

A Forrester Total Economic
Impact™ Study
Commissioned By
IBM

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The Total Economic Impact™ Of IBM Workplace Support Services

Cost Savings And Business Benefits
Enabled By Workplace Support
Services

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ABOUT FORRESTER CONSULTING

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Executive Summary

IBM commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying IBM Workplace Support Services. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Workplace Support Services on their organizations.

To better understand the benefits, costs, and risks associated with Workplace Support Services, Forrester interviewed and surveyed several customers with multiple years of experience using Workplace Support Services. Workplace Support Services is a set of IT support technologies that enable organizations to move to a more omnichannel support environment.

Prior to Workplace Support Services, customers had leveraged a mixture of ad hoc desk-side and phone-based support solutions for their end user organization. However, with growth in complexity of the IT and end user environment, organizations had reached a point of increasing support costs and decreases in the efficacy of supporting the end user environment. With Workplace Support Services, customers were able to streamline and automate processes across key functions and lines of business, enabling them to meet their objectives, increase productivity, and keep costs in check. Said one interviewee, “Workplace Support Services is a part of a shift to empowering the end user and offering predictive analytics to better support our end users.”

IBM DRIVES EMPLOYEE AND SUPPORT EFFICIENCY

Data from 31 existing customers and subsequent financial analysis found that a representative organization based on these interviewed organizations experienced the risk-adjusted ROI benefits and costs shown in Figure 1.¹ (See Appendix A for a description of the composite organization.)

The representative organization analysis points to benefits of \$802,000 per year versus implementation costs of \$490,000, adding up to a net present value (NPV) of \$311,802. With Workplace Support Services, employee productivity was increased, on average, by 10.6%, and the composite organization experienced additional savings in terms of reduced cost per ticket, improved efficiency in planning and administration, as well as improved onboarding of new employees.

IBM Client Care Services can help save costs and improve end user productivity.

The costs and benefits for a composite organization of 17,000 employees, based on customer interviews, are:

- **Investment costs: \$1,029,000.**
- **Annual costs: \$177,000.**
- **Total cost savings and benefits: \$2,406,000.**

FIGURE 1

Financial Summary Showing Three-Year Risk-Adjusted Results

**ROI:
64%**

**NPV
per user:
\$141.36**

**Payback:
20 months**

**Employee
productivity:
▲ 10.61%**

Source: Forrester Research, Inc.

- › **Benefits.** The representative organization experienced the following risk-adjusted benefits that represent those experienced by the interviewed companies:
 - **Gains in end user productivity.** By providing more self-service and automated resolution, organizations were able to boost productivity of their end users by reducing help desk waiting time.
 - **Reduced cost per ticket.** Through self-service and proactive analytics, organizations were able to see the time and cost to complete a ticket reduced.
 - **Improved administration and management efficiency.** By having more-centralized control and monitoring, the cost to manage the help desk environment was reduced.
 - **Improved employee onboarding efficiency.** By leveraging the automated capabilities found in client care, the organization was able to onboard their employees faster, providing them with the onboarding tools sooner and more efficiently.
- › **Costs.** The representative organization experienced the following risk-adjusted costs:
 - **Cost of service.** The billable costs to IBM of the Workplace Support Services solution.
 - **Implementation costs.** The cost to implement the new capabilities found within the solution.
 - **Platform administration.** The costs to manage and administer the IBM technology.

Disclosures

The reader should be aware of the following:

- › The study is commissioned by IBM and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.
- › Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in IBM Workplace Support Services.
- › IBM reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- › IBM provided the customer names for the interviews but did not participate in the interviews.

TEI Framework And Methodology

INTRODUCTION

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing IBM Workplace Support Services. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision, to help organizations understand how to take advantage of specific benefits, reduce costs, and improve the overall business goals of winning, serving, and retaining customers.

APPROACH AND METHODOLOGY

Forrester took a multistep approach to evaluate the impact that IBM Workplace Support Services can have on an organization (see Figure 2). Specifically, we:

- › Interviewed IBM marketing, sales, and/or consulting personnel, along with Forrester analysts, to gather data relative to Workplace Support Services and the marketplace for Workplace Support Services.
- › Interviewed and surveyed 31 global organizations currently using IBM Workplace Support Services to obtain data with respect to costs, benefits, and risks.
- › Designed a composite organization based on characteristics of the interviewed organizations (see Appendix A).
- › Constructed a financial model representative of the interviews using the TEI methodology. The financial model is populated with the cost and benefit data obtained from the interviews.
- › Risk-adjusted the financial model based on issues and concerns the interviewed organizations highlighted in interviews. Risk adjustment is a key part of the TEI methodology. While interviewed organizations provided cost and benefit estimates, some categories included a broad range of responses or had a number of outside forces that might have affected the results. For that reason, some cost and benefit totals have been risk-adjusted and are detailed in each relevant section.

Forrester employed four fundamental elements of TEI in modeling IBM Workplace Support Services' service: benefits, costs, flexibility, and risks.

Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix B for additional information on the TEI methodology.

FIGURE 2
TEI Approach



Source: Forrester Research, Inc.

Analysis

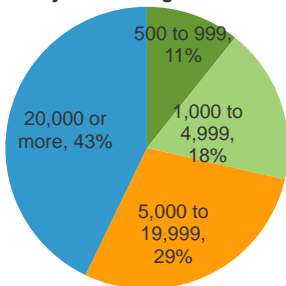
COMPOSITE ORGANIZATION

For this study, Forrester leveraged data from 31 existing Workplace Support Services customers based in the US as well as an in-depth client interview with a Global Fortune 100 energy provider based in the UK.

FIGURE 3
Survey Respondent Profile

Company Profile

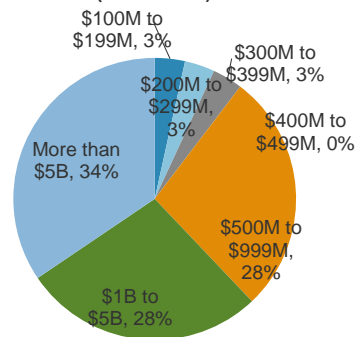
“Using your best estimate, how many employees work for your firm/organization worldwide?”



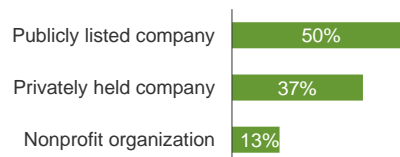
Respondent overview:

- All are North American respondents.
- All are within the IT department, with direct or supporting roles in selecting technology.
- Come from a wide variety of industries.
- Job titles include: CIO, director of IT, director of tech development, IT operations, IT manager, vice president of IT.
- All are IBM desk-side support users.

“Using your best estimate, what is your organization’s total annual revenue (in USD)? (Select one.)”



“How would you classify your organization?”



“Client Care provided us with a solid foundation to adapt to the way our employees want to interact with support.”

~ Director of IT support, global energy provider

Base: 30 North American IBM Client Care users

Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, May 2016

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization that Forrester synthesized from these results represents an organization with the following characteristics:

- › A US-headquartered global services organization.
- › 17,000 employees with 12 regional offices.
- › One primary employee support center with staff located in regional offices.

INTERVIEW HIGHLIGHTS

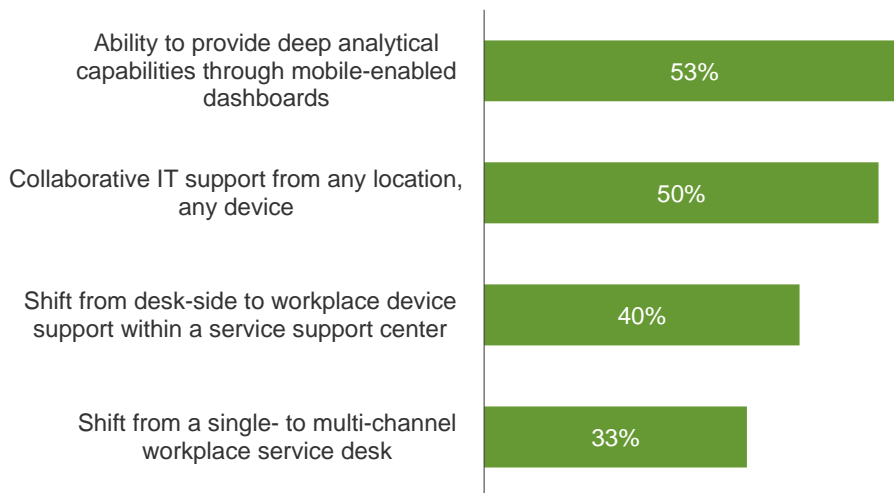
Interviewed organizations noted the key driver in moving to IBM Workplace Support Services was to improve the employee experience around IT support. The primary component of the business case was to improve the overall efficiency and effectiveness of phone-based and desk-side support.

Situation

The interviewed and surveyed organizations shared several common themes around the decision to move to IBM Workplace Support Services.

FIGURE 4
Reasons For Investing In IBM Workplace Support Services

“What are the main reasons that made you choose IBM Client Care for end user support?”



Base: 30 North American IBM Client Care users

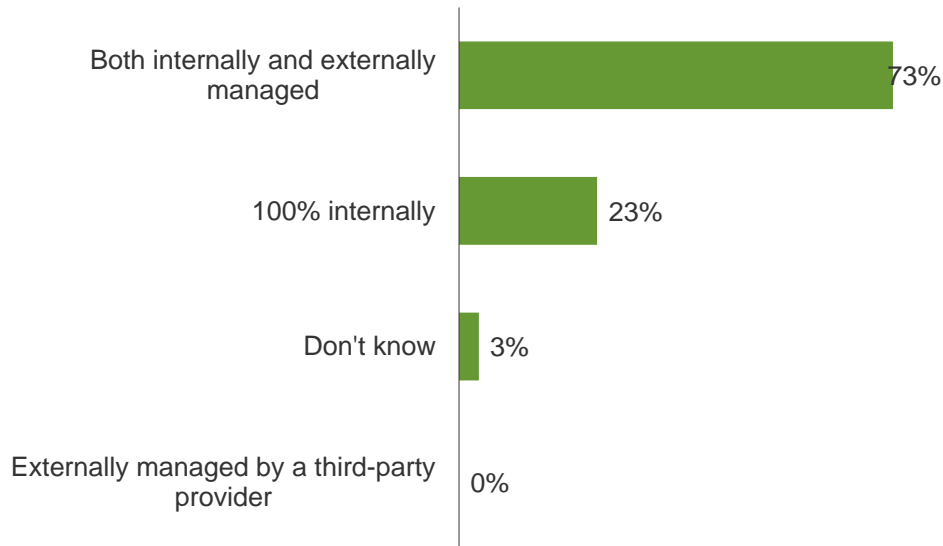
Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, May 2016

The reasons why varied, but most often, respondents selected IBM Client Care Services due to dashboard functionalities and collaborative IT support.

- › **Delivering IT support with additional capabilities and functionality.** Many of the Workplace Support Services customers noted that the use of Client Care provided them with tools that allowed for improved collaboration and insight. Prior to the investment in Client Care, many organizations struggled to see behaviors and needs across employee interactions, leading to manual time spent looking for predictive patterns in data. With the growth of complexity of the end user environment, and increasing personal asset types, it was getting more and more difficult to support the end user organization in a standardized, efficient process.
- › **The need to improve the employee experience.** Another common theme among Client Care organizations was the need to respond to the changing way employees interact with the support function. Organizations noted that the rise of omnichannel customer support had made employees more familiar with self-service and virtual support and value the flexibility of resolving issues on their own without having to contact traditional phone or desk-side support.
- › **A desire to streamline the support function.** Many of the organizations noted that with employee and technology asset growth, the support environment had become more complex. As a result, the need to streamline and standardize on a single provider with a common set of tools, allowed the organization to drive overall cost efficiency.

FIGURE 5
Complexity Of Pre-Investment Environment

“How was your organization managing your service desk prior to migrating to IBM?”



Most respondents managed their service desk both internally and externally prior to IBM Client Care. Interestingly, no one cited a previous third-party provider.

Base: 30 North American IBM Client Care users

Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, May 2016

Solution

The composite organization selected Workplace Support Services for its ability to provide an end to end solution that allowed the organization to drive cost efficiency while providing a high level of client experience in a flexible environment.

Results

› **Efficiency through reduced agent cost and administration.**

The most significant benefits experienced were in competencies core to its insurance business, including initiating new policies and processing insurance claims.

› **Improved effectiveness supporting employee experience.**

The composite organization was able to reduce its spending in several areas impacting the operating budget, including document handling, contractor fees, and office supply and administration costs.

› **Greater flexibility in a mobile-first environment.** The composite organization described Workplace Support Services as an important component of its customer experience strategy, which improved customer satisfaction scores. As a result of the Workplace Support Services implementation, business affiliates (e.g., producers and external adjusters) gained better

“Client Care Services is a part of a shift to empowering the end user and offering predictive analytics to better support our end users.”

~ Director of IT support, global energy provider

access to policy information and documents, allowing them to focus on higher-value activities, and further strengthening their relationships with the composite organization. While not quantifiable, these benefits nevertheless remain important.

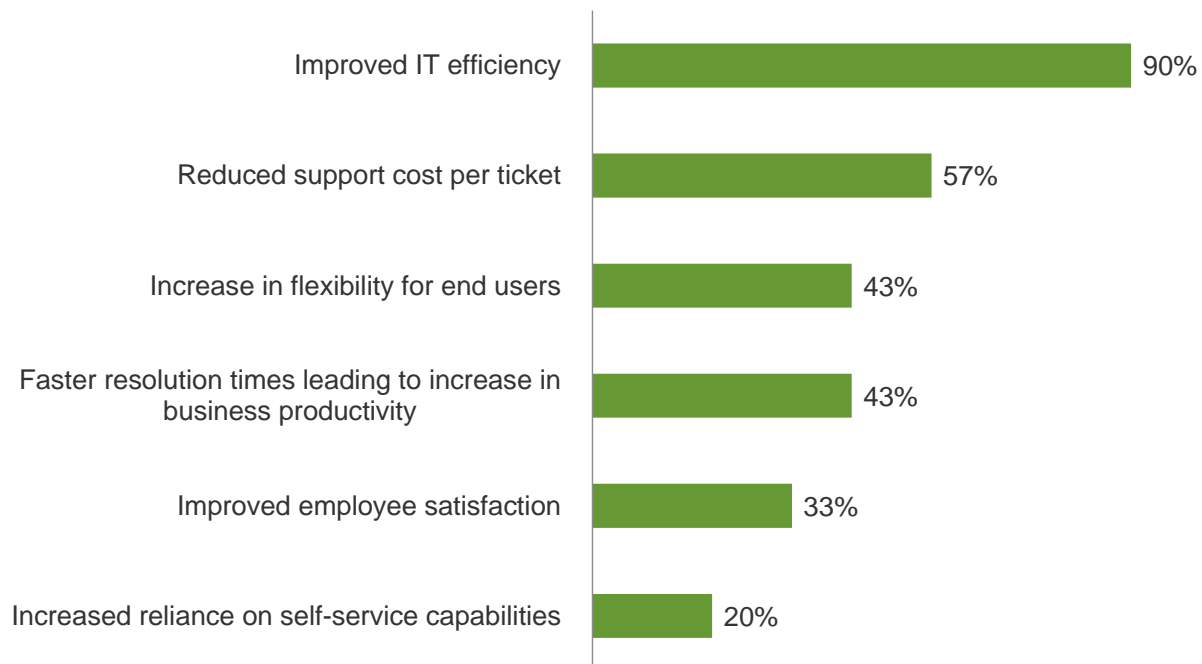
BENEFITS

The representative organization experienced a number of quantified benefits in this case study:

- › Reduced per-ticket cost.
- › Reduced administration and planning cost.
- › Improved end user productivity.
- › Improved new-employee onboarding.

FIGURE 6
Key Benefits By Leveraging IBM Client Care

“What were the business and technical objectives your organization hoped to satisfy by leveraging IBM support services?”



Base: 30 North American IBM Client Care users

Source: A commissioned study conducted by Forrester Consulting on behalf of IBM, May 2016

Improved IT efficiency was the most cited benefit for using IBM Client Care.



Reduced Per-Ticket Cost

One of the key benefits cited by the surveyed organizations was the need to get better control of the cost to support end users. Prior to the investment in IBM Client Care, organizations typically had a mixture of in-house and outsourced desk-side and phone-based support for different regional locations throughout the globe. As a result, there was little integration between different support resources, making it difficult to accurately match resources to employee demand. In addition, self-help capabilities were ad hoc and limited for different office locations.

The shift to IBM Client Care allowed the organization to better share information and data across different support channels, allowing issues to be resolved faster and more efficiently. In addition, organizations were able to create enhanced self-help functionality for common requests, reducing or eliminating the need to contact an agent directly.

To calculate this benefit, Forrester assumes that prior to the investment in IBM Client Care, 17,000 users were accessing IT support, on average, 0.2 calls per month at a blended cost per contact of \$15 per instance. Based on the data provided by the interviewed and surveyed organizations, there was an estimated reduction in call volume of 5% in the first year, increasing to 12% by Year 3. With the risk adjustment factored in, this results in cost savings of \$27,540 in Year 1, increasing to \$78,339 by Year 3.

TABLE 1
Reduced Per-Ticket Cost

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Calls per user per month (avg.)		0.2	0.2	0.2
A2	Baseline cost per call (L1)		\$15	\$15	\$15
A3	% reduction in calls		5%	10%	12%
A4	Months per year		12	12	12
A5	Total users	A3*A4	17,000	18,505	20,149
At	Reduced per-ticket cost		\$30,600	\$66,618	\$87,044
	Risk adjustment		↓ 10%		
Atr	Reduced per-ticket cost (risk-adjusted)		\$27,540	\$59,956	\$78,339

Source: Forrester Research, Inc.



Reduced Administration And Planning Cost

Another key benefit cited by the surveyed organizations was through improvement in the management and administration of the support function. A key driver of this was as a result of the improved data collection and analytical capabilities that are inherent in the Client Care platform. Prior to Client Care, organizations had no way of understanding in-depth data insights around support usage patterns by employee. As a result, administration and management staff were spending a significant share of their time having to predict employee demands and allocating support resources on an ad hoc basis. With Client Care, administrators had a clearer view of support usage over time, enabling them to better plan and predict behavior and, as a result, driving cost efficiency.

To calculate this benefit, the representative organization has a total of 5 FTE administrators to manage the Tier 1 support environment, with a fully burdened annual salary of \$120,000. Organizations noted that through Client

Care, they were able to see an improvement in time efficiency of between 15% and 18%, resulting in a cost reduction of between \$90,000 and \$108,000 yearly.

TABLE 2
Reduced Administration And Planning Cost

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Number of administrators		5	5	5
B2	Cost per administrator		120,000	120,000	120,000
B3	Estimated time reduction		15%	18%	18%
Bt	Reduced administration and planning cost		\$90,000	\$108,000	\$108,000
	Risk adjustment	↓10%			
Btr	Reduced administration and planning cost (risk-adjusted)		\$81,000	\$97,200	\$97,200

Source: Forrester Research, Inc.



Improved End User Productivity

One of the key benefits noted by Client Care customers was the need to improve the overall employee experience of support. This was driven in two ways. First, organizations realized that the needs and demands of employees in regard to support had changed. Employees are more mobile and technologically aware, resulting in the desire for more integrated self-service capabilities. Second, organizations see the opportunity to improve employee experience and productivity by better understanding usage patterns, allowing support to better predict and anticipate potential issues before they require an outbound support call from the employee.

Client Care customers surveyed noted that there was a direct link between the use of self-service and predictive tools and improvements in the way current employees did their job. On average, organizations noted that they saw a productivity increase of 10.61% in employee time resolving and handling technology issues through self-service and predictive capabilities.

TABLE 3
Improved End User Productivity

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Total end users		17,000	18,505	20,149
C2	% of users who use self-service		30%	40%	50%

C3	% of time per year spent on HD-related issues		2%	2%	2%
C4	Hours per year		2,080	2,080	2,080
C5	Blended cost per hour		65	65	65
C6	Percent improvement		10.61%	10.61%	10.61%
C7	Productivity factor		30%	30%	30%
Ct	Improved end user productivity	$C1*C2*C4*C5$	\$438,948	\$637,078	\$867,095
	Risk adjustment	↓10%			
	Improved end user productivity (risk-adjusted)		\$395,054	\$573,370	\$780,386

Source: Forrester Research, Inc.



Improved New-Employee Onboarding

The final benefit noted by Client Care organizations was being able to leverage tools found within Client Care to onboard new employees faster. Several organizations noted that prior to the investment in Client Care, the process of getting new users up to speed with systems and assets were manual interactions driven by onsite training and courses. Through Client Care, the support organization could better tailor the support requirements for new employees, providing proactive support based on specific employee requirements.

This has a direct impact on the speed to bring a new employee up to full productivity. For the purpose of this analysis, the representative organization was able to see between a 2% and 4% increase in ramp speed resulting in between \$172,380 and \$408,622 in annual savings across all new employees.

TABLE 4
Improved New-Employee Onboarding

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
D1	Staff turnover (%)			10%	10%	10%
D2	Number of new employees			1,700	1,851	2,015
D3	Percent of staff leveraging help desk tools			50%	50%	50%
D4	Training and ramp (months)			3	3	3
D5	% improvement in ramp			2%	3%	4%
D6	Blended cost per hour			65	65	65
D7	Productivity factor			30%	30%	30%
Dt	New-employee onboarding	$D1*D2*D4*D5$	\$0	\$172,380	\$281,461	\$408,622
	Risk adjustment	↓10%				

Dtr	Improved new-employee onboarding (risk-adjusted)	\$0	\$155,142	\$253,315	\$367,760
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Source: Forrester Research, Inc.

Total Benefits

Table 5 shows the total of all benefits across the four areas listed above, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of more than \$2.046 million.

TABLE 5
Total Benefits (Risk-Adjusted)

Ref.	Benefit	Initial	Year 1	Year 2	Year 3	Total	Present Value
Atr	Reduced per-ticket cost	\$0	\$27,540	\$59,956	\$78,339	\$165,836	\$133,444
Btr	Reduced administration and planning cost	\$0	\$81,000	\$97,200	\$97,200	\$275,400	\$226,995
Ctr	Improved end user productivity		\$395,054	\$573,370	\$780,386	\$1,748,809	\$1,419,314
Dtr	Improved new-employee onboarding	\$0	\$155,142	\$253,315	\$367,760	\$776,216	\$626,693
	Total benefits	\$0	\$658,736	\$983,841	\$1,323,685	\$2,966,261	\$2,406,446

Source: Forrester Research, Inc.

COSTS

The representative organization experienced a number of costs associated with the Workplace Support Services solution:

- › Implementation costs.
- › Cost of service.
- › Platform administration.

These represent the mix of internal and external costs experienced by the representative organization for initial planning, implementation, and ongoing maintenance associated with the solution.

Total Costs

Table 6 shows the total of all costs as well as associated present values (PVs), discounted at 10%. Over three years, the composite organization expects total costs to be a PV of a little more than \$2.5 million.

TABLE 6
Total Costs (Risk-Adjusted)

Ref.	Cost Category	Initial	Year 1	Year 2	Year 3	Total	Present Value
Etr	Implementation costs	(\$346,500)	\$0	\$0	\$0	(\$346,500)	(\$346,500)
Ftr	Cost of service	(\$682,500)	(\$136,500)	(\$136,500)	(\$136,500)	(\$1,092,000)	(\$1,021,955)
Gtr	Platform administration	\$0	(\$41,250)	(\$41,250)	(\$41,250)	(\$123,750)	(\$102,583)
	Total costs (risk-adjusted)	(\$1,029,000)	(\$177,750)	(\$177,750)	(\$177,750)	(\$1,562,250)	(\$1,471,038)

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. This provides an organization with the “right” or the ability to engage in future initiatives but not the obligation to do so. There are multiple scenarios in which a customer might choose to implement Workplace Support Services and later realize additional uses and business opportunities. Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix B).

RISKS

Forrester defines two types of risk associated with this analysis: “implementation risk” and “impact risk.” Implementation risk is the risk that a proposed investment in Workplace Support Services may deviate from the original or expected requirements, resulting in higher costs than anticipated. Impact risk refers to the risk that the business or technology needs of the organization may not be met by the investment in Workplace Support Services, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

TABLE 7
Benefit And Cost Risk Adjustments

Benefits	Adjustment
Reduced per-ticket cost	↓ 5%
Reduced administration and planning cost	↓ 5%
Improved end user productivity	↓ 10%
Improved new-employee onboarding	↓ 10%
Costs	Adjustment
Implementation Costs	↑ 5%
Cost of service	↑ 5%
Platform administration	↑ 5%

Source: Forrester Research, Inc.

Quantitatively capturing implementation risk and impact risk by directly adjusting the financial estimates results provides more meaningful and accurate estimates and a more accurate projection of the ROI. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates. The risk-adjusted numbers should be taken as “realistic” expectations since they represent the expected values considering risk.

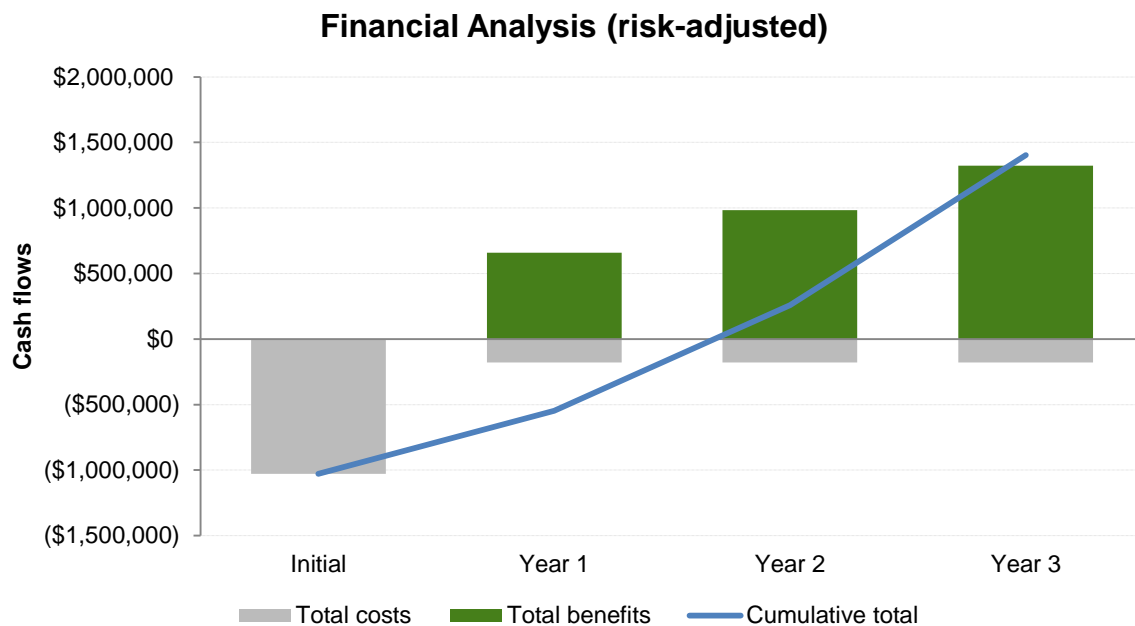
Table 7 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates for the representative organization. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the representative organization's investment in Workplace Support Services.

Table 8 below shows the risk-adjusted ROI, NPV, and payback period values. These values are determined by applying the risk-adjustment values from Table 6 in the Risk section to the unadjusted results in each relevant cost and benefit section.

FIGURE 7
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

TABLE 8
Cash Flow (Risk-Adjusted)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Costs	(\$1,029,000)	(\$177,750)	(\$177,750)	(\$177,750)	(\$1,562,250)	(\$1,471,038)
Benefits	\$0	\$658,736	\$983,841	\$1,323,685	\$2,966,261	\$2,406,446
Net benefits	(\$1,029,000)	\$480,986	\$806,091	\$1,145,935	\$1,404,011	\$935,408
ROI						64%
Payback period (in months)						20.2

Source: Forrester Research, Inc.

IBM Workplace Support Services: Overview

The following information is provided by IBM. Forrester has not validated any claims and does not endorse IBM or its offerings.

IBM Workplace Support Services delivers a personalized experience across multiple channels for more consistent, exceptional, end user support.

IBM Workplace Support Services support model integrates the service desk with our analytics competencies and Watson's transformational cognitive capabilities. Watson understands and learns from virtually every interaction and proposes new possibilities through probabilistic reasoning. As a result, the end user experience will be redefined as their service requests are promptly resolved by chatting with Watson in a natural and personal manner that will continue to improve as Watson gets to know them better. However, if it is needed, the individual can be transferred to a service agent.

Watson's ability to address a growing volume of calls is enabled by leveraging continuous feedback across all of IBM accounts (e.g., clicks, time spent, task completion), as well as tracking non-explicit actions (e.g., not using a survey) by the end user to "grade" its responses for accuracy and quality. This innovation, along with IBM's over 30 years of experience in end user support services, and a globally consistent support infrastructure that comprises leading-edge tools, is unrivaled and will position our clients to meet the dynamic demands of supporting a mobile workforce

Appendix A: Composite Organization Description

For this TEI study, Forrester has created a composite organization to illustrate the quantifiable benefits and costs of implementing Workplace Support Services. The composite company is intended to represent a regional bank with 17,000 employees and is based on characteristics of the interviewed customers.

For the purpose of the analysis, Forrester assumes that discuss particulars of the composite organization's current solution/relevant situation and the assumed variables (e.g., manpower, clients, warranties on products) that will affect completion of its objectives.

FRAMEWORK ASSUMPTIONS

Table 9 provides the model assumptions that Forrester used in this analysis.

The discount rate used in the PV and NPV calculations is 10% and time horizon used for the financial modeling is 3 ears. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult with their respective company's finance department to determine the most appropriate discount rate to use within their own organizations.

TABLE 9
Model Assumptions

Ref.	Metric	Calculation	Value
C1	Hours per week		40
C2	Weeks per year		52
C3	Hours per year (M-F, 9-5)		2,080
C4	Hours per year (24x7)		8,736
C5	Administrator		\$125,000
C6	Hourly	(C5/C3)	\$48

Source: Forrester Research, Inc.

Appendix B: 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. TEI assists technology vendors in winning, serving, and retaining customers.

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

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 form 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.

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. However, having the ability to capture that benefit has a PV that can be estimated. The flexibility component of TEI captures that value.

RISKS

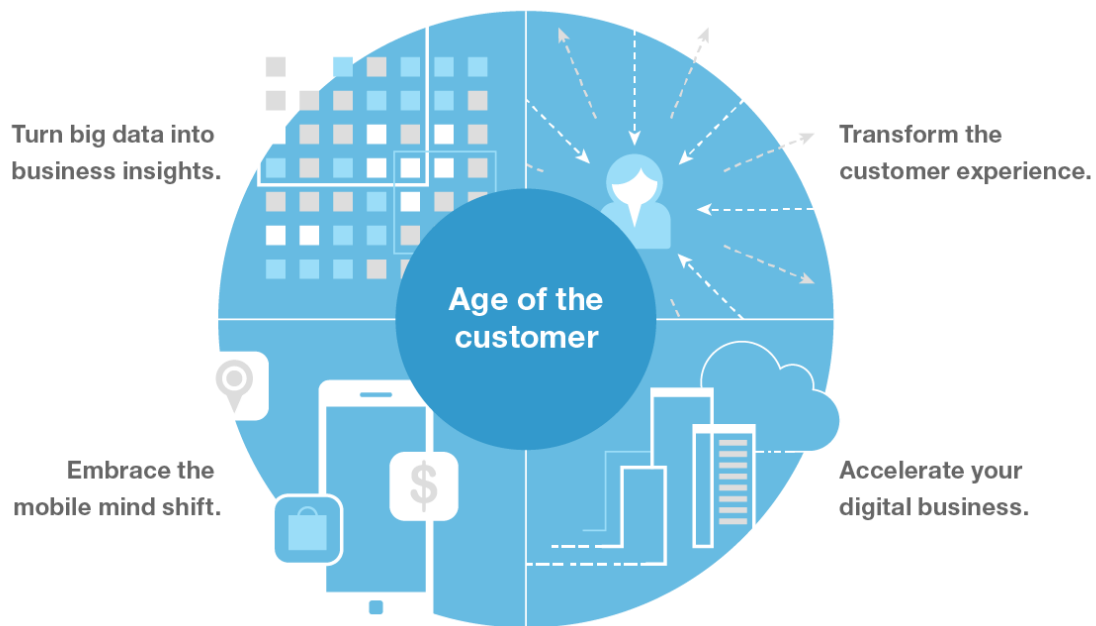
Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections, and 2) the likelihood that the estimates will be measured and tracked over time. TEI risk factors are based on a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the risk factor around each cost and benefit.

Appendix C: Forrester And The Age Of The Customer

Your technology-empowered customers now know more than you do about your products and services, pricing, and reputation. Your competitors can copy or undermine the moves you take to compete. The only way to win, serve, and retain customers is to become customer-obsessed.

A customer-obsessed enterprise focuses its strategy, energy, and budget on processes that enhance knowledge of and engagement with customers and prioritizes these over maintaining traditional competitive barriers.

CMOs and CIOs must work together to create this companywide transformation.



Forrester has a four-part blueprint for strategy in the age of the customer, including the following imperatives to help establish new competitive advantages:



Transform the customer experience to gain sustainable competitive advantage.



Accelerate your digital business with new technology strategies that fuel business growth.



Embrace the mobile mind shift by giving customers what they want, when they want it.



Turn (big) data into business insights through innovative analytics.

Appendix D: Glossary

Discount rate: The interest rate used in cash flow analysis to take into account the time value of money. Companies set their own 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 respective organizations 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 at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

Payback period: The breakeven point for an investment. This is 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 the Framework Assumptions section) at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations are not calculated until the summary tables are the sum of the initial investment and the discounted cash flows in each year.

Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

TABLE [EXAMPLE]
Example Table

Ref.	Metric	Calculation	Year 1	Year 2	Year 3

Source: Forrester Research, Inc.

Appendix E: Endnotes

¹ Forrester risk-adjusts the summary financial metrics to take into account the potential uncertainty of the cost and benefit estimates. For more information, see the section on Risks.