A Forrester Total Economic Impact™ Study

Commissioned By

Cisco

Project Director:
Kathleen Byrne

January 2017

The Total Economic Impact™ Of Smart Net Total Care

Cost Savings And Business Benefits Enabled By Cisco Technical Support And Smart Capabilities

FORRESTER®

Table Of Contents

ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

FORRESTER®

Executive Summary

Cisco commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by leveraging the technical support and smart capabilities of Smart Net Total Care® (SNTC). The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Smart Net Total Care on their organizations as they work to maintain continuity in their networks.

Cisco Smart Net Total Care can help save costs and improve network availability and security. The costs and benefits for an organization of 20,000 users, based on customer interviews, are:

- **Benefits: $3,208,405.**
- **Costs: $1,455,543.**
- **Net present value (NPV): $1,752,863.**

To better understand the benefits, costs, and risks associated with leveraging Smart Net Total Care to help maintain networks, Forrester interviewed four customers with decades of experience leveraging the features of Smart Net Total Care. The service offers customers access to the Cisco Technical Assistance Center (TAC) as well as digital self-support assets, hardware replacements, operating system software updates, security and product alerts, and contract, life cycle, and inventory management capabilities within the portal. With this support and functionality, interviewees could efficiently troubleshoot and resolve network issues, receive relevant product and security alerts, and identify equipment nearing end of life. Together these services speed problem resolution, reduce the risk of security breaches and unplanned downtime, and improve operational efficiency.

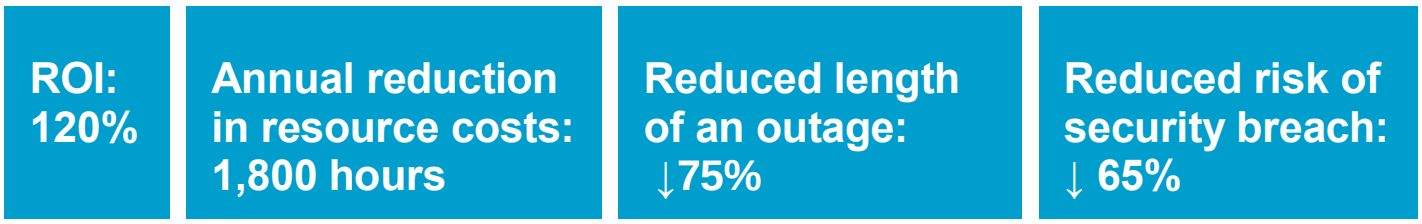
While all interviewed organizations had been customers of Smart Net Total Care longer than the interviewees' tenure, each organization evaluated its contract with Cisco for support every few years, weighing alternatives such as third-party support providers or self-support. This enabled Forrester to understand the drivers behind the decision to use the service. Whenever they evaluated the alternatives, the organizations always renewed their contracts with Cisco for Smart Net Total Care, citing peace of mind and the ability to resolve issues quickly.

SMART NET TOTAL CARE DELIVERS A ROBUST NETWORK WITH LESS EFFORT

Interviewees cited reduced time to troubleshoot, obtain software and security updates, and manage product life cycles, while avoiding inventory costs and sustaining a secure network with high availability. Subsequent financial analysis found that a composite organization based on these interviewed organizations experienced the risk-adjusted ROI and benefits shown in Figure 1.

This translates to benefits of nearly $1.3 million per year, annual contract costs of $577,500, and an NPV of $1.75 million. With Smart Net Total Care, an organization with 20,000 users avoids 800 hours in troubleshooting and managing both alerts and product life cycles. It reduces its risk of security breaches by 65%, cuts the length of an outage by 75%, and avoids steep inventory costs.

FIGURE 1
Financial Summary Showing Three-Year Risk-Adjusted Results

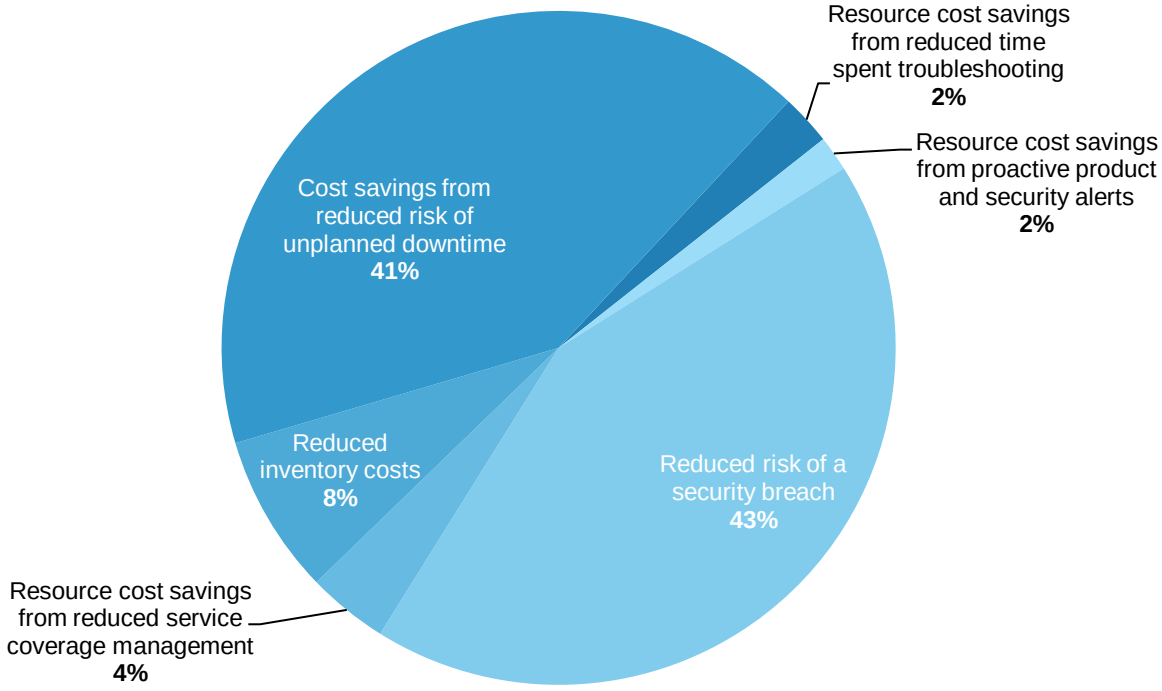


Source: Forrester Research, Inc.

› **Benefits.** An organization with 20,000 users experienced the following risk-adjusted benefits:

- **Resource cost savings from reduced time spent troubleshooting.** Resolving an issue with TAC requires a quarter of the time it would take for network engineers to troubleshoot manually, saving $93,960 over three years.
- **Resource cost savings from proactive delivery of product and security alerts.** Locating relevant product and security alerts manually would require several hours each week. Instead, these are delivered proactively, saving the composite organization $65,146.
- **Reduced risk of a security breach.** Software updates, product alerts, and service alerts prompt network engineers to install the latest updates, protecting them from the latest vulnerabilities. This reduces their risk of a security breach by 65%, avoiding over $1.66 million in three years.
- **Resource cost savings from reduced time spent on service coverage management.** Managing inventory, contracts, and device life cycles are all automated with the Smart Net Total Care collector and portal, saving two weeks of resource time each month. This sums to $150,336 over three years.
- **Avoided inventory costs.** Hardware replacement eliminates the need to keep an inventory of spares for the devices that break unexpectedly. Building and maintaining this inventory would cost $297,000 in three years.
- **Cost savings from a reduction in unplanned downtime.** Leveraging product alerts and software updates reduces the risk of failure, translating to a reduced risk of unplanned downtime. When downtime does occur, the length of the outage is reduced, thanks to swift hardware replacements and access to TAC. These two factors compound, resulting in a cost savings of $1.6 million over three years.

FIGURE 2
Benefit By Category (Risk-Adjusted)



Source: Forrester Research, Inc.

› **Costs.** The composite organization experienced the following risk-adjusted costs:

- **Smart Net Total Care contract fees.** These are annual fees paid to Cisco for access to TAC and digital assets, hardware replacements, software updates, product alerts, security alerts, and service coverage management capabilities. This sums to $1.7 million over three years.
- **Ongoing management fees.** Over the course of a year, the organization spends time implementing the software for the portal, ensuring the accuracy of the data, and managing its relationships with Cisco. This effort requires 128 hours each year, for a three-year total of $23,386.

Disclosures

The reader should be aware of the following:

› The study is commissioned by Cisco 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 Cisco Smart Net Total Care.

› Cisco 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.

› Cisco 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 leveraging Cisco Smart Net Total Care. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision, and 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 Cisco Smart Net Total Care can have on an organization (see Figure 3). Specifically, we:

- Interviewed Cisco marketing, sales, and support personnel, along with Forrester analysts, to gather data relative to Smart Net Total Care and the marketplace for network support solutions.
- Interviewed four organizations currently using Cisco Smart Net Total Care to obtain data with respect to costs, benefits, and risks.
- Designed a "composite organization" based on characteristics of the interviewed organizations. The use of a composite organization allows Forrester to tell one unique story for a typical organization, while leveraging data from the different customers we spoke with.
- 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 as applied to the composite organization.
- 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 Cisco Smart Net Total Care's 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 3
TEI Approach

Source: Forrester Research, Inc.

Analysis

INTERVIEWED ORGANIZATIONS

For this study, Forrester conducted a total of four interviews with representatives from the following companies, which are Cisco customers based in the US and Europe:

Industry	Footprint	Network size	SNTC areas of focus	
Education	National	66,000 users	› TAC › Digital self-support › Mobile application	› Security and product alerts › Hardware replacements › Software updates
Government	National	5,000 users	› TAC › Mobile application	› Hardware replacements › Software updates
Transportation	Global	10,000 users	› TAC › Digital self-support	› Security and product alerts › Hardware replacements › Software updates
Transportation	National	30,000 users	› Service management capabilities: inventory, contract and life cycle management	› Software updates

COMPOSITE ORGANIZATION

Overview

Every organization will have a unique experience with a product or service. Likewise, each interviewee had a unique experience using Smart Net Total Care. In order to blend their experiences to share a complete and holistic story, we created a composite organization that represents the characteristics of the interviewed organizations. Leveraging the interviewees' experiences, we constructed a TEI framework and an associated ROI analysis for the composite organization that illustrates the areas financially affected. The composite organization exhibits the following characteristics:

> *"With Smart Net Total Care, we know we can maintain a stable network."*
>
> ~ Network engineer, education

- It is a global services company.
- It has $2 billion in annual revenue.
- It has 20,000 users on the network.
- It has 10 network support engineers, operating inside a larger IT organization.
- It uses Smart Net Total Care for access to TAC, digital self-support, OS software updates, and security and product alerts. Also, it takes advantage of the mobile application and service coverage management capabilities, which include contract, inventory, and life cycle management.

Experience With Smart Net Total Care

The composite organization has been a Smart Net Total Care customer since it first implemented Cisco equipment, well over two decades ago. However, during that time the composite organization evaluated Cisco against alternatives prior to renewals, considering using third parties or maintaining its network without support. The composite organization always chose to renew, citing:

- The ability to resolve issues quickly.
- Access to software updates.
- The need to maintain uptime.
- Access to TAC, and the ability to get knowledgeable engineers on a call quickly.
- Swift hardware replacements.
- Access to security updates that reduced the risk of security breaches.

Had the composite organization opted not to renew its contract, therefore foregoing Cisco support, network engineers would have been forced to troubleshoot network issues on their own. When issues surfaced, engineers would scour the internet for advice from peers, or track down more senior engineers within the organization, resulting in more effort and a slower time-to-resolution. Foregoing support would also require the composite organization to maintain a costly inventory of spares and proactively search for relevant product and security alerts, raising both costs and the risks of a security breach or unplanned downtime.

Fortunately, the network engineers, charged with maintaining and optimizing the network, rely on Smart Net Total Care to help fulfill their responsibilities. They leverage TAC to resolve both critical issues and nagging inefficiencies, opening an average of 50 cases per year. Access to TAC and digital self-support resources gives the network engineers the confidence to experiment with a new design, knowing they have a safety net if the outcome doesn't meet their expectations.

After having been a Smart Net Total Care customer for years, the composite organization adopted a new piece of functionality offered with the service: smart capabilities for life cycle management. Seeing an opportunity to eliminate slow, manual processes, the composite organization partnered with Cisco to implement the collector software and take advantage of the automated inventory and life cycle features.

In summary, Smart Net Total Care delivered:

- **Reductions in resource costs from avoiding manual processes.** With access to TAC for troubleshooting, the automated service coverage management capabilities, and proactive product alerts, network engineers avoided manual and lengthy research and inventory tasks.
- **Reductions in hardware costs.** Smart Net Total Care replaces broken hardware in anywhere from a few hours to a day, eliminating the need for the composite organization to stock an expensive inventory of spares.
- **Improved protection against security breaches.** Proactive product and security alerts, as well as software updates, ensure network engineers are protected against the latest vulnerabilities that hackers might try to exploit.
- **Peace of mind.** While it cannot be quantified, network engineers continuously cited the comfort Smart Net Total Care delivers. They know they are never on their own — engineers are only a phone call away, and their networks always run the latest versions of software.

> *"Cisco provides skills, resources, and advice that you wouldn't have without Smart Net."*
>
> ~ Network engineer, education

BENEFITS

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

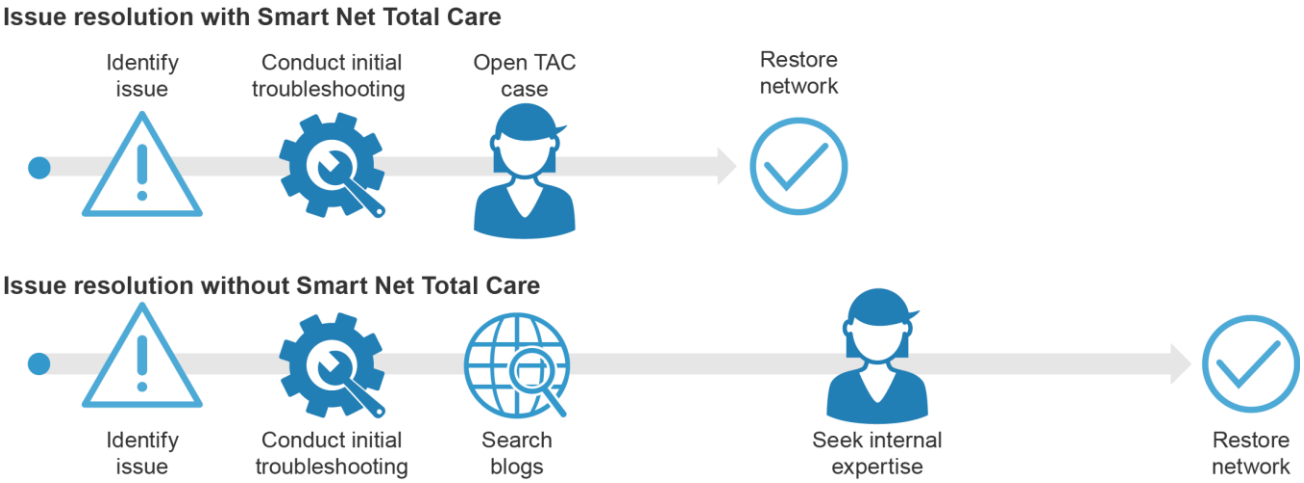
- Resource cost savings from reduced time spent troubleshooting.
- Resource cost savings from proactive delivery of product and security alerts.
- Reduced risk of a security breach.
- Resource cost savings from improved service coverage management.
- Avoided inventory costs.
- Cost savings from a reduction in unplanned downtime.

Resource Cost Savings From Reduced Time Spent Troubleshooting

Access to experts and faster time-to-resolution are key features of Smart Net Total Care. Together they deliver resource cost savings from reduced time spent troubleshooting. Network engineers expect things to go wrong; part of their job responsibilities is to identify those issues and resolve them. When they first noticed an abnormality, they rushed to isolate the problem, including both the device and the location. If the issue was clear through log data or recognizable from previous experience, they checked available digital self-support assets for a quick fix and resolved it independently. When that failed, support engineers opened a Priority 1-2 TAC case. Interviewees cited that in these instances, they would be on the phone with an engineer in just a few hours. With the TAC engineer, they would troubleshoot until they located the source of the issue, and they received detailed instructions on how to resolve it.

To isolate the benefit of these troubleshooting efforts, interviewees discussed what a similar issue resolution process would look like without access to TAC. It would start the same way: identifying the abnormality, attempting to isolate the issue, and referencing existing resources for advice. However, if that failed, instead of opening a TAC case, they would expand their internet searches, scouring online resources and community boards for relevant advice. If necessary, they would then turn to internal experts to collaborate with, if they had experts on staff (see Figure 4). On average, interviewees cited that this effort would take two to 10 times as long.

FIGURE 4
Comparison Of Issue Resolution With And Without TAC Support



Source: Forrester Research, Inc.

The model assumes that the composite organization submits 50 Priority 1-2 TAC cases each year. With TAC, these cases take an average of 4 hours to resolve. Without TAC, the network engineers would require 16 hours to restore the network. Therefore, the annual benefit is 12 hours gained for each of the 50 TAC cases, at $58 per hour for a network engineer.

There are a variety of outside forces that might affect this benefit, including the institutional knowledge within an organization, the knowledge of the TAC engineer, and the complexity of the issue itself. To compensate, this benefit was risk-adjusted and reduced by 10%. The risk-adjusted total resource cost savings resulting from faster time to resolution was $93,960. See the section on Risks for more detail.

TABLE 1
Resource Cost Savings From Reduced Time Spent Troubleshooting

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
A1	Number of TAC cases each year		50	50	50	
A2	Average number of hours required to troubleshoot without TAC		16	16	16	
A3	Average number of hours to troubleshoot with TAC		4	4	4	
A4	Hourly cost for senior network engineer	$120,000/2,080	$58	$58	$58	
At	Resource cost savings from reduced time spent troubleshooting	A1*(A2-A3)*A4	$34,800	$34,800	$34,800	$104,400
	Risk adjustment	↓10%				
Atr	**Resource cost savings from reduced time spent troubleshooting (risk-adjusted)**		**$31,320**	**$31,320**	**$31,320**	**$93,960**

Source: Forrester Research, Inc.

Resource Cost Savings From Proactive Delivery Of Product And Security Alerts

Installing the latest software, updating devices, and managing against the latest security vulnerabilities are critical to maintaining the robust network that keeps the business running. Smart Net Total Care proactively delivered the relevant updates and alerts to the composite organization's network engineers and allowed them to take immediate action or file for future reference. Without Smart Net Total Care, network engineers would have to spend several hours each week consulting social media and community boards for the latest product and security alerts, then sort through them to determine which are relevant for their network configuration.

Interviewees estimated that this effort would require 8 hours per week at an hourly rate of $58 for a network engineer, all of which is now saved with the use of Smart Net Total Care. Interviewees were consistent in their estimates, but readers should expect some variation based on the size and complexity of their networks. To compensate, this benefit has been risk-adjusted down by 10%, for a total of $65,146.

TABLE 2
Resource Cost Savings From Proactive Delivery Of Product And Security Alerts

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
B1	Weekly hours saved searching for relevant product updates		8	8	8	
B2	Hourly fully loaded cost for a network engineer	$120,000/2,080	$58	$58	$58	
Bt	Resource cost savings from proactive product and security alerts	B1*52*B2	$24,128	$24,128	$24,128	$72,384
	Risk adjustment	↓10%				
Btr	**Resource cost savings from proactive product and security alerts (risk-adjusted)**		**$21,715**	**$21,715**	**$21,715**	**$65,146**

Source: Forrester Research, Inc.

Reduced Risk Of A Security Breach

The composite organization leverages Smart Net Total Care's software downloads and security alerts to avoid vulnerabilities, which it then patches with the help of digital self-support or TAC. As one interviewee shared, "There are people trying to get into our network every day." Therefore, these alerts and software updates are critical protection against ongoing security threats, the results of which could be devastating for the composite organization.

Fifty-three percent of firms surveyed in Forrester's 2016 Global Business Technographics® study experienced a data breach in 2015.[1] This suggests that the risk of a breach could be 50%. Smart Net Total Care customers interviewed in this study believe their networks are far more secure, estimating their networks' risk of a breach to be only 12%, or that 12 out of 100 networks with similar levels of protection would experience a breach each year. Interviewees believe Smart Net Total Care lowers their threat levels by 65%. The model uses 12% for the risk of a breach with Smart Net Total Care, and 18.5% without. Readers should adjust the percentages based on their own assessed risk.

The consequences of a security breach are vast. They include, but are not limited to, incident response and investigation, public relations crisis management, legal fees, settlements, and remediation fees.[2] These costs will vary dramatically by the size of the organization and the extent of the breach, so the model uses a conservative $10 million in estimated cost avoidance. This benefit is then risk-adjusted down by 15% to accommodate for the variability, for a total loss avoidance of $1,657,500.

TABLE 3
Reduced Risk Of A Security Breach

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
C1	Cost of a security breach		$10,000,000	$10,000,000	$10,000,000	
C2	Risk of a security breach without SNTC		18.5%	18.5%	18.5%	
C3	Risk of a security breach with SNTC	C2*65%	12%	12%	12%	
Ct	Reduced risk of a security breach	C1*(C2-C3)	$650,000	$650,000	$650,000	$1,950,000
	Risk adjustment	↓15%				
Ctr	**Reduced risk of a security breach (risk-adjusted)**		**$552,500**	**$552,500**	**$552,500**	**$1,657,500**

Source: Forrester Research, Inc.

Resource Cost Savings From Improved Service Coverage Management

Managing its hardware products' life cycles helped the composite organization identify which products were nearing end of life or end of support and which products had been moved. These critical activities ensured they were prepared for the right upgrades and maintained support coverage, both of which contributed to sustaining system availability.

Prior to taking advantage of Smart Net Total Care, a network engineer from the composite organization spent two weeks each month managing contracts, inventory, and product life cycles. This included updating data on each piece of hardware, confirming its location and contract status in complex spreadsheets. When inventory and life cycle management capabilities were included as part of the composite organization's Smart Net Total Care contract, the team of network engineers quickly took advantage of the offering. They installed the Cisco Common Services Platform Collector, which gathered device support information for each product and delivered it through an interactive portal. With this comprehensive view of the network and access to Cisco's existing product data, the portal began creating the essential inventory reports that provided a holistic view. The portal also sent alerts when hardware was nearing the end of its support, making day-to-day management, audits, and annual contract management faster and easier to prepare for.

The composite organization now avoids these two weeks of effort each month, at a fully loaded cost of $58 per hour for a network engineer. These results will vary by organization based on the complexity of the network as well as existing inventory processes in place. To compensate, this benefit was risk-adjusted and reduced by 10%. The risk-adjusted total benefit resulting from improved inventory and life-cycle management over the three years was $150,336.

TABLE 4
Resource Cost Savings From Improved Service Coverage Management

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
D1	Previous monthly hours required to manage inventory and contracts		80	80	80	
D2	Hourly fully loaded cost for a network engineer	$120,000/2,080	$58	$58	$58	
Dt	Resource cost savings from improved life-cycle management	D1*D2*12	$55,680	$55,680	$55,680	$167,040
	Risk adjustment	↓10%				
Dtr	**Resource cost savings from improved life-cycle management (risk-adjusted)**		**$50,112**	**$50,112**	**$50,112**	**$150,336**

Source: Forrester Research, Inc.

Avoided Inventory Costs

Smart Net Total Care includes advance hardware replacement, delivering new equipment to exchange for malfunctioning hardware either in 2 hours, 4 hours, or the next day. For the composite organization to replace hardware in the equivalent timeframe, without Smart Net Total Care, it would need to maintain a stocked inventory that ensured coverage for not only each part but also each geographic location. This could entail stocking physical spares at each location, or storing spares at a central location and incurring high shipping costs when parts are required at satellite locations.

Although not quantified as part of this benefit, interviewees discussed how critical this hardware replacement is to providing the ability to be flexible and experiment with network design. If they were maintaining an inventory of spares, they would be more conservative in their design, consolidating the number of products in use.

Interviewed organizations provided a broad range of costs they would incur to build and maintain inventory, ranging from $65,000 to $300,000 per year. Given the size and complexity of the composite organization, Forrester projected $110,000, which will vary based on the number of parts in use in the network, physical locations, and the preferred inventory method. To compensate, this benefit was risk-adjusted and reduced by 10%. Over three years, the composite organization avoids a risk-adjusted total of $297,000 by leveraging Smart Net Total Care for hardware replacements instead of managing an inventory of spares.

TABLE 5
Avoided Inventory Costs

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
E1	Avoided inventory costs		$110,000	$110,000	$110,000	
Et	Avoided inventory costs	E1	$110,000	$110,000	$110,000	$330,000
	Risk adjustment	↓10%				
Etr	**Avoided inventory costs (risk-adjusted)**		**$99,000**	**$99,000**	**$99,000**	**$297,000**

Source: Forrester Research, Inc.

Cost Savings From A Reduction In Unplanned Downtime

Through surveys and multiple client engagements, Forrester has found that most organizations have experienced some type of network downtime in the past five years. For example, in the past four years, three major airlines had network outages that caused planes to be grounded and flights to be cancelled for up to two days. It's important for businesses to reduce the risk of downtime and limit the length of the outage when it inevitably happens: Smart Net Total Care helps with both.

Smart Net Total Care reduced the risk of downtime for the composite organization. Product alerts and software updates reduced the risk of bugs, and service coverage management brought engineers' attention to their end-of-life products so they could be replaced before it malfunctioned. Without Smart Net Total Care, the risk of downtime increased by 75%, from 20% to 35%.

Then, when downtime did occur, the composite organization collaborated with TAC to address software or configuration issues and took advantage of hardware replacements to speed the time-to-resolution. It reduced the length of the outage to just 4 hours, down 75% from an expected 16 hours in the absence of Smart Net Total Care.

The calculation, therefore, is the incremental change in risk (15%), multiplied by the average decrease in length of 12 hours, at an estimated hourly cost of $350,000.

This benefit will vary based on how faithfully customers use the product alerts, software updates, and life-cycle management capabilities, as well as by the cost of downtime and existing risk of downtime. To compensate, this benefit was risk-adjusted and reduced by 15%, for a three-year total of $1,606,500.

TABLE 6
Cost Savings From A Reduction In Unplanned Downtime

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
F1	Risk of downtime without SNTC		35%	35%	35%	
F2	Risk of downtime with SNTC		20%	20%	20%	
F3	Length of downtime without SNTC (hours)		16	16	16	
F4	Length of downtime with SNTC (hours)		4	4	4	
F5	Hourly cost of downtime		$350,000	$350,000	$350,000	
Ft	Cost savings from a reduction in unplanned downtime	(F1-F2)*(F3-F4)*F5	$630,000	$630,000	$630,000	$1,890,000
	Risk adjustment	↓15%				
Ftr	**Cost savings from a reduction in unplanned downtime (risk-adjusted)**		**$535,500**	**$535,500**	**$535,500**	**$1,606,500**

Source: Forrester Research, Inc.

Total Benefits

Table 7 shows the total of all benefits across the six 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 $3.2 million.

TABLE 7
Total Benefits (Risk-Adjusted)

Ref.	Benefit Category	Year 1	Year 2	Year 3	Total	Present Value
Atr	Resource cost savings from reduced time spent troubleshooting	$31,320	$31,320	$31,320	$93,960	$77,888
Btr	Resource cost savings from proactive product and security alerts	$21,715	$21,715	$21,715	$65,146	$54,002
Ctr	Reduced risk of a security breach	$552,500	$552,500	$552,500	$1,657,500	$1,373,986
Dtr	Resource cost savings from improved service coverage management	$50,112	$50,112	$50,112	$150,336	$124,621
Etr	Reduced inventory costs	$99,000	$99,000	$99,000	$297,000	$246,198
Ftr	Cost savings from reduced risk of unplanned downtime	$535,500	$535,500	$535,500	$1,606,500	$1,331,709
	Total benefits (risk-adjusted)	**$1,290,147**	**$1,290,147**	**$1,290,147**	**$3,870,442**	**$3,208,405**

Source: Forrester Research, Inc.

COSTS

The composite organization experienced a number of costs associated with the Smart Net Total Care support offering for maintaining its network:

- Smart Net Total Care contract fees.
- Annual management costs.

Smart Net Total Care Licensing Fees

Support licensing fees for Smart Net Total Care were incurred annually. Fees are flat and cover all facets of the support offering, including hardware replacements, software updates, product alerts, TAC assistance, digital assets, and life cycle management capabilities, exclusive of volume.

Support costs vary from organization to organization, considering different licensing agreements, what other products may be licensed from the same vendor, volume of hardware, locations, and other discounts. To compensate, this cost was risk-adjusted up by 5%. The risk-adjusted cost of support over the three years was $1,732,500. See the section on Risks for more detail.

TABLE 8
Smart Net Total Care Contract Fees

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3	Total
G1	Smart Net Total Care contract fees			$550,000	$550,000	$550,000	
Gt	Smart Net Total Care contract fees			$550,000	$550,000	$550,000	
	Risk adjustment	↑5%					
Gtr	**Smart Net Total Care contract fees (risk-adjusted)**		**$0**	**$577,500**	**$577,500**	**$577,500**	**$1,732,500**

Source: Forrester Research, Inc.

Annual Management Costs

Albeit minor, the composite organization does incur annual management costs in the form of resource hours, necessary for completing the following tasks:

- **Managing contracts.** The director of network engineering spends approximately two weeks each year meeting with the Cisco team to update them on hardware changes or future needs.
- **Ramping new employees.** Each new employee requires about 12 hours of training from fellow network engineers to learn how to take advantage of the different services.
- **Updating the portal.** The smart capabilities (service coverage and life-cycle management) require 2 to 3 hours of maintenance each month in order to create an accurate report.

Together, effort required for these tasks sum to 128 hours each year. At $58 per hour for a network engineer, this equates to just over $7,000 annually. Management costs vary from organization to organization, considering

some organizations outsource and some manage this in-house, perhaps augmented with third-party consulting support. To compensate, this cost was risk-adjusted up by 5%. The risk-adjusted cost of annual maintenance over the three years was $23,386. See the section on Risks for more detail.

TABLE 9
Annual Management Costs

Ref.	Metric	Calculation	Year 1	Year 2	Year 3	Total
H1	Annual hours required to manage the contract		80	80	80	
H2	Annual hours to update the portal	3 hours * 12 months	36	36	36	
H3	Annual hours to ramp new employees		12	12	12	
H4	Hourly wage for senior network engineer	$120,000/2,080	$58	$58	$58	
Ht	Ongoing management	(H1+H2+H3)*H4	$7,424	$7,424	$7,424	$22,272
	Risk adjustment	↑5%				
Htr	**Ongoing management (risk-adjusted)**		**$7,795**	**$7,795**	**$7,795**	**$23,386**

Source: Forrester Research, Inc.

Total Costs

Table 10 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 just under $1.5 million.

TABLE 10
Total Costs (Risk-Adjusted)

Ref.	Cost Category	Year 1	Year 2	Year 3	Total	Present Value
Gtr	Smart Net Total Care contract fees	$577,500	$577,500	$577,500	$1,732,500	$1,436,157
Htr	Ongoing management	$7,795	$7,795	$7,795	$23,386	$19,386
	Total costs (risk-adjusted)	**$585,295**	**$585,295**	**$585,295**	**$1,755,886**	**$1,455,543**

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 leverage Smart Net Total Care and later realize additional uses, business opportunities, or benefits.

Forrester asked each interviewed customer the following question: "Because you are a Smart Net Total Care customer, what other features or functionality can your organization take advantage of?" The following represents the future options available to the composite organization, or any Smart Net Total Care customer:

- **Faster adoption of new technology.** With the peace of mind provided by easy access to the digital assets and TAC engineers, the composite organization is more likely to experiment with new hardware or cutting-edge designs, knowing that if things go wrong, it can rely on Smart Net Total Care. This confidence allows the composite organization to push the envelope more quickly than it would without Smart Net Total Care, always delivering a highly optimized network to its users.
- **Network and hardware optimization.** The life cycle management capabilities can produce reports on a regular basis. These reports allow network engineers to notice trends they would have otherwise missed, such as a piece of hardware that is failing more frequently than others and should be replaced.

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. For the purpose of this analysis, Forrester did not quantify the value of future flexibility.

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 Smart Net Total Care 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 Smart Net Total Care, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for cost and benefit estimates.

TABLE 11
Benefit And Cost Risk Adjustments

Benefits	Adjustment
Resource cost savings from reduced time spent troubleshooting	↓ 10%
Resource cost savings from proactive product and security alerts	↓ 10%
Reduced risk of a security breach	↓ 15%
Resource cost savings from improved life-cycle management	↓ 10%
Reduced inventory costs	↓ 10%
Cost savings from reduced risk of unplanned downtime	↓ 15%
Costs	**Adjustment**
Smart Net Total Care fees	↑ 5%
Annual management costs	↑ 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.

The following impact risks that affect benefits are identified as part of the analysis:

- **Skill levels of the engineers.** Successful troubleshooting is more than just the advice from the digital assets or the TAC engineer. It often requires action on the part of the engineers. Engineers must have the skills to understand what is being conveyed and how the infrastructure is managed, interpret the advice, and follow through on the directions.
- **Data quality.** The service coverage management functionality relies on the collector to inform life-cycle, inventory, and contract management functionality. The collector will gather whatever data is available. Therefore, these features will be effective only if the underlying data is accurate.
- **Standardized infrastructure, processes, and procedures.** Organizations that have processes, procedures, inventory, and configurations that are current and updated will have lower risk. A lot of time can be chewed up and mistakes can be made when infrastructure and operations have a lot of irregularities.

› **Best design practices.** Any improvements assume the infrastructure and operations is being run in an optimized mode. Benefits can dramatically erode if the infrastructure wasn't built around best design practices.

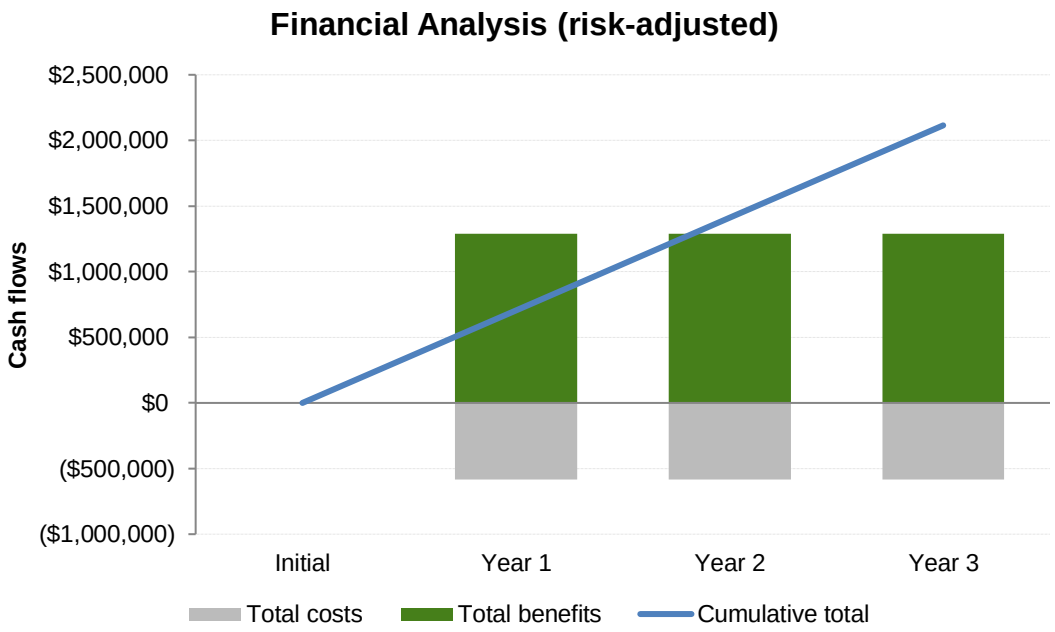
Table 11 shows the values used to adjust for risk and uncertainty in the cost and benefit estimates for the composite organization. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

Financial Summary

The financial results calculated in the Benefits and Costs sections can be used to determine the ROI and NPV for the composite organization's investment in Smart Net Total Care

Table 12 below shows the risk-adjusted ROI and NPV. These values are determined by applying the risk-adjustment values from Table 11 in the Risks section to the unadjusted results in each relevant cost and benefit section.

FIGURE 5
Cash Flow Chart (Risk-Adjusted)



Source: Forrester Research, Inc.

TABLE 12
Cash Flow (Risk-Adjusted)

Summary	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($585,295)	($585,295)	($585,295)	($1,755,886)	($1,455,543)
Total benefits	$1,290,147	$1,290,147	$1,290,147	$3,870,442	$3,208,405
Total	**$704,852**	**$704,852**	**$704,852**	**$2,114,556**	**$1,752,863**
ROI					**120%**

Source: Forrester Research, Inc.

Cisco Smart Net Total Care: Overview

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

Cisco Smart Net Total Care helps reduce downtime with fast, expert technical support provided by the Cisco Technical Assistance Center (TAC) as well as flexible hardware coverage. You also have access to award-winning Cisco Digital Support — web and mobile — to get software updates and self-solve issues online. Finally, Smart Capabilities include a portal that provides current information about your installed base, contracts, and product and security alerts to enhance your support workflow efficiency.

The TAC, staffed by Cisco engineer experts, is available 24x7 to help you solve critical device issues. Technical services also include advanced hardware replacement, offering 2-hour, 4-hour, and next-business-day options (where available).

Cisco Digital Support includes content and other resources specific to your product model, software downloads, personalized features, automated tools, and discussion forums to help you solve device issues quickly without opening a case.

Smart Capabilities, delivered through the Smart Net Total Care portal, provide actionable information to simplify how you support and manage your Cisco installed base. Customizable screens deliver up-to-date information about service coverage and product life cycles and let you run a range of reports. Software and security updates help maintain functionality while protecting against network security threats.

Altogether, Smart Net Total Care's foundational technical services can help you resolve problems more quickly, mitigate risk, and improve operational efficiency.

Appendix A: Framework Assumptions

Table 13 provides the model assumptions that Forrester used in this analysis.

The discount rate used in the PV and NPV calculations is 10%, and the time horizon used for the financial modeling is three years. 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 13
Model Assumptions

Ref.	Metric	Calculation	Value
X1	Hours per week		40
X2	Weeks per year		52
X3	Hours per year (M-F, 9-5)		2,080
X4	Hours per year (24x7)		8,736
X5	Fully loaded salary for a network engineer		$120,000
X6	Hourly wage for network engineer	(X5/X3)	$58
X7	Cost of a security breach		$10,000,000
X8	Hourly cost of downtime		$350,000

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

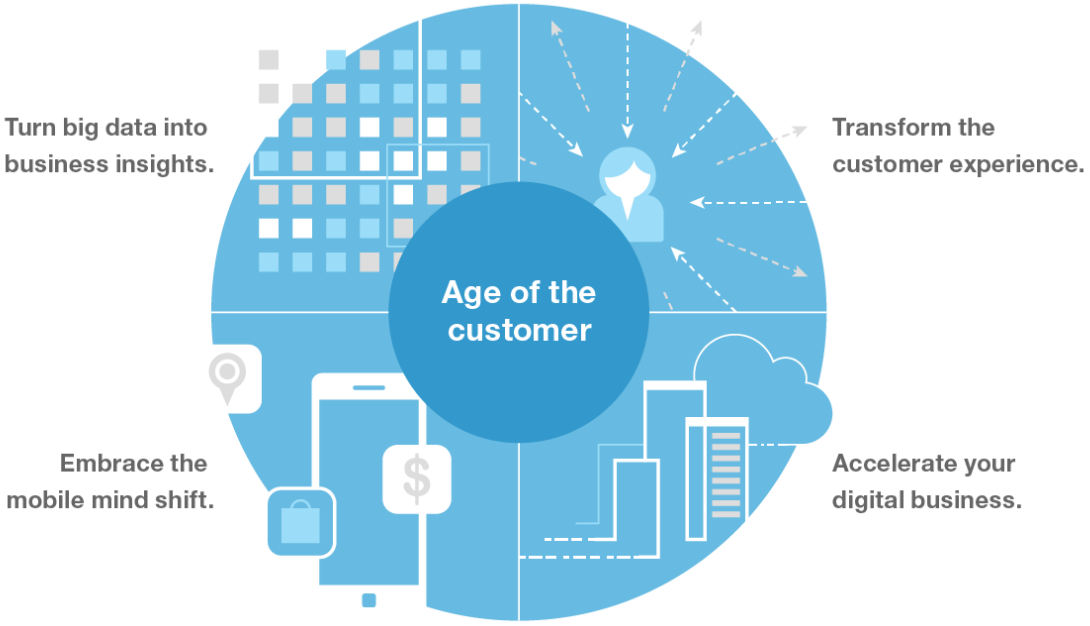
Risks measure the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: 1) the likelihood that the cost and benefit estimates will meet the original projections and 2) the likelihood that the estimates will be measured and tracked over time. TEI 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] Source: “Planning For Failure: How To Survive A Breach,” Forrester Research, Inc., September 9, 2016.

[2] Source: “Calculate The Business Impact And Cost Of A Breach,” Forrester Research, Inc., November 17, 2016.