

A Forrester Total Economic Impact™
Study Commissioned By Resolve Systems
July 2017

The Total Economic Impact™ Of Resolve Systems' Incident Response Automation Solution

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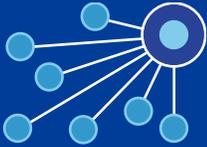
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Executive Summary

Quantified Benefits



Cost reduction labor savings:
\$4,621,788



Cost avoidance labor savings:
\$7,671,074



Total quantified benefits:
\$12,292,863
(risk- and PV-adjusted)

Resolve Systems provides an enterprise-wide incident resolution solution that helps customers accelerate and improve incident resolution and first call resolution. It's designed specifically for network, security, and IT operations teams dealing with large volumes of incidents. It allows operations teams to automate resolution procedures, as well as empower frontline agents with human-guided automations and guided procedures to resolve incidents without the need for costly and time-consuming escalations.

Resolve Systems commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and objectively examine the potential return on investment (ROI) enterprises may realize by deploying the Resolve Cloud Incident Response Automation solution. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Incident Response Automation solution on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed two Resolve Systems customers with three to five years of experience using the Resolve Systems' solution. Previous to investing in Resolve Systems' solution, these interviewed customers had numerous manual processes that were augmented by homegrown tools that were developed in multiple software languages. The Resolve Systems' solution replaced almost all of these legacy tools and processes.

Based on the interviews, Forrester constructed a TEI framework, a composite Organization, and an associated ROI analysis that illustrates the areas financially affected. The composite *Organization* is representative of the two companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. See the Composite *Organization* section for more details.

Key Findings

Quantified benefits. Similar to the interviewed customers, the composite *Organization* experienced the following risk-adjusted and present value quantified benefits (see the Financial Analysis section for more details):

- › **Labor savings — significant cost reduction savings (\$4,621,788).** In this study, cost reduction labor savings is defined as maintaining existing volumes of work while reducing headcount. In this case, it is a direct result of investing in Resolve Systems' automation solution. With the solution's trackable metrics, the *Organization* can track and report on specific costs and cost reduction by task, and across the 10 different service desks. It can also track exactly how many staff are needed based on volumes.
- › **Labor savings — significant cost avoidance savings (\$7,671,074).** In this study, cost avoidance labor savings is defined as being able to absorb higher volumes of work without the need to add headcount due to the investment in Resolve Systems' automation solution. The *Organization* uses the Resolve Systems' solution in its operations across 10 service desks and 1,000 agents. It adds about one or two service desks every couple of years through acquisition.



ROI
248%



Benefits PV
\$12.3 million



NPV
\$8.7 million



Payback
one month

Unquantified benefits. The *Organization* experienced the following benefits, which are not quantified in this study:

- › **Customer satisfaction.** The *Organization's* average alarm acknowledgement time went down from 1,889 minutes (31 hours) before the Resolve Systems' solution to below 1 minute with the solution. MTTR improved significantly but was not measurably tracked. This resulted in a significant increase in customer satisfaction and a reduction in churn. Forrester did quantify the savings with the automation of tasks; see the section titled Cost Avoidance Labor Savings.
- › **Consistent processes.** The *Organization's* incident response processes were not clearly documented and were found to be inconsistent across experienced engineers and technicians. The Resolve Systems' solution helped standardize processes, which, in turn, has improved employee morale and customer satisfaction.

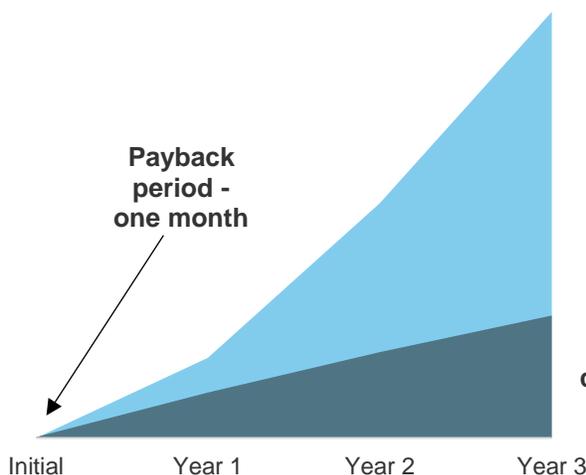
Costs. The *Organization* experienced the following present value costs:

- › **Labor to implement and administer Resolve Systems (\$443,591).** This includes internal labor to perform technical development, pre-planning, implementation, and ongoing administration of the Resolve Cloud solution.
- › **Resolve Systems' fees (\$3,090,043).** This includes Resolve Systems' fees for Resolve Cloud subscription services, professional services and training.

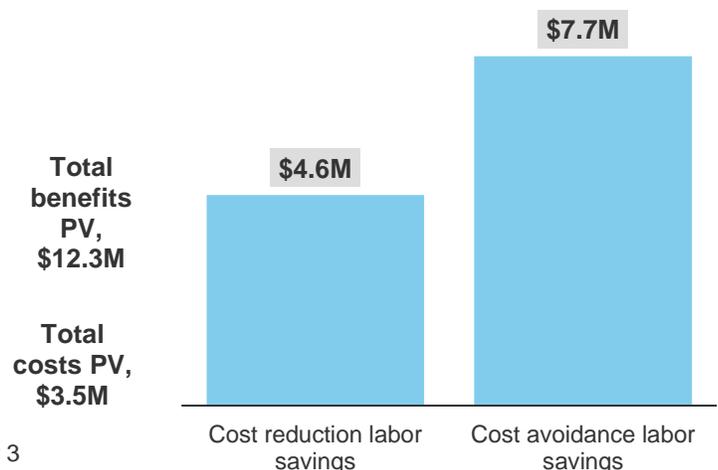
Forrester's interviews and subsequent financial analysis found that the *Organization* experienced total benefits of \$12,292,863 over three years versus costs of \$3,533,634, adding up to a net present value (NPV) of \$8,759,228, with a payback period of one month and an ROI of 248%.

If risk-adjusted costs, benefits, and ROI still demonstrate a compelling business case, it raises confidence that the investment is likely to succeed because the risks that threaten the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as "realistic" expectations, as they represent the expected value considering risk. Assuming normal success at mitigating risk, the risk-adjusted numbers should more closely reflect the expected outcome of the investment.

Financial Summary



Benefits (Three-Year)



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 Framework And Methodology

From the information provided in the interview, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering investing in the Resolve Systems' Incident Response Automation solution.

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 the Resolve Systems' Incident Response Automation solution can have on an organization:



DUE DILIGENCE

Interviewed Resolve Systems' stakeholders to gather data relative to the Incident Response Automation solution.



CUSTOMER INTERVIEW

Interviewed two customers using the Incident Response Automation solution to obtain data with respect to costs, benefits, and risks.



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 interviewed customers.



CASE STUDY

Employed four fundamental elements of TEI in modeling the Resolve Systems' Incident Response Automation solution's impact: 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 A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Resolve Systems 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 the Resolve Systems' Incident Response Automation Solution.

Resolve Systems 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.

Resolve Systems provided the customer name for the interview but did not participate in the interview.

The Incident Response Automation Solution Customer Journey

BEFORE AND AFTER THE RESOLVE SYSTEMS INCIDENT RESPONSE AUTOMATION SOLUTION INVESTMENT

For this study, Forrester conducted interviews with two Resolve Systems' Incident Response Automation solution customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	NUMBER OF AGENTS
Communications	Headquartered in the US	Network systems manager	14 service desks and over 1,000 service desk agents
Communications	Headquartered in the US	Director of engineering	1,000 service desk agents

Composite *Organization*

Based on the interviews, Forrester constructed a TEI framework, a composite *Organization*, and an associated ROI analysis that illustrates the areas financially affected. The composite *Organization* is representative of the two companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The *Organization* is using the Resolve Cloud solution has the following characteristics:

- › **Description of composite *Organization*.** It is a US-based, multibillion-dollar business-to-consumer (B2C) and business-to-business (B2B) company that provides sales, customer support, and service/warranty support for its products in high volume. The *Organization* has a strong brand, a large customer base, and a strong online and offline presence. Prior to investing in the Resolve Systems' solution, it conducted a comprehensive vendor selection process resulting in it choosing the Resolve Systems' Incident Response Automation solution. The driving factors were cost, flexibility, reliability, high availability, social collaboration, scalability, and high integration capabilities with existing systems.
- › **Deployment characteristics.** The *Organization* uses the Resolve Systems' Incident Response Automation solution in its operations across 10 service desks and 1,000 agents. It adds about one or two service desks every couple of years through acquisition.
- › **Systems that integrate with the Resolve Systems' solution.** Resolve Systems integrates with the following systems: security management, service management, event management, system/network management, DevOps and configuration management, network devices, knowledge management, ticketing system, IT process automation and business intelligence, inventory, topology, trouble ticket dispatch, performance, change management, and network test management system (NTMS) or test heads.



Key assumptions

- › 1,000 agents
- › 10 service centers
- › Average acknowledgement time:
 - Before Resolve: 31 hours
 - With Resolve: 1 minute

- › **Vendor devices that it provides coverage for.** The *Organization's* service desk staff is challenged with being responsible for over 100 network service provider equipment vendors, including routers, switches, digital subscriber line access multiplexers (DSLAMs), and voice switches.

Key Challenges And Opportunities

The *Organization* shared the following issues, drivers, challenges, goals, and opportunities with the interviewed customers:

- › **Expensive incident escalation.**
- › **Too much time to resolve issues.** This hurt the customer experience.
- › **Too much event noise.** This resulted in missed incidents and operational inefficiencies.
- › **Not all incidents created equal.** Some have a high impact on the business, while others are simple, repetitive incidents.
- › **A requirement to reduce operational cost while growing.** The *Organization* had a mandate to reduce headcount and operational costs, but the network environment was still growing. As the network grew, there were more networks, more alarms, more outages, and more incidents — and the expectation was to manage that growth with fewer resources.
- › **Not meeting key performance indicators (KPIs).** KPIs such as mean time to acknowledge an alarm was very high, and mean time to repair (MTTR) was also too high. Immediate growth in networks was going to come with new product expansion. The *Organization* lacked confidence that it could support a new product when it wasn't meeting its KPIs for the old products.
- › **Customer satisfaction taking a hit.** With customer satisfaction decreasing, the *Organization* experienced some churn.
- › **Reduced employee morale.** The *Organization* was developing employee morale issues, based on internal survey results that cited poor customer service and complaints and inconsistent incident responses.
- › **Inconsistent processes.** The *Organization's* incident response processes were not clearly documented and were found to be inconsistent across experienced engineers and technicians. Resolve Systems has helped standardize processes, which, in turn, has improved employee morale and customer satisfaction.
- › **Data residing in multiple systems.** Prior to Resolve Systems, the *Organization* had to manage data from multiple systems, such as the alarm system, trouble ticket system, inventory system, and dispatch system.

Key Results

The interviews revealed several key results attributed to the Resolve Systems' Incident Response Automation solution, as follows:

- › **Trackable metrics.** The *Organization* is now able to track incident response processes and metrics. Examples include: How many alarms were acknowledged and what was the average time to acknowledge? How many trouble tickets were created and how long did it take to create them? How many devices did we log into and perform triage and diagnostic repair functions to validate alarm conditions? And how many dispatches did we invoke?
- › **End-to-end process automation.** For the first service desk center, the *Organization* automated all that was feasible. And of that work that's been automated, Resolve Systems automated the entire end-to-end process.
- › **Acceleration of incident response and resolution.** Resolve Systems provides agents with human-guided automations, real-time incident collaboration, and the ability to both partially and fully automate processes. Although the interviewed customer was not tracking time to resolution, readers should be tracking this important metric.
- › **Significant and ongoing cost avoidance and cost reduction.** With the trackable metrics described above, the *Organization* can report on cost avoidance and cost reduction by task and by service desk. It can track exactly how many staff are needed based on volumes.
- › **Consistent processes.** The *Organization's* incident response processes are now clearly documented and available across all engineers and technicians. Resolve Systems has helped standardize processes, which, in turn, has improved employee morale and customer satisfaction.

"We're using the Resolve solution in a way that enhances the technician's ability. We're still enabling our technicians to be craftsmen in a way that they resolve and interact with a customer. And we are also facilitating a more robust standards-based engine that feeds information to them so that they can make good decisions. And that's really what it's all about is making good decisions on behalf of your customers."

*Director of engineering,
communication company*



Financial Analysis

QUANTIFIED BENEFIT AND COST DATA

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Cost reduction labor savings	\$728,000	\$2,475,200	\$2,548,000	\$5,751,200	\$4,621,788
Btr	Cost avoidance labor savings	\$1,820,000	\$2,912,000	\$4,804,800	\$9,536,800	\$7,671,074
Total benefits (risk-adjusted)		\$2,548,000	\$5,387,200	\$7,352,800	\$15,288,000	\$12,292,863

Cost Reduction Labor Savings

Cost reduction labor savings is defined as maintaining existing volumes of work while reducing headcount. In this case, it is a direct result of investing in Resolve Systems' automation solution.

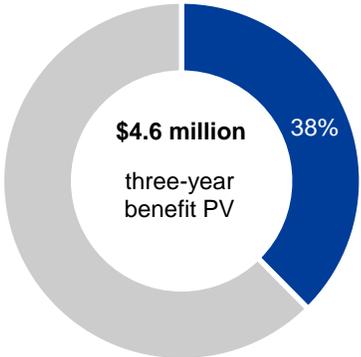
With the solution's trackable metrics, the *Organization* can track and report on specific costs and cost reduction by task. It can also track exactly how many staff are needed based on volumes.

The *Organization* uses Resolve Systems' Incident Response Automation solution in its operations across 10 service desks and 1,000 agents. It adds about one or two service desks every couple of years through acquisition. Our interviews revealed that:

- › **Tracking metrics told a troubling story.** The average alarm acknowledgement time was an unacceptably high, at 1,889 minutes. That's a little over 31 hours to get to an alarm when a customer is down. The *Organization* has a MTTR goal of restoring customers in less than 4 hours. Before Resolve Systems, it was taking 31 hours to get to those existing alarms due to lack of automation.
- › **Average acknowledgement time improved dramatically with Resolve Systems.** For the initial use of the automation solution, the *Organization* programmed Resolve Systems to become a pseudo-engineer. The Resolve solution acknowledged an alarm, created the trouble ticket, logged into the device, validated the alarm condition, updated the diagnostic notes in the trouble ticket, and executed resolution procedures. The average acknowledgement time went from 1,889 minutes to 1 minute using the Resolve Systems' Incident Response Automation solution. MTTR improved significantly but was not measurably tracked.
- › **The *Organization* experienced significant ongoing cost reduction.** With the tracking metrics described above, the *Organization* can report on cost reduction by task and by service desk. It can also track exactly how many staff are needed based on volumes.

The average fully loaded cost per service desk technician is \$91,000, and the *Organization* reduced service desk headcount by the data in row A2 in the table below, equaling the risk-adjusted total dollars in row Atr.

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the *Organization* expects risk-adjusted total benefits to be a PV of more than \$12.2 million.



Cost reduction labor savings — 38% of total benefits

Modeling and assumptions. The Resolve Cloud solution (SaaS) allowed for fast implementation as represented in Row A2. Forrester assumed an industry average fully loaded cost of \$91,000 for the service desk staff.

Risks. Forrester considered the following potential risks when assigning a risk adjustment:

- › Other organizations may see delays in attrition of redundant headcount, resulting in delays in achieving the savings.
- › Readers' labor costs may be less than \$91,000 (fully loaded), thereby reducing the labor savings benefits.
- › Other organizations may experience slower rollout and adoption of the functionality of Resolve Systems' solution.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year risk-adjusted total PV of \$4,621,788.

Cost Reduction Labor Savings

REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
A1	Average fully loaded cost of help desk technicians	Interviews	\$91,000	\$91,000	\$91,000
A2	Headcount cost reduction (full-time equivalents [FTEs])	Interviews	10.0	34.0	35.0
At	Cost reduction labor savings	A1 * A2	\$910,000	\$3,094,000	\$3,185,000
	Risk adjustment	↓20%			
Atr	Cost reduction labor savings (risk-adjusted)		\$728,000	\$2,475,200	\$2,548,000

Cost Avoidance Labor Savings

In this study, cost avoidance savings is defined as being able to absorb higher volumes of work without needing to add headcount due to an investment in Resolve Systems' solution.

The *Organization* uses the Resolve Systems' Incident Response Automation solution in its operations across 10 service desks and 1,000 agents. It adds about one or two service desks every couple of years through acquisition.

Previous to deploying the Resolve Systems' solution, the *Organization* forecasted that future alarm volumes would increase significantly. At the same time, it was being asked to reduce IT headcount. Our interviews revealed that:

- › **Tracking metrics told a troubling story.** The average alarm acknowledgement time was an unacceptably high 1,889 minutes. That's a little over 31 hours to get to an alarm when a customer is down. The *Organization* has a MTTR goal of restoring customers in less than 4 hours. Before Resolve Systems, it was taking 31 hours to get to those existing alarms due to a shortage of headcount. The *Organization* deployed Resolve Systems to support all the new networks that were going in and the sheer volume of alarms that it was getting. MTTR improved significantly but was not measurably tracked.

"Our average alarm acknowledgement time went down from 1,889 minutes (31 hours) before the Resolve Systems' solution to below 1 minute with the solution. Our MTTR improved significantly but was not measurably tracked."

*Network systems manager,
communications company*



For the initial use of the automation solution, The *Organization* programmed Resolve Systems to become a pseudo-engineer. It acknowledged an alarm, created the trouble ticket, logged into the device, validated the alarm condition, updated the diagnostic notes in the trouble ticket and dispatched the technician. The average acknowledgement time went from 1,889 minutes to one minute using the Resolve Systems' Incident Response Automation solution.

› **With Resolve Systems, the *Organization* saved on labor costs.**

The average fully loaded cost per service desk technician is \$91,000. The *Organization* reduced service desk headcount by the data in rows B2 and B3 in the table below, equaling the risk-adjusted total dollars in row Btr.

› **With Resolve Systems, the *Organization* improved customer wait times and increased technician productivity.** Service desk staff used to spend 6 minutes manually gathering data from a broad spectrum of infrastructure services to diagnose customer issues. The Resolve Systems' solution now does the same task in 4 seconds, improving customer wait times and increasing technician productivity.

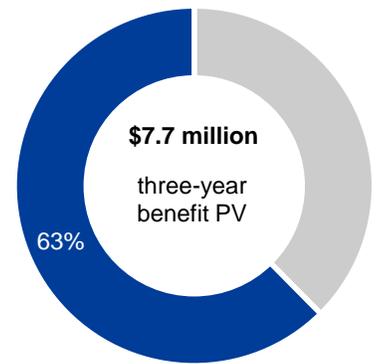
The average fully loaded cost per service desk technician is \$91,000, and the *Organization* reduced service desk headcount by the data in row B2 in the table below, equaling the risk-adjusted total dollars in row Btr.

Modeling and assumptions. The Resolve Cloud solution (SaaS) allowed for fast implementation as reflected in Row B2. Forrester assumed an industry average fully loaded cost of \$91,000 for the service desk staff.

Risks. Forrester considered the following potential risks when assigning a risk adjustment:

- › Other organizations may see delays in attrition of redundant headcount, resulting in delays in achieving the savings.
- › Readers' labor costs may be less than \$91,000 (fully loaded), thereby reducing the labor savings benefits.
- › Other organizations may experience slower rollout and adoption of the functionality of Resolve Systems' solution.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year risk-adjusted total PV of \$7,671,074.



Cost avoidance labor savings — 63% of total benefits

Cost Avoidance Labor Savings

REF.	METRIC	CALC./SOURCE	YEAR 1	YEAR 2	YEAR 3
B1	Average fully loaded cost of help desk technicians	Interviews	\$91,000	\$91,000	\$91,000
B2	Ongoing FTE avoidance	Interviews	25	40	66
B3	Ongoing FTE cost avoidance savings	B1 * B2	\$2,275,000	\$3,640,000	\$6,006,000
Bt	Cost avoidance labor savings	B3	\$2,275,000	\$3,640,000	\$6,006,000
	Risk adjustment	↓20%			
Btr	Cost avoidance labor savings (risk-adjusted)		\$1,820,000	\$2,912,000	\$4,804,800

Unquantified Benefits

Unquantified benefits. The *Organization* experienced the following benefits, which are not quantified in this study:

- › **Customer satisfaction.** The *Organization's* average alarm acknowledgement time went down from 1,889 minutes (31 hours) before the Resolve Systems' solution to below 1 minute with the solution. MTTR improved significantly but was not measurably tracked. This resulted in a significant increase in customer satisfaction and a reduction in churn. Forrester did quantify the labor savings associated with the automation of tasks; see the section titled Cost Avoidance Labor Savings.
- › **Consistent processes.** The *Organization's* incident response processes were not clearly documented and were found to be inconsistent across experienced engineers and technicians. Resolve Systems has helped standardize processes, which, in turn, has improved employee morale and customer satisfaction.

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are scenarios in which a customer might choose to implement Resolve Systems' solution and later realize additional uses and business opportunities. Here's a future flexibility option that the *Organization* is considering:

- › **Better customer experience.** In the future, the Resolve Systems' Incident Response Automation solution will allow for a better customer experience. When a customer calls into the service desk, there is a significant knowledge gap between the reason for the call and what the technician understands on the other end. The Resolve Systems' solution provides the single pane of glass to present data from and across the *Organization's* many integrated systems (e.g., service management, event management, system/network management, configuration management, network devices, knowledge management, ticketing system, IT process automation and business intelligence, inventory, topology, trouble ticket dispatch, and change management).

This single pane of glass give technicians the ability to more effectively validate the problem and collaborate with the customer on a resolution. For each incoming call, the Resolve Systems' solution creates a data mining exercise in the background while the technician is establishing those fundamental pieces of information that essentially levels the playing field and enhances the customers' experiences. Here's what a conversation may sound like: "Oh, here is your bandwidth graph for the past two hours." "Yes, I see that you are not passing traffic." This is valuable information that reassures a customer, "Hey, you know what? We understand what your problem is and I'm able to see real-time information that either validates or refutes your claim and can point us toward a path to resolution very quickly."

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

"For the first help desk center, we've automated 80% of the work. And of that work that's been automated, 80% is touchless, meaning we've automated the entire end-to-end process. Our goal is to be touchless and pure automation. We do not intend on having a large tier one staff once we complete the deployment of the Resolve environment."

*Network systems manager,
communications company*



Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a 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.



How much time to implement and realize the benefits?

Only four weeks of effort across two individuals.

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Ctr	Resolve Systems' customer administration	\$25,800	\$168,000	\$168,000	\$168,000	\$529,800	\$443,591
Dtr	Resolve Systems' fees	\$0	\$1,242,552	\$1,242,552	\$1,242,552	\$3,727,656	\$3,090,043
	Total costs (risk-adjusted)	\$25,800	\$1,410,552	\$1,410,552	\$1,410,552	\$4,257,456	\$3,533,634

Internal Labor To Administer Resolve Systems' Cloud Solution

This cost includes internal labor to perform technical development, pre-plan the deployment, and support and administer the solution:

- › **Pre-planning the implementation.** The *Organization* conducted pre-planning activities over a three-month period; however, it totaled only four weeks of actual effort across two individuals. In addition, Resolve Systems provided professional services support during pre-planning activities.
- › **Internal labor to administer Resolve Cloud Solution.** This internal labor helped manage the relationship with Resolve Systems, and the internal questions or issues that were escalated.
- › **Modeling and assumptions.** Forrester assumed an industry average fully loaded cost of \$140,000 for technical development, pre-planning the deployment, and support and administration of Resolve Systems' solution.

Risks. Forrester considered the following potential risks when assigning a risk adjustment:

- › The costs to other organizations may be greater considering the variable cost of hardware, software, and labor in the marketplace.

Forrester adjusted this cost upward by 20%, yielding a three-year risk-adjusted total PV of \$443,591.

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the organization expects risk-adjusted total costs to be a PV of \$3,533,634.

"I consider Resolve Systems to be my premier partner. They listen to me. They're responsive to me, addressing issues that I have and providing solutions. The reasons I consider Resolve Systems as my premier partner — the problems that they help me with — they're not always revenue-generating opportunities for them to gain more money from me."

*Network systems manager,
communications company*



Internal Labor To Administer Resolve Systems' Cloud Solution

REF.	METRIC	CALC./SOURCE	INITIAL	YEAR 1	YEAR 2	YEAR 3
C1	Pre-planning the deployment	4 weeks of effort * two FTEs	\$21,500	\$0	\$0	\$0
C2	Administering Resolve Systems' solution	1 FTE	\$0	\$140,000	\$140,000	\$140,000
Ct	Labor to administer Resolve Systems' solution	C1 + C2	\$21,500	\$140,000	\$140,000	\$140,000
	Risk adjustment	↑20%				
Ctr	Labor to administer Resolve Systems' solution (risk-adjusted)		\$25,800	\$168,000	\$168,000	\$168,000

Resolve Cloud Fees

This includes Resolve Systems' fees for Resolve Cloud subscription services, professional services and training.

See the benefits section for more details on the labor savings associated with Resolve Systems.

Modeling and assumptions. The fees were provided by Resolve Systems and could not be confirmed by Forrester. Fees are represented in the table below.

Risks. Forrester risk adjusted upward by 20% Resolve's Cloud fees due to our inability to confirm fees, and variability in customer discounts.

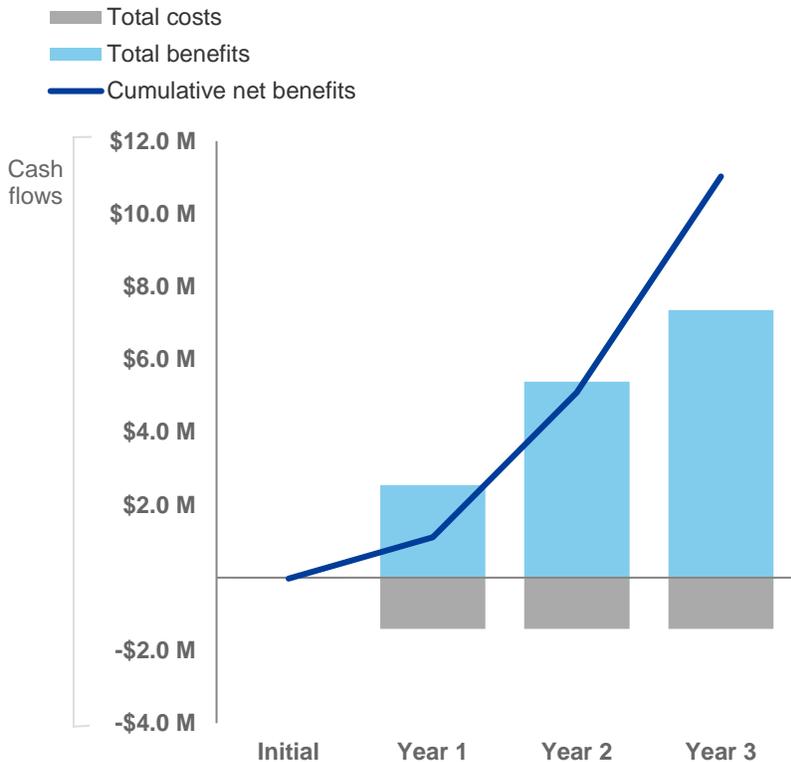
Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Resolve Systems' Fees						
REF.	METRIC	CALC./SOURCE	INITIAL	YEAR 1	YEAR 2	YEAR 3
Ct	Resolve Systems' fees for Resolve Cloud subscription services, professional services and training	Resolve Systems	\$0	\$1,035,460	\$1,035,460	\$1,035,460
	Risk adjustment	20%				
Ctr	Resolve Systems' fees (risk-adjusted)		\$0	\$1,242,552	\$1,242,552	\$1,242,552

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS - ORGANIZATION

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 Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	(\$25,800)	(\$1,410,552)	(\$1,410,552)	(\$1,410,552)	(\$4,257,456)	(\$3,533,634)
Total benefits	\$0	\$2,548,000	\$5,387,200	\$7,352,800	\$15,288,000	\$12,292,863
Net benefits	(\$25,800)	\$1,137,448	\$3,976,648	\$5,942,248	\$11,030,544	\$8,759,228
ROI						248%
Payback period						one month

If risk-adjusted costs, benefits, and ROI still demonstrate a compelling business case, it raises confidence that the investment is likely to succeed because the risks that threaten the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as “realistic” expectations, as they represent the expected value considering risk. Assuming normal success at mitigating risk, the risk-adjusted numbers should more closely reflect the expected outcome of the investment.

Resolve Systems' Incident Response Automation Solution: Overview

The following information is provided by Resolve Systems. Forrester has not validated any claims and does not endorse Resolve Systems or its offerings. Resolve is a centralized solution that allows employees to follow step-by-step procedures to bring incidents to resolutions quickly. Its features include:

- › **Interactive process guidance.** Guided incident resolution with step-by-step instructions, decision trees, and automations.
- › **Incident resolution dashboard.** Summary results of automated tests and diagnostics with easy-to-follow troubleshooting actions.
- › **Analytics and process improvement.** Reporting and analytics integrated with social collaboration for proactive process improvement.
- › **Human-guided automation.** Automated actions performed incrementally as part of interactive resolution guidance process.
- › **End-to-end resolution automation.** Automated diagnostics and resolution of incident without operator interaction.
- › **Incident ecosystem connectivity.** Integration solution connecting all systems, devices, and applications, accelerating incident resolution.

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.