from this level of resolution include lower

service costs for desk-side support, higher levels of end-user productivity, and higher satisfaction rates.

Analysis

Forrester took a multistep approach to evaluate the impact that implementing IIM services can have on an organization:

- Review of existing Forrester research related to CompuCom's outsourced services offering.
- Interviews with CompuCom marketing and sales personnel.
- In-depth interviews within PSEG Services Corporation, an organization currently using IIM services.
- Construction of a financial framework around the implementation of IIM services.

Interview Highlights

The interviews conducted for this study uncovered the context of the customer's environment and several salient facts and insights:

- The CompuCom IIM client, PSEG Services Corporation, is a shared services company serving internal clients within Public Service Enterprise Group, an energy services company headquartered in New Jersey, with over \$12 billion in revenue and 10,000 employees. Its main subsidiaries are Public Service Electric and Gas Company (PSE&G), PSEG Power LLC, and PSEG Energy Holdings LLC.
- PSEG Services Corporation employs over 1,300 associates in 21 different practice areas, who provide professional services (including IT, supply chain, HR, finance, legal, corporate communications, environment, and health and safety capabilities) for the three revenue-generating lines of businesses that make up Public Service Enterprise Group. PSEG Services Corporation was formed in 1999 by combining existing organizations throughout the companies, including numerous IT organizations that had been spread across the businesses.
- A primary driver behind the decision to engage an IIM strategy from CompuCom was a new emphasis on a comprehensive IT asset lifecycle plan-driven approach to how IT activities and investments are managed. One component of that strategic plan was the identification of cost and performance gaps and creating alternative approaches to closing such gaps, including outsourcing context activities while focusing on core competencies to increase the overall value of the IT product and service offerings to customers.
- PSEG Services Corporation was operating many different kinds of PCs, of different ages, on different operating platforms, which presented all kinds of related limitations. Further, the company found it difficult to roll out a major refresh quickly and cost effectively with its own staff.
 - Lack of governance led to the *businesses* dictating when they would do a refresh instead of a total cost of ownership value proposition driving the refresh schedule. The IIM initiative has enabled a reversal of that condition.

- The organization was taking up to nine months to deploy PCs. By the time the PCs were deployed, they were already one year into a three-year warranty.
- Related problems included difficulty upgrading software or loading new software and systems onto old PCs, or providing effective virus protection because the new virus codes took up more memory and capacity than some of the old PCs could sustain.
- At the beginning of the transition to CompuCom's IIM services, a number of PSEG employees were offered and accepted positions with CompuCom. CompuCom typically works closely with a new customer's human resources staff and produces communications and workshops to assist affected employees.
- The CompuCom team includes consultants working at the customer's 70+ sites, who perform break/fix work, desk-side support, move/add/change tasks, and all of the PC refresh and asset lifecycle work on 10,000+ devices. Additionally, offsite help desk staff supports the customer from 7 a.m. to 6 p.m., Monday through Friday.

TEI Framework

Introduction

From the information provided in the customer interviews, Forrester has constructed a TEI framework for those organizations considering implementation of an IIM solution from CompuCom. The objective of the framework is to identify the cost, benefit, risk, and flexibility that influence the investment decision.

Framework Assumptions

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

Table 2: General Assumptions

General assumptions	Value
Discount rate	7.5%
Length of analysis	Three years

Source: Forrester Research, Inc.

Costs

The key cost categories associated with this IIM engagement are organized into the following categories: 1) one-time startup costs to transition to IIM services; 2) the fee paid to CompuCom for IIM services; and 3) recurring internal infrastructure and labor costs to maintain and manage the IIM relationship. The following are the cost inputs to the financial analysis.

Startup Costs

A one-time amount was paid to CompuCom for certain non-recurring services to transition the customer to CompuCom’s IIM program. These services include human resources consulting and initial project management for the transition. PSEG Services Corporation also purchased two new servers to run new asset management software. Additionally, the client purchased equipment to connect a T-1 line to CompuCom’s Dallas help desk facility. The solution required that this customer integrate its help desk ticket tracking tool into CompuCom’s infrastructure. Finally, hardware to enable scripting, or managing common PC images, was acquired. The total for these one-time startup expenditures amounted to just over \$262,000 as show in Table 3 below.

Table 3: IIM Startup Costs

Metric	Calculation	Initial
Startup costs which include hardware, software, telecommunications, and circuits	Various	\$262,265

Source: Forrester Research, Inc.

CompuCom IIM Services

The client pays a negotiated amount annually, starting at of \$3,000,000 in the first year, for the services that CompuCom provides for:

- Break/fix on computer and related hardware and add/move for staff changes.
- Service Desk Level 1 and 2 support.
- PC refresh program (see note in Executive Summary on page 3).
- Virus protection, OS patching.
- Software deployment to PCs and software upgrades.
- PC asset management and program management office.
- VIP/executive support.
- Staff augmentation for the systems and applications on the customer’s energy trading floor.

“One of the things that CompuCom has consistently done from a business value perspective,” explained the CIO (and former CTO) of PSEG Services Corporation, “is deliver the same scope, and more, every year of the contract for less money. They’re one of the few [of our outsourced services providers] that does that with us in a consistent and planned manner.”

For example, the customer was paying for a specified “average speed to answer” (ASA) on help desk calls. After monitoring call metrics, CompuCom pointed out that PSEG could drop the service level agreement (SLA) value a little bit without a difference in response times to the businesses, and thus save money. Over time, CompuCom has been able to move to an even higher performance

level, according to the customer, while using fewer people. “CompuCom continues to approach us with best practices and recommendations for continuous improvement,” explained PSEG Service Corporation’s CIO. “A great example is when they suggested that one of our contracted SLA’s wasn’t providing greater business value, and that by moving it from 95% to 90% we found that it not only met our business requirements, but saved us both money.” This is just one example. There are many others.”

Readers of this study should note that pricing is highly dependent on the client environment and requirements, and so the amounts shown here are not readily comparable to the amounts that other clients will see in their contracts.

Table 4: CompuCom IIM Services

Metric	Year 1	Year 2	Year 3	Total
CompuCom IIM services	\$3,000,000	\$2,850,000	\$2,700,000	\$8,550,000

Source: Forrester Research, Inc.

Recurring Internal Costs

Managing the CompuCom IIM program from within PSEG Services Company requires three full-time associates. Additional annual costs are incurred for software maintenance of the IT asset management tool and T-1 telecommunication leasing charges, for a total of \$577,800 per year as show in Table 5 below.

Table 5: Recurring Internal Costs

Metric	Year 1	Year 2	Year 3	Total
Recurring internal costs that include PSEG labor for vendor/contract management, asset management software, and telecommunications costs	\$577,800	\$577,800	\$577,800	\$1,733,400

Source: Forrester Research, Inc.

Total Costs

Table 6 summarizes the nearly \$11 million in costs expended by PSEG of implementing CompuCom IIM services.

Table 6: Total Costs

Costs	Initial	Year 1	Year 2	Year 3	Total
Startup costs	262,265				262,265
CompuCom IIM Services		3,000,000	2,850,000	2,700,000	8,550,000
Vendor/contract management		577,800	577,800	577,800	1,733,400
Total	\$262,265	\$3,577,800	\$3,427,800	\$3,277,800	\$10,545,665

Source: Forrester Research, Inc.

Benefits

We created a business case that showed what we were spending. Our goal was to be able to consistently get more value for what we were spending on an historical basis. We also were looking for opportunities to drive down costs on a year-over-year basis from CompuCom.

—President & COO, PSEG Services Corporation

Fewer Employees In PC Support

The most measurable result of engaging CompuCom to provide IIM services was a reduction in the number of PSEG employees engaged in IT support work. The customer attributes the outsourcing initiative to a reduction in staff levels of between 55 and 60 FTEs. Some of these employees opted for retirement, others accepted positions at CompuCom, and others were offered positions in other areas of PSEG. Note that no wage increases are assumed in this conservative estimate.

Table 7: Labor Cost Savings

Metric	Year 1	Year 2	Year 3	Total
Reduction in internal labor costs used 59 FTEs and average annual compensation of \$90,000	\$5,310,000	\$5,310,000	\$5,310,000	\$15,930,000

Source: Forrester Research, Inc.

Governance

CompuCom has been able to introduce a new governance model that allows the client's IT group to set certain rules related to PCs and enterprise hardware for the business units to follow. IT asset funding and approval is all done via a governance council. This has eliminated much of the struggle every year to get agreements on IT plans for all of the operating units and has fostered the development of five-year plans for the business units. The assistance from CompuCom — with business processes, asset tracking, and diagnostic tools — around PC asset governance has expanded into other areas where governance was needed, encompassing all applications and infrastructure.

Internal Labor Demand Flexibility

Another large benefit of the outsourcing arrangement with CompuCom for this customer is the labor flexibility CompuCom delivers based on demand inside the customer's organization. According to the executives interviewed for this study, CompuCom provides the ability to manage large swings in workloads, bringing in extra consultants to meet peaks in demand that occur periodically throughout the year. For a utility, a very real constraint is the limited periods of time during which activities such as equipment upgrades can take place. "We have maybe a month every quarter where we have the luxury of making these changes or upgrades because of the nature of the business," explained one interviewee. "So if we miss the window, we pretty much have to wait five or six additional months to deploy these assets. And then that has a multiplier effect in terms of increasing the workload during the next cycle. So the ability to rapidly gear up in terms of deploying assets for upgrades, etc., is a big benefit."

Cost Transparency

PSEG Services Corporation charges the business units it serves for the work that it renders on their behalf. Another benefit of the CompuCom engagement is the cost transparency and ease of internal billing and accounting resulting from CompuCom's reporting of the work units used by each business unit. Further, this transparency around precisely-described work tasks enables PSEG Services to benchmark costs with other external service providers and compare those costs with the cost to perform the same work in-house. PSEG Services has a group of people whose sole function is to track costs associated with any of the products and services that Services Corporation provides. That number of staff in that department has decreased over time, from ten associates in 2002 to four in 2008. The drop in headcount is the result of several factors, and the client cannot attribute the reduction entirely to the CompuCom relationship, although it is a major contributing element.

Better Purchasing

PSEG Services Corporation has been able to negotiate better terms with its PC vendor. "Instead of never knowing what we're going to buy because the businesses have not yet agreed to do the deployments, we were able to go to the vendor and specify that we want to buy a pre-determined number of PCs every year and run a three-year refresh cycle. Then CompuCom works with the PC maker, and we integrate it all within the supply chain." Further, PSEG Service Corp has been able to reduce the number of PCs throughout the organization through better asset tracking and identification of under-utilized assets.

Improved PC Environment

"We had a very large percentage of our PCs that were old and out of warranty," explained PSEG's CIO. "And while the businesses were avoiding the capital cost of [buying newer PCs], we were spending a lot on maintenance costs . . . and facing higher business risk." At the outset of the engagement with CompuCom, PSEG Services Corporation was able to show its internal customers that they would actually spend less money to deploy more and better functionality than they received prior to engaging CompuCom. Since PSEG outsourced this function, the organization has been able to institute a PC refresh program, running nearly all PCs within their warranties, and standardize on a common platform, thus reducing business risk. Improving the functionality and reliability of the environment has also enabled the customer to implement better virus protection than was the case prior to engaging CompuCom because the operating companies are now on the same PC platform and infrastructure has been simplified and upgraded. Further, there have been cost savings as the result of better tracking of assets, redeploying un- or under-utilized hardware and software, although the customer was not able to quantify this benefit at the time of this study.

Total Benefits

Table 8 shows the total benefit that was quantifiable for this study.

Table 8: Total Benefits

Benefits	Year 1	Year 2	Year 3	Total
Reduction in internal labor costs	\$5,310,000	\$5,310,000	\$5,310,000	\$15,930,000

Source: Forrester Research, Inc.

Risk

We realized right from the start, based upon our due diligence, that CompuCom would do a good job, definitely better than what we were doing. And so, I really didn't see a lot of business risk other than people who were used to dealing with our staff in the IT department now getting accustomed to CompuCom staff. But the familiarization process only lasted a short period of time.

—VP, Information Technology & CIO, PSEG Service Corporation

Risk is the third component in the TEI model; it is used as a filter to capture the uncertainty surrounding different cost and benefit estimates. In cost and benefit calculations where precise measurement has not been made or is not possible, uncertainty exists to varying degrees, prompting the risk-treatment approach described in this section. 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.

The TEI model uses a triangular distribution method to calculate risk-adjusted values. To construct the distribution, it is necessary to first estimate the low, most likely, and high values that could occur within the current environment. The risk-adjusted value is the mean of the distribution of those points.

For example, take the case of internal labor for managing the IIM contract and vendor relations (shown in Table 5). The value used in this analysis can be considered the “most likely” or expected value. The amount of labor and other costs associated with startup activities can vary based on a number of factors within the organization and the vendor’s approach to the relationship, and assessing the amount of labor required involves uncertainty at the outset of the contract. This variability represents a risk that is captured as part of this study. Forrester allows for as many as 4 FTEs on the high end, 3 FTEs as the most likely, and 3 FTEs 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 3.33 FTEs as the mean (3.33 is equal to the sum of 4, 3, and 3 divided by 3).

Other cost figures 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 and maintenance

costs presented in this study are not risk adjusted for this reason. The same is true for hardware and software expenditures shown in Tables 3 and 5

On the benefits side, the other area of risk specific to IIM services considered in this study was the amount of internal labor that would be eliminated as a result of outsourcing certain IT support activities to CompuCom. At the beginning of the relationship, IT decision-makers could not be completely certain about the number of full-time associates that could be re-assigned, especially given uncertainty associated with the organization's ability to meet peak in workload and labor demand. Forrester therefore assembled a range for this benefit category with 60 FTEs on the high end, the maximum benefit that would be envisaged, 59 as the most likely and 55 on the low end. The mean, 58, is the risk-adjusted number, equivalent to \$5,220,000 in labor cost savings per year when multiplied by the average annual fully loaded compensation rate of \$90,000.

Flexibility

Flexibility, as defined in Forrester's TEI methodology, is an investment in additional capacity or capability today that can be turned into future business benefits at some additional cost in the future. This provides an organization with the "right" or the ability to engage in specific future initiatives — but not the obligation to do so. There are multiple scenarios in which a customer might choose to engage IIM services within a certain scope of activities and business areas and later discover additional value that can be realized by expanding usage. The flexibility component of TEI can capture that value, using the industry standard Black-Scholes option pricing model.

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 promising developments that have been brought forward since the engagement of IIM services:

- PSEG Service Corporation now develops three- and five-year technology life cycle plans in collaboration with internal customers — roadmaps for supporting each business. This is an upgrade from the predominance of transactional, low-value task work of the past.
- PSEG Services Corporation utilizes CompuCom for project work (on a time and materials basis) in the PC arena. Utilizing the negotiated hourly rates of the contract, PSEG achieves additional savings for this non-baseline work.

TEI Framework: Summary

Considering the financial framework constructed above, the results of the costs, benefits, and risk, sections using the representative numbers can be used to determine a return on investment, net present value, and payback period. Table 1 shows the consolidation of the numbers for the composite organization.

Tables 9 and 10 below shows the risk-adjusted values, applying the risk adjustment method indicated in the Risks section and the values from Tables 6 and 8.

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

Table 9: Risk-Adjusted Costs And Present Value

Costs	Initial	Year 1	Year 2	Year 3	Total	Present value
CompuCom IIM services		3,000,000	2,850,000	2,700,000	8,550,000	7,430,289
Vendor / contract management		623,467	623,467	623,467	1,870,400	1,621,341
Startup costs	262,265				262,265	262,265
Total	\$262,265	\$3,623,467	\$3,473,467	\$3,323,467	\$10,682,665	\$9,313,895

Source: Forrester Research, Inc.

Table 10: Total Risk-Adjusted Benefits And Present Value

Benefits	Year 1	Year 2	Year 3	Total	Present value
Reduction in internal labor costs	5,220,000	5,220,000	5,220,000	15,660,000	13,574,744
Total	\$5,220,000	\$5,220,000	\$5,220,000	\$15,660,000	\$13,574,744

Source: Forrester Research, Inc.

Study Conclusions

Forrester's interviews with CompuCom's customer, PSEG Service Corporation, yielded several valuable observations. Based on information collected in interviews, Forrester found that organizations can realize benefits in the form of:

- Labor cost savings greater than the fees paid for IIM outsourced services.
- Governance and greater IT discipline that is “enforced” by a third-party provider.
- Flexible staffing levels of IIM consultants, with greater ability to meet intermittent peaks in labor required, and processes managed as a service.
- Improved transparency of costs, with potential for lower staffing levels required for accounting and billing.
- Better purchasing terms from hardware and software vendors due to better forecasting and integrated purchasing processes.
- Improved PC infrastructure services environment, with more homogenous infrastructure, improved hardware and application reliability, and lower resultant business risk.
- Multi-million dollar cost savings through continuous improvement.

The financial analysis provided in this study illustrates the process for an organization to evaluate the value proposition of IIM services in its environment. Based on information collected in interviews with this customer, Forrester calculated a three-year risk-adjusted ROI of 46% for this customer's organization with a payback period of approximately two months.

Based on these findings, companies looking to implement IIM service can see labor cost savings and other benefits. Using the TEI framework, many companies may find the potential for a compelling business case to make such an investment.

Table 1: Three-Year ROI, Risk-Adjusted

Summary financial results	Original estimate	Risk-adjusted
ROI	50%	46%
Payback period (months)	1.8	2.0
Total costs (PV)	(\$9,195,138)	(\$9,313,895)
Total benefits (PV)	\$13,808,792	\$13,574,744
Total (NPV)	\$4,613,654	\$4,260,849

Source: Forrester Research, Inc.

Appendix A: Total Economic Impact™ Overview

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

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

Benefits

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

Costs

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

Risk

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

Flexibility

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

Appendix B: Glossary

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

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

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

Payback period: The breakeven point for an investment, 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 the discount rate shown in Table 2 at the end of the year. Present value (PV) calculations are calculated for each total cost and benefit estimate. Net present value (NPV) calculations are not calculated until the summary tables and are the sum of the initial investment and the discounted cash flows in each year.

Example Table

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

Source: Forrester Research, Inc.

Appendix C: About The Project Director

Jeffrey North, Principal Consultant

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

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

Jeff holds a B.A. from St. Lawrence University and an M.B.A. with concentrations in international management and finance from the Thunderbird School of Global Management.