

FORRESTER®

The Total Economic Impact™ Of Cisco Success Tracks

Cost Savings And Business Benefits
Enabled By Success Tracks

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ABOUT FORRESTER CONSULTING

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Executive Summary

As IT complexity and risk continue to grow, organizations need services that guide IT professionals to better manage and secure their IT infrastructure by implementing the right software updates, taking prompt action to remediate security vulnerabilities, and ensuring support contracts cover all devices. Cisco Success Tracks is a comprehensive services package designed to help IT professionals remove adoption roadblocks and get to business value faster.

Success Tracks is a suite of packaged services that includes expert resources, insights and analytics, learning resources, and support. These capabilities are delivered via a unified digital platform, Cisco CX Cloud, designed to help customers quickly adopt new technologies and realize the full value of their Cisco investments.

Cisco commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Success Tracks.¹ The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Success Tracks on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using Success Tracks. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is a \$6 billion global organization with 8,000 employees and 100 locations.

Improved asset lifecycle management efficiency

Up to 96%



KEY STATISTICS



Return on investment (ROI)
148%



Net present value (NPV)
\$1.01M

Prior to using Success Tracks, these interviewees spent hundreds of hours on administrative tasks, including inventorying their Cisco devices and determining which devices were not covered by a support contract, which of their Cisco devices were vulnerable to reported security threats, and the optimal software updates to install on their Cisco devices to achieve maximum levels of security while improving operational efficiency.

After the investment in Success Tracks, the interviewees experienced increased efficiency and reduced risk in each of the key network administration functions. Key results from the investment include improved asset lifecycle management of 67% to 96%, reduced risk with improved software upgrade management of 55% to 57%, and reduced risk with improved advisories and inquiries management of 90%.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **Improved case management efficiency of 33 hours per network engineer.** Network engineers save 10 minutes per case with Success Tracks. Success Tracks provides fast access to the device serial numbers and support coverage status which are needed to open a case. Over three years, the improved case management efficiency is worth \$26,000 to the composite organization with five network engineers.
- **Improved asset lifecycle management efficiency of up to 96%.** Success Tracks users reduce the number of hours per week spent researching serial numbers and support contracts for routine asset management by 67%. They reduce the time they spend preparing for annual support contract renewals by 96%. Over three years, the improved asset lifecycle management efficiency is worth \$140,000 to the composite organization.
- **Reduced risk with improved software upgrade management of up to 57%.** Success Tracks users reduce the number of hours they spend researching software versions for major releases by 57%. Over three years, the improved software upgrade management is worth \$388,000 to the composite organization.
- **Reduced risk with improved advisories and inquiries management of 90%.** Success Tracks users reduce the number of hours per week they spend analyzing advisories and determining mitigation options by 90%. Over three years, the improved advisories and inquiries management is worth \$417,000 to the composite organization.
- **Cost savings from improved uptime for noncritical internal applications of 15%.** Prior

to adopting Success Tracks users experience 72 hours of noncritical downtime per year. With Success Tracks, they avoid 11 hours of noncritical downtime per year. Noncritical downtime impacts the productivity of a department or group of employees. Over three years, the cost savings from improved uptime for noncritical internal applications is worth \$147,000 to the composite organization.

- **Cost savings from improved uptime for critical applications of 15%.** Prior to implanting Success Tracks, users experience 14 hours of critical downtime per year. Success Tracks users reduce the number of downtime events and the numbers of hours per event by 15%, avoiding 5 hours of critical downtime per year. Critical downtime impacts the manufacturing or distribution of the company's core products or services. Over three years, the cost savings from improved uptime for critical applications is worth \$575,000 to the composite organization.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified in this study include:

- **Proactively planning software updates.** Success Tracks users feel more confident in making software version recommendations and planning software updates before they are told to do so by their security departments.
- **Maintaining network availability and performance for employee satisfaction.** Network engineers using Success Tracks have better tools and information to avoid circumstances that lead to network downtime, which results in a better experience for all employees in the company.
- **Improving peer relationships.** Success Tracks helps users improve working relationships with other departments by facilitating the translation of IP addresses to serial numbers.

- **Increasing value-added work.** Success Tracks users save hundreds of hours of time in tedious device inventory management and software version research. They utilize the time savings in more enjoyable and value-added work.

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Success Tracks annual services contract.** The composite organization has an annual services contract of \$145,000, which increases by 5% per year. The contract is based on the organization's installed base of 6,000 Cisco devices. The three-year PV is \$378,000.
- **Initial setup, training, and ongoing management costs.** A lead network engineer is responsible for the initial setup, which entails connecting CX Cloud to the Cisco DNA Center. New Success Tracks users receive 5 hours of initial training and additional training of 1 hour per month to further their knowledge of Success Tracks. Ongoing management entails using Success Tracks for implementing software updates and investigating security alerts. The three-year risk-adjusted PV is \$304,000.

The representative interviews and financial analysis found that a composite organization experiences benefits of \$1.69 million over three years versus costs of \$682,000, adding up to a net present value (NPV) of \$1.01 million and an ROI of 148%.

“The security folks have a dashboard that they show management where all the teams are with their vulnerability management processes. We’re 100%. We are one of the only teams that’s fully green and we have been ever since they started making the dashboard and that’s because of Success Tracks and CX Cloud.”

*Senior network analyst,
insurance*



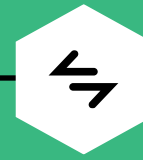
ROI
148%



BENEFITS PV
\$1.69M

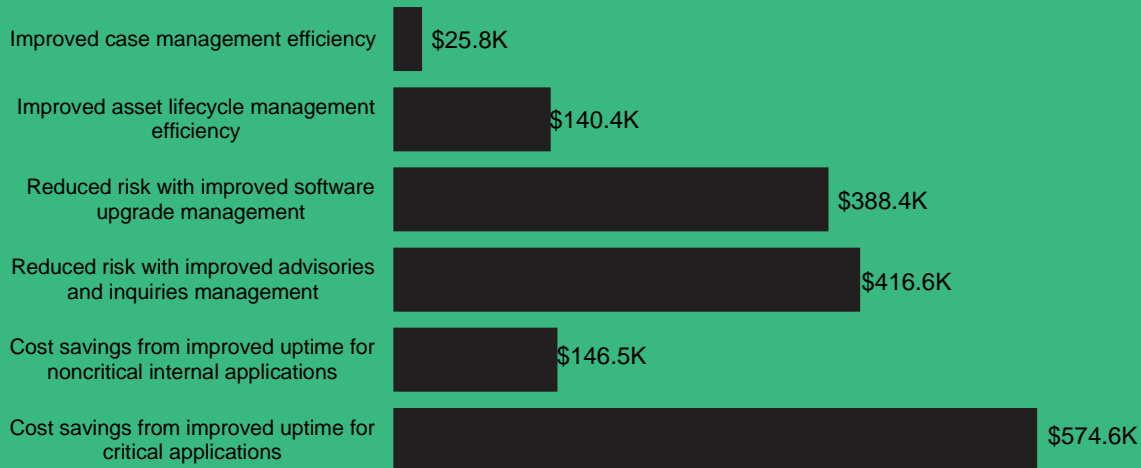


NPV
\$1.01M



PAYBACK
<6 months

Benefits (Three-Year)



“We bought Success Tracks for all the acquisitions we made this year just because of the pure lifecycle savings that we think it’s going to bring us.”

— Network architect, biotechnology

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Success Tracks.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Success Tracks can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This 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 study to determine the appropriateness of an investment in Success Tracks.

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.



DUE DILIGENCE

Interviewed Cisco stakeholders and Forrester analysts to gather data relative to Success Tracks.



INTERVIEWS

Interviewed four representatives at organizations using Success Tracks to obtain data with respect to costs, benefits, and risks.



COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewees' organizations.



FINANCIAL MODEL FRAMEWORK

Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.



CASE STUDY

Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Cisco Success Tracks Customer Journey

Drivers leading to the Success Tracks investment

Interviews			
Role	Industry	Years of IT experience	Company revenue
Senior network analyst	Insurance	24	\$11.1 billion
Global network operations manager	Beverage	26	\$10.6 billion
Senior network engineer	Legal	24	\$2.46 billion
Network architect	Biotechnology	26	\$.450 billion

KEY CHALLENGES

Prior to adopting Success Tracks, interviewees maintained inventories of their network devices and support contracts with spreadsheets or internally built software and used online research to investigate available software updates and find solutions for security vulnerabilities. They were concerned about devices without support contracts and outdated software versions causing downtime for users and potentially impacting the companies' ability to sell or deliver their products. With much of their time spent on tedious inventory management and research, they lacked time to fully realize the value of their existing Cisco technologies and take on initiatives that drive innovation.

The interviewees noted how their organizations struggled with common challenges, including:

- **Determining which devices were not covered by a support contract.** With thousands of devices to manage and support contracts under both direct and value-added reseller (VAR) programs, interviewees spent hours determining which devices were unsupported. They needed full visibility into their asset inventory to reduce the administrative burden of this task.
- **Staying current with software upgrades and updates.** Interviewees spent hours choosing the optimal software version to protect their

organizations from data breaches. They consulted many sources and struggled with conflicting recommendations on software version optimization. They needed a single source of truth for reliable software version recommendations.

- **Investigating security vulnerabilities.** Interviewees spent hours reading blog posts, websites, and other reference materials to determine which of their devices were affected by a reported security threat and the optimal mitigation strategy. They needed a trustworthy authority to recommend the best course of action to protect their organizations and reduce the amount of time spent on research.

SOLUTION REQUIREMENTS

The interviewees' organizations searched for a solution that could:

- Reduce the time and effort of tracking the status of service contracts on their devices and flag those devices where coverage did not exist or was close to expiration.
- Provide a recommendation on software version optimization backed by a detailed rationale.
- Utilize data on the organizations' installed base of devices to determine which are affected by a

service advisory and to recommend a mitigation strategy.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite is a global company with \$6 billion in annual revenue, 8,000 employees spread across 100 locations, and 6,000 Cisco network devices. The organization has five network support engineers operating inside a larger IT organization. The responsibilities of the network engineers include setting up, maintaining, and troubleshooting computer networks in their organization. They maintain the inventory of network devices and support contracts, and devise strategies to protect data and implement security measures and software upgrades. The lead network engineer has 26 years of IT experience.

Prior to Cisco Success Tracks, the network engineers at the composite organization had difficulty identifying devices without support contracts. They spent hundreds of hours preparing for annual support contract renewals. They sometimes delayed installing new software versions because of concern for causing network outages or disrupting user applications. The network engineers researched multiple online resources and consulted trusted peers to decide on a strategy for clearing security threats. This results in excessive effort and a slow time to resolution. The delays in implementing software upgrades and mitigating security vulnerabilities increases the risks of a security breach or unplanned downtime. Once the network engineers at the composite organization learn about Success Tracks from their Cisco teams and begin testing it at their

organization, they immediately realize it increases their efficiency and improves the uptime of their network. By increasing the network engineers' efficiency on basic tasks, Success Tracks allows them to focus more of their efforts on the higher-value tasks that the composite organization needs.

Deployment characteristics. The composite organization implements Success Tracks with five network engineers who are responsible for case management, asset lifecycle management, implementation of software upgrades, and mitigation of security risks. Over the three-year period this analysis covers, the network engineers utilize the time savings Success Tracks affords to complete new initiatives that fulfill the CIO's innovation goals.

Key Assumptions

- **\$6 billion in annual revenue**
- **8,000 employees**
- **100 locations**
- **6,000 Cisco network devices**
- **5 network engineers**

Analysis Of Benefits

■ Quantified benefit data as applied to the composite

Total Benefits						
Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Improved case management efficiency	\$10,220	\$10,371	\$10,521	\$31,112	\$25,767
Btr	Improved asset lifecycle management efficiency	\$55,692	\$56,511	\$57,330	\$169,533	\$140,405
Ctr	Reduced risk with improved software upgrade management	\$154,040	\$156,306	\$158,571	\$468,917	\$388,352
Dtr	Reduced risk with improved advisories and inquiries management	\$165,240	\$167,670	\$170,100	\$503,010	\$416,587
Etr	Cost savings from improved uptime for noncritical internal applications	\$58,007	\$58,970	\$59,934	\$176,911	\$146,499
Ftr	Cost savings from improved uptime for critical applications	\$221,414	\$231,570	\$242,210	\$695,194	\$574,641
	Total benefits (risk-adjusted)	\$664,614	\$681,398	\$698,666	\$2,044,677	\$1,692,251

IMPROVED CASE MANAGEMENT EFFICIENCY

Evidence and data. Prior to adopting Success Tracks, network engineers used the Cisco website, mobile app, or the customer service phone number to obtain a return merchandise authorization (RMA). These resources did not provide the most efficient way of determining support coverage on the device, which is a necessary condition for obtaining an RMA. Prior to implementing Success Tracks network engineers were not able to quickly determine the status of the open support cases for all members of their team. Success Tracks provided fast access to the device serial numbers and support coverage status, as well as visibility into the status of the entire team’s open support cases.

- The senior network analyst at the insurance company stated: “It’s super easy to open cases when I need to. I think the opening of cases happens faster. We used to call everything in. If I want to start a case, it fills in the serial number and then tells you whether it’s covered. The ability to open cases rapidly is really nice.”

“You can search the asset by name and drive right through to it. You don’t have to worry about collecting any ancillary information that you may have collected previously. It’s those little things that start to streamline the process and help you to open cases quicker.”

Network architect, biotechnology

- The senior network engineer at the global law firm told Forrester, “The savings in opening cases is probably 10 to 15 minutes [per support case].”
- The global network operations manager at the beverage company noted, “When a Technical

Assistance Center (TAC) case is a very significant incident then I'll be interested in the details of that case or if it's a TAC case that seems to be open for quite some time then I'll be concerned about it and want to look at the TAC case details and understand what notes are happening.”

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- Five network engineers save 10 minutes per support case with Success Tracks.
- Network engineers open four cases per week. With Success Tracks, the composite organization saves 167 hours per year. The value of improved case management efficiency is \$11,356 in Year 1 and rises to \$11,690 in Year 3 based on an average fully burdened hourly rate of \$68, increasing 2% year-over-year (YOY).

Risks. Factors that may impact the magnitude of this benefit category include the following:

- Organizations may increase or decrease the number of devices based on expanding or contracting their operations and adding or consolidating user applications.
- The hourly rate for network engineers.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$26,000.

Improved Case Management Efficiency

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Number of minutes saved per case with Success Tracks	Interviews	10	10	10
A2	Number of network engineers	Interviews	5	5	5
A3	Number of cases per week	Interviews	4	4	4
A4	Total annual minutes saved with Success Tracks	A1*A2*A3*50	10,000	10,000	10,000
A5	Total annual hours saved with Success Tracks	A4/60	167	167	167
At	Improved case management efficiency	A5*B6	\$11,356	\$11,523	\$11,690
	Risk adjustment	↓10%			
Atr	Improved case management efficiency (risk-adjusted)		\$10,220	\$10,371	\$10,521
Three-year total: \$31,112			Three-year present value: \$25,767		

IMPROVED ASSET LIFECYCLE MANAGEMENT EFFICIENCY

Evidence and data. Prior to the adoption of Success Tracks, the interviewees spent an average of 4 hours per week researching serial numbers and support

contracts for routine asset management. For annual support contract renewals, they spent weeks of preparation in tracking down device serial numbers. Network engineers viewed maintaining an accurate inventory of devices and support contracts as crucial

because, when problems occurred on devices that a support contract did not cover, they were not reliably able to obtain replacement parts. This was of particular concern during the COVID-19 pandemic and continued today because of long lead times and supply chain disruptions. Success Tracks, through CX Cloud, provided the visibility on device support contract status that allowed the network engineers to take preventative action before an outage occurred. Maintaining support coverage contributed to system uptime and user satisfaction.

- The global network operations manager for the beverage company explained: “When you’re responsible for roughly 10,000 Cisco devices, you need to understand where they are in their lifecycle. I am mostly concerned about end of support. I’d rather not have end-of-support devices in my network.”
- The senior network analyst at the insurance company stated: “The first day we turned on CX Cloud with Success Tracks, we figured out that there were half a dozen chassis that were going to go out of support. So, that feature was instantly valuable. It was valuable to identify it prior to the chassis rolling off the support. It didn’t really save an outage, but it gave us a heads-up that if we did have an outage on one of these devices, we wouldn’t be able to start a case on and that’s not good. So, it allows us to fix the problem before it happens.”
- The senior network engineer at the global law firm told Forrester: “Before Success Tracks, probably two or three hours per week were spent in asset lifecycle management, maybe more, maybe less per week, depending on what’s going on. I’ll say that for support contract renewal periods, we would go through hours and hours and hours of reviewing assets and looking at serial numbers and identifying equipment, making sure that we had everything accurate based on location and so forth. But I think that during the next support contract renewal it will be much easier because we’ll have the data much more available.”
- The network architect at the biotechnology company observed: “For support contract and Enterprise Agreement renewals, it was really four months trying to make sure that we had all the details. It would be 9 to 10 hours per week.” The interviewee explained the impact of improved device visibility in his organization: “I think the CX Cloud platform for Success Tracks is presenting that information much more up-front and always up to date rather than us spending all that time trying to collect that information. It’s all aggregated for you. CX Cloud is also getting feeds from our actual inventory. When we do this again, CX Cloud will be the only place that we go, and we will pull the information from Cisco Services. Instead of being a six-month project with 250 hours, I could see this happening in a week. We go to Success Tracks. We’re ready to get renewal. I think that asset lifecycle management is going to be the driver for us moving forward with Success Tracks.”
- The network architect at the biotechnology company explained the benefit of preventative action: “Before we would not necessarily know until we had to open a case that we didn’t have the contract number for that product. Success Tracks shows you that directly via CX Cloud so you can remedy those things before they become a problem. That is really the savings. You’re fixing the things and noticing them well before you need the information.” When asked the financial impact of unsupported devices, the interviewee noted: “Because you have the downtime for whatever that piece of equipment is for whatever duration it is going to take to get a new piece of equipment there. And in previous times, that may not have been that long. You may be able to procure a new device in relatively

short order. In today's post-COVID-19 times, you don't know when you're going to get a device."

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- Prior to the introduction of Success Tracks, network engineers spend an average of 4 hours per week on routine asset management.
- With Success Tracks, network engineers spend 67% less time on routine asset management tasks.
- With Success Tracks, network engineers reduce the time spent on annual support contract renewals by 96%.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The number of hours spent on routine asset management and on annual support contract renewals.
- Organizational size will impact the amount of time spent on asset lifecycle management and the efficiency improvement realized from this benefit.
- The hourly rate for network engineers.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$140,000.

Improved Asset Lifecycle Management Efficiency					
Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	Number of hours per week spent researching serial numbers and support contract numbers for Cisco devices for routine asset management before Success Tracks	Interviews	4	4	4
B2	Number of network engineers	Interviews	5	5	5
B3	Total person hours per year	B1*B2*50	1,000	1,000	1,000
B4	Percent reduction in hours spent researching serial numbers and support contract numbers for Cisco devices for routine asset management with Success Tracks	Interviews	67%	67%	67%
B5	Total hours per year saved with Success Tracks	B3*B4	670	670	670
B6	Average fully burdened hourly rate for network engineers	TEI standard	\$68	\$69	\$70
B7	Subtotal: Improved efficiency for routine asset management	B5*B6	\$45,560	\$46,230	\$46,900
B8	Number of hours per year spent preparing for annual support contract renewals before Success Tracks	Interviews	250	250	250
B9	Percent reduction in hours per year spent preparing for annual support contract renewals with Success Tracks	Interviews	96%	96%	96%
B10	Total hours per year saved with Success Tracks	B8*B9	240	240	240
B11	Subtotal: Improved efficiency for annual support contract renewals	B6*B10	\$16,320	\$16,560	\$16,800
Bt	Improved asset lifecycle management efficiency	B7+B11	\$61,880	\$62,790	\$63,700
	Risk adjustment	↓10%			
Btr	Improved asset lifecycle management efficiency (risk-adjusted)	B7+B11	\$55,692	\$56,511	\$57,330
Three-year total: \$169,533			Three-year present value: \$140,405		

REDUCED RISK WITH IMPROVED SOFTWARE UPGRADE MANAGEMENT

Evidence and data. Prior to adopting Success Tracks, network engineers consulted many sources to determine the best software version to install on their Cisco devices. The burden of this task was so great that network engineers sometimes avoided updating devices until their security team advised them of an imminent security vulnerability. Success Tracks eliminated the need for days of research by providing network engineers with recommendations on the optimal software versions. Users reduced the number of hours they spent researching software versions for *major* releases by 57%. They reduced the number of hours they spent on researching software versions for *minor* releases by 55%.

- The senior network engineer at the global law firm stated that prior to using Success Tracks: “I think I spent about a week going through everything in detail. Maybe 30 to 40 hours reviewing, looking at each little detail because with critical components, you don’t want to just upgrade and take a chance. Sometimes you really have to be sure. So, you go through each little detail.”
- The senior network analyst at the insurance company told Forrester: “We’d buy a piece of equipment and the only time we would update it is when security told us we had a vulnerability on it. Not the greatest way to do things, and probably you’re not using any of your new features that were made available for your device

over the lifecycle of the product. [With Success Tracks,] we are more prepared for discussions with security about vulnerabilities. We have a lot stronger grasp on what software is deployed to our environment and what potential problems there might be.”

- The senior network analyst at the insurance company further explained: “Now that we have a better grasp on what software versions we’re running across the environment, we have a better opportunity to make sure that a large portion of our environment is running the same version, so you have a common feature set. I think that’s super powerful.”

Modeling and assumptions. For the composite organization Forrester assumes the following:

- With Success Tracks, network engineers reduce the time they spend researching software versions for major releases by 57%, saving almost 1,200 hours per year based on 12 upgrades per year.
- For minor releases, network engineers reduce their research time by 55% and save almost 1,300 hours based on 24 updates per year.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The number of hours network engineers spend researching software versions.

“We just didn’t have the bandwidth of people on the team that had enough knowledge about the features of the devices and what you could do with them as you continued to upgrade them.”

Senior network analyst, insurance

- The size of the organization; the number and variety of devices and software versions; and the frequency of upgrades and updates. The efficiency improvement they obtain from this benefit will vary accordingly.
- The hourly rate for network engineers.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$388,000

Reduced Risk With Improved Software Upgrade Management					
Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Number of hours researching software versions for major releases before Success Tracks	Interviews	35	35	35
C2	Number of network engineers	Composite	5	5	5
C3	Number of upgrades per year	Interviews	12	12	12
C4	Total hours per year	C1*C2*C3	2,100	2,100	2,100
C5	Percent reduction in hours spent researching software versions for major releases with Success Tracks	Interviews	57%	57%	57%
C6	Total hours saved with Success Tracks	C4*C5	1,197	1,197	1,197
C7	Subtotal: Reduced risk with improved management of major releases	C6*B6	\$81,396	\$82,593	\$83,790
C8	Number of hours researching software versions for minor releases before Success Tracks	Interviews	20	20	20
C9	Number of network engineers	Composite	5	5	5
C10	Number of updates per year	Interviews	24	24	24
C11	Total hours per year	C8*C9*C10	2,400	2,400	2,400
C12	Percent reduction in hours spent researching software versions for minor releases with Success Tracks	Interviews	55%	55%	55%
C13	Total hours saved with Success Tracks	C11*C12	1,320	1,320	1,320
C14	Subtotal: Reduced risk with improved management of minor releases	C13*B6	\$89,760	\$91,080	\$92,400
Ct	Reduced risk with improved software upgrade management	C7+C14	\$171,156	\$173,673	\$176,190
	Risk adjustment	↓10%			
Ctr	Reduced risk with improved software upgrade management (risk-adjusted)		\$154,040	\$156,306	\$158,571
Three-year total: \$468,917			Three-year present value: \$388,352		

REDUCED RISK WITH IMPROVED ADVISORIES AND INQUIRIES MANAGEMENT

Evidence and data. Prior to using Success Tracks, network engineers read blog posts, websites, and other resources to determine which of their Cisco devices are affected by security threats. Success Tracks eliminated the need for hundreds of hours of research by identifying security threats and providing appropriate mitigation strategies. Success Tracks users reduced the number of hours per week they spent analyzing advisories and determining mitigation options by 90%.

- The senior network analyst at the insurance company remarked: “It used to literally take hours and now you can do it in minutes. I think that advisory and inquiries management for analyzing which update I should be on and what vulnerabilities I am going to close is one of the major advantages of Success Tracks. You can do it in 10 to 15 minutes.” The interviewee provided a detailed description of the challenge, stating: “This would take hours. I mean literally hours. Security would say there’s been a published zero-day vulnerability. We would like

you to investigate to see if your equipment is vulnerable. You've got to drop everything to determine your exposure, figure out what release to upgrade to next, and what the vulnerability is for your feature set. Figuring out all those little pieces of minutiae has been very challenging. Once you've got the information identified, what to go to, how you deploy it could take a couple of weeks depending upon where the devices were in your environment."

- The senior network engineer in the global law firm stated, "I would say we're saving a couple hours every few weeks by having a prioritized list of bug fixes."
- The network architect at the biotechnology company told Forrester, "It was following blogs or feeds of vulnerabilities and those sorts of things and pulling and filtering those."

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- With Success Tracks, the network engineers reduce the number of hours per week they spend on analyzing advisories by 90%.
- With five network engineers, they save 2,700 hours per year.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The number of hours spent analyzing advisories and determining mitigation options.

"It would be devastating to be without the advisories and inquiries management. Asset lifecycle management and the ability to identify what chassis I have that are covered under a support contract is huge. And then the ability to identify the next release to move to. Those are my three favorite things."

Senior network analyst, Insurance

- Organizational size and number of network assets will impact the amount of time network engineers spend on advisories and inquiries management. Thus, the improvement they realize from this benefit will vary accordingly.
- The hourly rate for network engineers.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$417,000.

Reduced Risk With Improved Advisories And Inquiries Management					
Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	Number of hours per week analyzing advisories and determining mitigation options before Success Tracks	Interviews	12	12	12
D2	Number of network engineers	Composite	5	5	5
D3	Total hours per year	$D1 \times D2 \times 50$	3,000	3,000	3,000
D4	Percent reduction in hours spent analyzing advisories and determining mitigation options with Success Tracks	Interviews	90%	90%	90%
D5	Total hours per year saved with Success Tracks	$D3 \times D4$	2,700	2,700	2,700
Dt	Reduced risk with improved advisories and inquiries management	$D5 \times B6$	\$183,600	\$186,300	\$189,000
	Risk adjustment	↓10%			
Dtr	Reduced risk with improved advisories and inquiries management (risk-adjusted)		\$165,240	\$167,670	\$170,100
Three-year total: \$503,010			Three-year present value: \$416,587		

COST SAVINGS FROM IMPROVED UPTIME FOR NONCRITICAL INTERNAL APPLICATIONS

Evidence and data. Most companies have experienced network downtime in the past three years. In some cases, the downtime impacts the productivity of a department or group of employees.² Network engineers interviewed in this study spent many hours researching software versions that had the potential to disrupt user applications, resulting in reduced productivity for the impacted employees and network engineering time to fix the problem. With Success Tracks, network engineers identified the devices requiring software updates and guidance on the best version to install.

The senior network engineer at the insurance company observed: “DNA Center has given us the ability to rapidly push out batches of upgrades to devices. Success Tracks and CX Cloud provide the intelligence to say, ‘Okay, these are the releases that you should target,’ so you can make intelligent decisions before you blow out a big update to a bunch of stuff.”

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- Prior to implementing Success Tracks, the composite organization experiences 6 hours of noncritical downtime per month.
- With Success Tracks, the organization achieves a 15% reduction in noncritical downtime, thereby avoiding 11 hours of noncritical downtime per year.
- These downtime events impact 200 employees who have an hourly fully burdened salary of \$60, and three network engineers who have an hourly fully burdened salary of \$68. Their salaries increase 2% year-over-year.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The size of the business and industry, length and timing of the outage, and employees.
- The salary of the network engineers and the impacted employees.
- The number of network engineers and the number of hours needed to fix the problem.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of \$147,000.

Cost Savings From Improved Uptime For Noncritical Internal Applications					
Ref.	Metric	Source	Year 1	Year 2	Year 3
E1	Noncritical downtime hours per month before Success Tracks	Composite	6	6	6
E2	Percent reduction in noncritical downtime hours per month with Success Tracks	Composite	15%	15%	15%
E3	Noncritical downtime hours avoided per year with Success Tracks	$E1 \cdot E2 \cdot 12$	11	11	11
E4	Number of end users impacted during downtime	Composite	200	200	200
E5	Average fully burdened hourly salary of end users impacted	TEI standard	\$60	\$61	\$62
E6	Subtotal: Cost savings related to end users at 50% productivity recapture	$E3 \cdot E4 \cdot E5 \cdot 50\%$	\$66,000	\$67,100	\$68,200
E7	Number of network engineers needed to remediate the event	Composite	3	3	3
E8	Subtotal: Cost savings related to engineers	$E3 \cdot E7 \cdot B6$	\$2,244	\$2,277	\$2,310
Et	Cost savings from improved uptime for noncritical internal applications	$E6 + E8$	\$68,244	\$69,377	\$70,510
	Risk adjustment	↓15%			
Etr	Cost savings from improved uptime for noncritical internal applications (risk-adjusted)		\$58,007	\$58,970	\$59,934
Three-year total: \$176,911			Three-year present value: \$146,499		

COST SAVINGS FROM IMPROVED UPTIME FOR CRITICAL APPLICATIONS

Evidence and data. The risks that equipment failures and security threats presented to the interviewees' companies were not just operational but also had a real impact on their bottom line, a long-term strain on the companies' reputation that could even cause a company shutdown. Critical applications impacted the sale or usability of the organizations' core products or services.

- In recent years, there have been an increasing number of high-profile security breaches at companies and government agencies, and security experts have warned about the growing risks of hackers, cybercriminals, and state actors launching a broad range of ransomware, data exfiltration, and other cyberattacks targeting information technology systems.³
- In IT research studies conducted in the past two years, most respondents calculated the average hourly cost of downtime at \$300,000. This hourly cost only included revenue per hour and labor costs. It did not include legal fees, criminal, or civil penalties the company may incur or any good-will gestures the firm elected to pay customers (e.g., discounted or free equipment or services).⁴
- After human error, the top three causes of downtime were equipment failure, security threats, and software updates.⁵
- The global network operations manager at the beverage company stated: "If a device that is not supported fails and it takes additional time to replace or fix that device because it's not supported by Cisco, we'd have to quantify it that way. It would be based in extended downtimes. If that network downtime results in some sort of impact to making beer or shipping beer or selling beer, that's how it would be quantified or that's a priority — one that has to get fixed as soon as possible."

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- Before implementing Success Tracks, the composite organization experiences four critical downtime events, each resulting in the loss of 4 hours of revenue producing time.
- When a \$2 billion division of the composite organization experiences a critical downtime event, it loses \$228,311 in revenue per hour, which increases 5% year-over-year.
- With Success Tracks, the composite experiences a 15% reduction in critical downtime events and in hours of revenue producing time lost per event. The organization avoids 5 hours of critical downtime per year.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- Organizational size and industry. The larger the organization, the higher the hourly cost of downtime. Heavily data-dependent industries will experience higher hourly downtime costs.
- The type of security breach.

“Success Tracks opens your eyes immediately about what products are covered and not covered and what their lifecycle is. Before you were always watching EOL notifications. You don’t have to do that anymore.”

Network architect, Biotechnology

- The salary of the network engineers and the impacted employees.
- The number of network engineers and the number of hours needed to fix the problem.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of \$575,000.

Cost Savings From Improved Uptime For Critical Applications					
Ref.	Metric	Source	Year 1	Year 2	Year 3
F1	Critical downtime events per year before Success Tracks	Composite	4	4	4
F2	Hours of revenue producing time lost per critical downtime event before Success Tracks	Composite	4	4	4
F3	Revenue per hour	Composite	\$228,311	\$239,727	\$251,713
F4	Revenue lost per critical downtime event before Success Tracks	$F1 \cdot F2 \cdot F3$	\$3,196,354	\$3,356,178	\$3,523,982
F5	Percent reduction in critical downtime events with Success Tracks	Composite	15%	15%	15%
F6	Critical downtime events per year with Success Tracks	$F1 \cdot (1 - F5)$	3	3	3
F7	Percent reduction in hours of revenue producing time lost per critical downtime events with Success Tracks	Composite	15%	15%	15%
F8	Hours of revenue producing time lost per critical downtime events with Success Tracks	$F2 \cdot (1 - F7)$	3	3	3
F9	Revenue lost per critical downtime event with Success Tracks	$F6 \cdot F8 \cdot F3$	\$2,054,799	\$2,157,543	\$2,265,417
F10	Subtotal: Recaptured revenue from downtime avoided with Success Tracks at 20% gross margin	$F4 - F9 \cdot 0.2$	\$228,311	\$239,727	\$251,713
F11	Number of end users impacted during downtime	Composite	200	200	200
F12	Average fully burdened hourly salary of end users impacted	TEI standard	\$60	\$61	\$62
F13	Critical downtime hours avoided per year with Success Tracks	$(F1 \cdot F2) - (F6 \cdot F8)$	5	5	5
F14	Subtotal: Cost savings related to end users at 50% productivity recapture	$F11 \cdot F12 \cdot F13 \cdot 50\%$	\$30,000	\$30,500	\$31,000
F15	Number of network engineers needed to remediate an event and investigate root cause	Composite	4	4	4
F16	Number of hours to investigate root cause of downtime	Composite	8	8	8
F17	Critical downtime events avoided with Success Tracks	$F1 \cdot F5$	1	1	1
F18	Subtotal: Cost savings related to engineers	$F15 \cdot F16 \cdot F17 \cdot B6$	\$2,176	\$2,208	\$2,240
Ft	Cost savings from improved uptime for critical applications	$F10 + F14 + F18$	\$260,487	\$272,435	\$284,953
	Risk adjustment	↓15%			
Ftr	Cost savings from improved uptime for critical applications (risk-adjusted)		\$221,414	\$231,570	\$242,210
Three-year total: \$695,194			Three-year present value: \$574,641		

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Proactively planning software updates.** With Success Tracks, network engineers proactively recommend software version updates before their security departments tell them to act. The senior network analyst at the insurance company stated: “I really like being able to have the conversation with the security team saying that we already know about that. We have this covered. We have a plan for it and here’s the plan and we’ll have it done in three weeks. And they really like it too.”
- **Maintaining network availability and performance for user satisfaction.** The tools that Success Track provides reduce the likelihood of unsupported devices, suboptimal software versions, and neglected security vulnerabilities, which are amongst the top causes of network downtime. The global network operations manager of the beverage company observed: “The value of avoiding end of support would be based in extended downtimes. I can think of a time that when one of our breweries was down for five hours.”
- **Improving peer relationships.** Success Tracks facilitates communication between network engineers and other internal departments that use different terminology to identify network devices. The senior network analyst at the insurance company explained: “My asset manager and my partner for support deal in serial numbers for products. Network engineers don't use serial numbers to identify products. We go by the names; we give them IP addresses. So, the ability to relate those serial numbers to the names and the IP addresses of the device allows the operations teams, the people that work closely with the equipment, to talk to the asset

management folks and the people that have to order it and support it. It's literally like a Rosetta Stone. It allows us to be on the same page.”

- **Increasing value-added work.** Success Tracks enables users to spend more time on enjoyable strategic work by substantially reducing the time required to perform mundane device inventory work and security research. The senior network analyst at the insurance company observed: “I get more involved in architecture stuff as opposed to dealing with lists of equipment. The fun stuff that I like to do, the network engineering type of stuff.”

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Success Tracks and later realize additional uses and business opportunities, including:

- **Greater agility.** Prior to the adoption of Success Tracks, interviewees did not always have time to make adequate assessments of the threats announced in advisories. Success Tracks enabled users to feel more agile by providing fast access to needed information and also increased user confidence in their recommendations for mitigation on threat advisories. The senior network engineer at the global law firm told Forrester: “I think agility would be one thing. Getting the information faster, being more flexible with it. Like I said, being able to see everything we have access to now, but at worst, it would have taken time before. You might not necessarily have the time to devote to it or sometimes, you just have to make a Hail Mary and just do it without spending the time, but now, it's there so you really have no reason not to, because we can have much easier access to information.”
- **Service evolution.** Interviewees believed that Success Tracks would continue to evolve and provide additional value as new features were

introduced based on user feedback. The network architect at the biotechnology company stated: “Since it is cloud delivered, you’re not reliant on having to maintain that infrastructure. So, Cisco can add additional features for you at minimal cost and effort, and from your standpoint, things can start to change. As we influence the product and help steer CX from that aspect and as they add enhancements, we sort of start to see those things pop up.”

- **Expert guidance.** Success Tracks offered several avenues for obtaining support for challenging technical questions. These ranged from expert best practices webinars to one-on-one coaching from experts and support communities. Interviewees, who have years of experience in network operations, tended to rely on their established ways of gaining assistance with technical challenges and were slow to take advantage of the new resources in Success Tracks. Interviewees realized that they should try out the new resources and planned to do so as they expand their usage of Success Tracks. Users already realized the benefits of having multiple support functions in a single solution. The network architect at the biotechnology company stated: “We have not done that aspect of it and it’s one of those things that I keep looking at and thinking I really should do this. This seems like one of those things that that just makes sense. We have these things included. We should try it out and see. It seems like a straightforward process to be able to guide you through that process.”

Analysis Of Costs

■ Quantified cost data as applied to the composite

Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Gtr	Success Tracks annual services contract	\$0	\$145,000	\$152,250	\$159,863	\$457,113	\$377,752
Htr	Initial setup, training, and ongoing management costs	\$3,665	\$60,588	\$124,856	\$189,035	\$378,144	\$303,956
	Total costs (risk-adjusted)	\$3,665	\$205,588	\$277,106	\$348,898	\$835,256	\$681,708

SUCCESS TRACKS ANNUAL SERVICES CONTRACT

Evidence and data. The services contract for the interviewees' organization was based on the Success Tracks support level and the number of Cisco assets covered.

- Interviewees' annual support contracts for Success Tracks Level 2 ranged from \$51,000 for the biotechnology company with \$450 million in annual revenue to \$235,000 for the beverage company with \$11 billion in annual revenue.
- The senior network engineer at the global law firm observed: "Success Tracks is not that much more than the regular level of support. If I were to buy a 24x7x4 SmartNet maintenance contract, the corresponding CX level of coverage, which entitles me to 24x7x4, was not much more expensive."
- The network architect at the biotechnology company explained: "It does cost more than your standard SmartNet contracts, but it's part of that aspect. When you start looking at the asset management, you start to see that the incremental cost is worth it. It's not going to cost twice as much such that you need to think about

it. It was a small enough upcharge that no one really thought about it from that aspect. We're including it with the purchases of all lifecycle products."

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- The composite has an annual support contract cost of \$145,000 for Success Tracks, which increases 5% year-over-year.
- The support contract covers Level 2 support for 6,000 Cisco devices.

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The number of assets supported.
- The number of locations.
- The support level that the organization chooses.

Results. The annual services contract for the composite was quoted by Cisco, therefore Forrester did not apply a risk adjustment to this cost. The three-year PV is \$378,000.

Success Tracks Annual Services Contract						
Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
G1	Success Tracks annual services contract	Cisco		\$145,000	\$152,250	\$159,863
Gt	Success Tracks annual services contract	G1	\$0	\$145,000	\$152,250	\$159,863
	Risk adjustment	0%				
Gtr	Success Tracks annual services contract (risk-adjusted)		\$0	\$145,000	\$152,250	\$159,863
Three-year total: \$457,113			Three-year present value: \$377,752			

INITIAL SETUP, TRAINING, AND ONGOING MANAGEMENT COSTS

Evidence and data. For the initial setup, the lead network engineer at interviewees’ organizations connected CX Cloud to the DNA Center. Success Tracks users received 5 hours of initial training by the lead network engineer and additional training of 1 hour per month to further their knowledge of CX Cloud. Ongoing management entailed using Success Tracks for implementing software updates and investigating security alerts.

- The senior network engineer in the global law firm observed: “I think I had the basics in a couple of days and that’s not eight hours a day, maybe three to four days with playing around with it and a couple of hours here and a couple of hours there. You get the real basics of it and then you just expand on your knowledge and experience as you work with it.”.
- The senior network analyst at the insurance company told Forrester: “Over six months, maybe 20 to 30 hours [learning CX Cloud]. I've spent probably five or six hours’ time educating different people on how to use it. I suspect my 11 colleagues will spend 10, 15, or 20 hours learning CX Cloud. I want everybody to be familiar with the product. I don’t want to be the sole keeper of this information. I want my team to understand it.”

Modeling and assumptions. For the composite organization, Forrester assumes the following:

- The composite organization spends 24 hours for the initial setup of CX Cloud.
- New users receive 5 hours of initial training.
- Users receive one additional hour of training per month for 12 months.
- Network engineers spend 3 hours per week using Success Tracks implementing software updates, investigating security alerts, submitting support cases, and managing asset lifecycles.

“If you have more than a couple of hundred pieces of equipment, this is super valuable. The security vulnerabilities, the risk management components, the ability to identify features in a particular [operating system] release are all huge things that are hard to do manually.”

Senior network analyst, insurance

Risks. Factors that may impact the magnitude of this benefit category include the following:

- The number of hours spent on training and ongoing management.
- The number, age, and type of Cisco devices, and the size and growth of the networking engineering staff.

- Network engineers' salary.

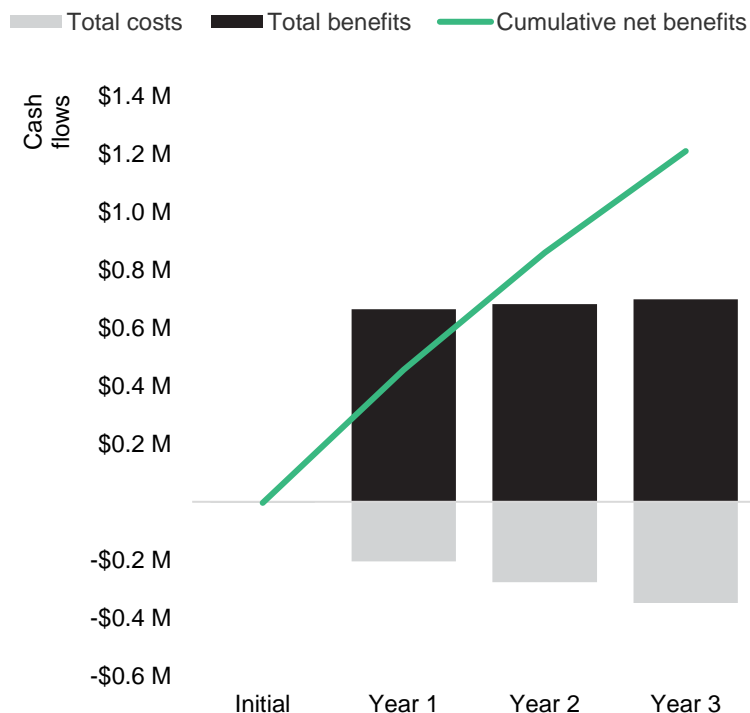
Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of \$304,000.

Initial Setup, Training, And Ongoing Management Costs						
Ref	Metric	Source	Initial	Year 1	Year 2	Year 3
H1	Initial setup Cisco Success tracks (hours)	Interviews	24			
H2	Initial training for Success Tracks users (hours)	Interviews	5		5	5
H3	Number of Success Tracks users requiring initial training	Composite	5		5	5
H4	Ongoing training for Success Tracks users (1 hour per month per user)	Interviews		12	12	12
H5	Aggregate number of Success Tracks users requiring ongoing training	H3		5	10	15
H6	Average fully burdened hourly salary for network engineers	B6	\$68	\$68	\$69	\$70
H7	Subtotal: Costs of setup and training	$(H1+(H2*H3)+(H4*H5))*H6$	\$3,332	\$4,080	\$10,005	\$14,350
H8	Weekly hours spent on ongoing management	Interviews	0	3	3	3
H9	Subtotal: Costs of ongoing management	$H5*H6*H8*50$	\$0	\$51,000	\$103,500	\$157,500
Ht	Initial setup, training, and ongoing management costs	H7+H9	\$3,332	\$55,080	\$113,505	\$171,850
	Risk adjustment	↑10%				
Htr	Initial setup, training, and ongoing management costs (risk-adjusted)		\$3,665	\$60,588	\$124,856	\$189,035
Three-year total: \$378,144			Three-year present value: \$303,956			

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(\$3,665)	(\$205,588)	(\$277,106)	(\$348,898)	(\$835,256)	(\$681,708)
Total benefits	\$0	\$664,614	\$681,398	\$698,666	\$2,044,677	\$1,692,251
Net benefits	(\$3,665)	\$459,026	\$404,292	\$349,768	\$1,209,421	\$1,010,543
ROI						148%
Payback period (months)						<6

Appendix A: Total Economic Impact

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.

TOTAL ECONOMIC IMPACT APPROACH

Benefits represent the value delivered to the business by the product. The TEI methodology places 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.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in 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.



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.



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.



RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.



DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.



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.

Appendix B: Endnotes

¹ 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.

² Source: Forrester Analytics Global Business Technographics ® Security Survey, 2019.

³ Source: Chuck Brooks, "Cybersecurity in 2022 — A Fresh Look at Some Very Alarming Stats," Forbes, January 21, 2022.

⁴ Source: "ITIC 2021 Global Server Hardware, Server OS Reliability Report," Information Technology Intelligence Consulting, June/July 2021.

⁵ Source: Ibid.

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