FORRESTER®

The Total Economic Impact™ Of ServiceNow Field Service Management

Service And Business Benefits
Enabled By ServiceNow

DECEMBER 2020

Table Of Contents

Consulting Team: Henry Huang
Luca Son

Executive Summary

ServiceNow® Field Service Management is a cloud-based solution that connects field service to other parts of the organization to improve operations efficiency and raise overall customer satisfaction. A more tightly knit integration to customer service as well as other IT-centric departments enable businesses to proactively shift left on potential issues and address in-time cases in a more efficient manner than ever.

ServiceNow commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying the ServiceNow Field Service Management solution.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of ServiceNow Field Service Management on their organizations. In a world where field service, customer service, inventory allocation and technology are all disparate segments of the organization, ServiceNow aggregates these for proper field assignment, with automation that requires fewer human touches during the case lifecycle. In addition to automation, it is a solution that spans different business units using a single platform to create a more customer-focused service delivery overall — which can come in the form of proactive service or faster reactive service.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four customers with experience using ServiceNow Field Service Management. For the purposes of this study, Forrester aggregated the experiences of the interviewed customers and combined the results into a single composite organization.

Prior to using ServiceNow Field Service Management, the customers utilized disparate systems that lacked integration with one another, leading to slow response times and a lack of visibility into other aspects of the customer account. Even after incorporating customer data from customer

KEY STATISTICS

Return on investment (ROI)
310%

Net present value (NPV)
$8.53M

service, there was an inability to efficiently deploy field service truck rolls — the costliest form of service remediation. Still, through multiple hops across the customer service and infrastructure organizations, the field service units were able to accommodate customer needs, albeit at a significant cost and with limited success. Most importantly, however, customers were left with subpar experiences that were a result of slowed service delivery and unexpected outages.

Following the investment in ServiceNow Field Service Management, the customers experienced drastic turnarounds in their field servicing capabilities,

Efficiency increases from intelligent routing

+ 16%

> **Solving a problem on-site is between five to 10 times higher in cost than [solving it] remote. That is why it's so important that when we send engineers out, we have combined [case] visits fixing multiple issues to improve the efficiency. Being able to schedule and dispatch that has helped us.**
>
> *— Service solutions architect, industrial machines*

starting from gaining the ability to intelligently dispatch the agent with the right skill set and the right parts to complete the truck roll. Other important abilities gained include quick integration with ServiceNow® Customer Service Management and the ability to deflect truck rolls altogether with automated early issue identification, knowledge sharing, and self-service features.

KEY FINDINGS

Quantified benefits. Risk-adjusted present value (PV) quantified benefits include:

- **Increased routing and scheduling intelligence to send the right person with the right tools, improving truck roll efficiency by 16%.** Prior to using ServiceNow Field Service Management, the organizations allocated agents on first-availability basis. With ServiceNow, mappings of technician proficiencies and truck inventory visibility enable intelligent dispatching to give the highest probability of success on truck rolls. First-visit resolution now helps the organizations avoid further dispatches.

  Combining intelligent routing and dispatch with advanced scheduling, singular truck rolls complete multiple cases per dispatch. Mobile access and geolocation provide up-to-the-minute

visibility to further increase efficiencies of trucks already out in the field. With truck rolls costing approximately $234 each dispatch, the savings pile up quickly. For the composite organization, Forrester projects a present value (PV) savings of $5.5 million over a three-year analysis period.

- **Truck roll and call center deflections due to higher first-visit fix rates, self-service, and preventative measures.** ServiceNow Field Service Management includes asset and planned maintenance information so that issues are prevented in a proactive manner. Similarly, knowledge bases and predictive intelligence shared across the platform help customers and agents resolve issues, deflecting the need for an actual truck roll. First-time fix rates rise too, deflecting additional truck rolls through better intelligence from ServiceNow. The result is fewer

Deflections driven by first visit remediation

+ 12%

outages and more satisfied customers. The benefit over a three-year period amounts to a PV of $4.9 million.

- **Rationalizing the existing infrastructure and legacy software brought further savings.** Most of the field service management tools the organizations purchased or built internally were antiquated and difficult to integrate with modern cloud-based systems. Retiring these in the face of digital transformation initiatives was a relatively easy choice. The organizations accounted for many of the solutions costs in perpetuity, so the savings to be avoided are largely support and maintenance of the tools and the supporting infrastructure. In all, the PV savings over a three-year period is $891,000.

Costs. Risk-adjusted PV costs include:

- **Total ServiceNow Field Service Management investment costs.** Costs are comprised of two major portions: the cost of the licensing (billed as a predictable ongoing cost) and the second portion, which consists of implementation (internal and external) and training costs. As with all new solutions, there is an expected change-management process. Accounting for both of these factors, Forrester expects a net investment cost of $2.8 million.

The customer interviews and financial analysis found that a composite organization experiences benefits of $11.28 million over three years versus costs of $2.75 million, adding up to a net present value (NPV) of $8.53 million and an ROI of 310%.

> **"Getting things fixed faster, the truck rolls being done right the first time, and having it solved definitely improves our customer service. … That type of customer interaction, the data that manager has received through ServiceNow, is definitely an extremely positive experience."**
>
> *Director of ITSM, fast-casual restaurant chain*

ROI	**BENEFITS PV**	**NPV**	**PAYBACK**
310%	**$11.28M**	**$8.53M**	**7 months**

Benefits (Three-Year)

Field service efficiency gains	$5.5M
Call center and truck roll deflection	$4.9M
Field service infrastructure rationalization	$891.7K
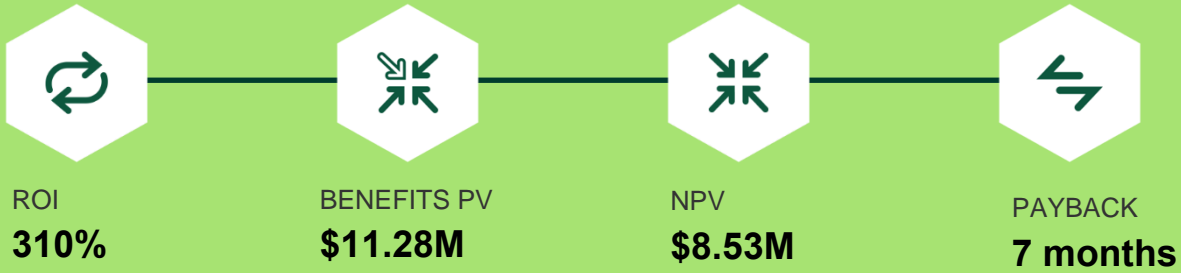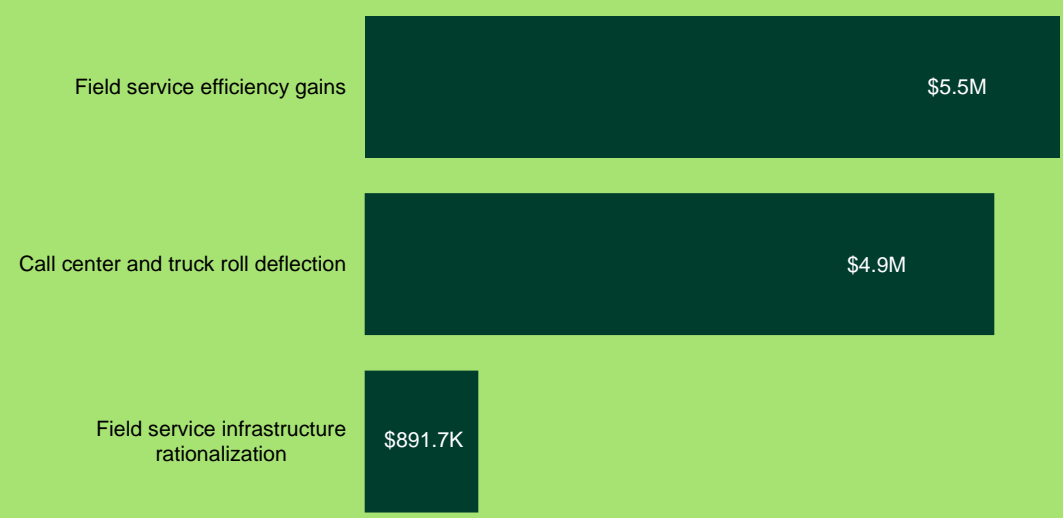
With truck rolls previously costing $234 each on average, ServiceNow decreases these by $37 or more per instance.

Deflection of truck rolls due to first-visit resolution and preemptive maintenance result in a 17% deflection by Year 3.

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 ServiceNow Field Service Management.

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 Field Service Management can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by ServiceNow 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 ServiceNow Field Service Management.

ServiceNow 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.

ServiceNow provided the customer names for the interviews but did not participate in the interviews.

DUE DILIGENCE
Interviewed ServiceNow stakeholders and Forrester analysts to gather data relative to ServiceNow Field Service Management.

CUSTOMER INTERVIEWS
Interviewed five decision-makers at four organizations using ServiceNow Field Service Management to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewed 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 interviewed organizations.

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 ServiceNow Field Service Management Customer Journey

■ Drivers leading to the ServiceNow Field Service Management investment

Interviewed Organizations			
Industry	**Customer focus**	**Prior state**	**Interviewees**
Industrial machines	B2B	Enterprise resource planning (ERP) platform	Service solutions architect
Utilities	Internal operations	Legacy customer service management platform	IT director of operations Supervisor of network field service
Government	B2B	Homegrown and customized IT service tool	Director of IT service management
Fast-casual restaurant chain	Internal operations	Customized service platform	Director of IT service management

KEY CHALLENGES

The interviewees' organizations had a few common themes in their struggles with their prior field service management solutions. One topic that surfaced again and again was that previous FSM solutions were built out in a void without integrating to other business tools, hindering the service organizations to effectively deploy field service resources.

The interviewees' organizations also struggled with other common challenges, including:

- **Poor field service completion rates due to disconnected and disparate tools.** Multiple interviewees said their organizations had difficulty consolidating information into a centralized platform, forcing technicians and customer service agents to aggregate information from multiple sources as a manual effort. As a result, information was either inadequate or resolution paths were unclear for the agents, and it ultimately culminated in service technicians often being unable to resolve service requests on first attempts.

  An interviewee stated: "By not using multiple platforms, it's less overall maintenance and operational support costs. ServiceNow gets rid of the silos and is our single source of truth with

> **"Our [legacy solution] was very limited, and we developed many tools. At one point, we counted that we had close to 40 different tools in our service organization. Engineers, service engineers, and service users sometimes needed to work between 10 to 20 different tools to complete their daily tasks."**
>
> *Service solutions architect, industrial machines*

> **"The technicians had one mission: Go to the site, find out what is broken, and fix it. Sixty percent of the time, the technician got insufficient or inaccurate information. It's not like they didn't try. The information just wasn't good."**
>
> *IT director of operations, utilities*

data that is real-time or near-real-time because we don't have to go to different sources."

- **Dispatch based only on availability and location was woefully inadequate.** Ineffective field service plagued the interviewees' organizations, often because of dispatches that relied on technician availability and location. The lack of identification in technician expertise and inaccurate inventory management caused technicians who arrived at service sites to find that they either did not have the correct parts or they needed another technician with the proper skill set to be dispatched. By having to dispatch technicians who were operating already at near-full utilization, any truck rolls that did not efficiently resolve matters turned into missed service-level agreements (SLAs).

As one interviewee put it: "We were flying blind. We didn't know what the technicians were working on and what the status of the job was until much later. Technicians were being sent across the state for various problems, but we had no idea what their skill set was or if they could complete the job effectively. Having a better field service module was something that would have made us much more efficient."

> **"We had a lot of internal communication issues and inefficiencies. Along with that, we had problems keeping customers informed. This resulted in issues with customer satisfaction. We also had low satisfaction with our existing solutions internally. On top of all that, we were also spending a lot of money for unnecessary spare parts."**
>
> *Service solutions architect, industrial machines*

- **There were customer satisfaction and business ramifications.** With ineffective field servicing, internal customers and external customers alike suffered, and they often commented on poor satisfaction with repairs. For a restaurant organization, a larger outage caused multiple sites to be inoperative for hours, translating into thousands of lost retail orders. For another organization, downtime on its large industrial machines meant thousands — if not tens of thousands — of euros per hour.

- **Operational costs of legacy systems were costly.** Having multiple on-premises systems developed prior to digital transformation initiatives were expensive to maintain, operate, and update — especially after they had been so heavily customized.

A director of IT service management (ITSM) at a government organization told Forrester: "Our older systems would be a nightmare to be secured for compliance. Not having to certify older systems saves us time, resources, and costs. Not only was our system outdated and no longer supported, but it was also highly customized and could not be upgraded."

SOLUTION REQUIREMENTS/INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that could:

- Improve visibility surrounding service requests ranging from inventory management and technician viability to infrastructure status and dispatch controls. Decision-makers hoped the improved visibility and intelligence would bring about field service efficiency improvements.

A service solutions architect at an industrial machines organization said: "It's clear that the engineers cannot work without a tool. Everyone needs a tool. It must be mobile because field

service engineers are mobile. The engineer must also be able to create a dispatch, see their cases, and see relevant knowledge or parts needed. For managers, it is critical to be able to see where the engineer is and to have visibility into cases. We can do this with ServiceNow with the benefit of it being integrated into one platform."

> **"There were several key metrics that we were tracking, but the No. 1 goal was to reduce the amount of travel time."**
>
> *Supervisor of network field services, utilities*

- Live in the cloud and can be easily integrated with other business system tools. The tool needs to be a singular central source of truth for dispatchers, managers, and field technicians. Silos effectively between groups and tools needed to be broken down and consolidated.

  A director of ITSM at a restaurant chain relayed to Forrester: "Our group is a service shop, so all teams from different departments need to work together. It's how our team works with other teams on a single platform that makes everything work. This is the way that we manage our cafes out in the field, our fresh dough facilities, and our regional offices. So, really, ServiceNow is the backbone of how we run our business, which is a huge accomplishment to our organization and our team coming from 2019 to where we are today."

  A different interviewee said: "We were looking for a platform that would integrate all the different tools that we had [like] the catalog, among many other tools. We also wanted to redevelop our in-house processes onto proven workflows and processes on a central platform to be a one-stop shop."

- Enable self-service and features that allow customers to self-resolve issues and see live case statuses. Decision-makers understood that self-service would improve efficiency and deflect some cases, but also that giving customers visibility would enhance customer satisfaction by letting the customers feel in control.

  An interviewee spoke about this objective by stating: "At the end of the day, we want ServiceNow to be a one-stop shop for our customers and to give them maximum visibility into their case with the most up-to-date information."

- Ultimately, the organizations simply wanted to "minimize the cost and increase uptime for both the customer and internal groups at the same time." The business impact was substantial, and the only cure was to improve efficiency.

> **"ServiceNow is by far light years ahead to where we were at with our work requests and case management."**
>
> *IT director of operations, utilities*

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 interviewees' companies, 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 organization is a US-based B2B organization that utilizes its field service management to complement its engineering equipment line. Field services are an essential part of its ability to garner sales and retain customers as uptime is pivotal to its clients. The organization previously used a plethora of solutions loosely knit together to provide customers with field services. The setups worked, but they lacked extensive integrations to drive significant automation or advanced AI/machine learning (ML) driven workflow aids. With ServiceNow, the organization retires multiple legacy solutions, and ServiceNow serves as the single pane of glass combining data from multiple business units to provide a more efficient way to manage field service. In all, the composite organization's 200 field service technicians provide the necessary service for internal and external customers.

Deployment characteristics. The organization deploys ServiceNow Field Service Management in mostly a single phase and releases it across the entirety of the support and field service organization. The initial phase includes skill-set mapping, inventory alignment, and application integration with different business systems — all of which is done within the first five months. The knowledge base is continually built out to improve intelligence about the handling of dispatch, remediation, and self-service. As this is a continuous build-out, the benefits increase with time, even beyond the scope of this three-year study.

Key assumptions

- **B2B organization with $1 billion+ revenue**
- **200 field service engineers**
- **Integration with Customer Service Management**
- **Scope of work includes internal and B2B cases**

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	Field service efficiency gains	$1,898,208	$2,255,947	$2,476,431	$6,630,587	$5,450,642
Btr	Call center and truck roll deflection	$1,681,243	$2,001,848	$2,338,190	$6,021,281	$4,939,540
Ctr	Field service infrastructure rationalization	$358,560	$358,560	$358,560	$1,075,680	$891,686
	Total benefits (risk-adjusted)	$3,938,011	$4,616,355	$5,173,182	$13,727,548	$11,281,868

FIELD SERVICE EFFICIENCY GAINS

Evidence and data. Multiple factors affected why the interviewees' organizations were inefficient with field service truck rolls. They include:

- Disparate systems did nothing to help dispatchers to determine *what* and *who* to send on service calls beyond providing their general availability and which group they belonged to.

- Starting at the customer service end, the service team was met with inadequate data and visibility on multiple fronts, producing ineffective dispatches out. And many of those were met with incorrect equipment inventory or technicians with the wrong skill sets for the specific case, requiring a second trip or for a second team to bring parts.

> **"We have a much higher level of details on tickets and configurable items, and that gives us the tools to be successful."**
>
> *Supervisor of network field services, utilities*

- With poor visibility, the organizations also could not schedule effectively. They dispatched truck rolls to complete only a few issues at a time, rather than to complete several more cases on a single truck roll, wasting trip time.

- Ancillary costs such as fuel and dispatch all summed up to truck rolls that can often cost as much as $500 per occasion.

- Following the deployment of ServiceNow Field Service Management, some of the interviewees' organizations saw efficiency rates increase by as much as 25%, dependent on the complexity of required repairs.

- The increased efficiency equated to sending fewer truck rolls, completing jobs faster, improving inventory management, and meeting SLAs better.

- Becoming more efficient afforded the organizations the ability to become more proactive in servicing assets, leading to higher uptime.

- A director of ITSM at a restaurant chain said: "Our cafes are up and operational faster. We have visibility into it internally, and we're able to correlate that into speed of service, speed of payment, speed of everything. In most cases, it's

20% to 40% that we're gaining, just by utilizing the data and communication that is interchanged between ServiceNow and the field techs."

- The same director also stated: "The communication back and forth with vendors that have ServiceNow is real-time, like a chat. The whole communication process of completing a service, notifying the cafe, and verifying that everything is fixed all takes place in a matter of minutes versus if we had to send an email, wait for a phone call or a text from a driver, and all of that other stuff. So that definitely helps out with that percentage gain of getting our cafes up and running to the satisfactory level."

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

- The effects of intelligent dispatching and routing by ServiceNow is reflected in the greater field service efficiency.

- The organization uses advanced scheduling to maximize each truck roll so that technicians can complete as many cases as possible on an efficient route.

- Through machine learning and mapping of skill sets and identification of inventory, the organization sends the *appropriate* field service technician to the right location, rather than basing it one-dimensionally on just technician availability or geolocation. Proper scheduling minimizes the need for the organization to take technicians off their route and force incompletions elsewhere. Finding the optimal balance between all factors is how ServiceNow accelerates the field service group to provide fast and effective service that resolves issues on first visits.

- Accounting for approximately 80,000 truck rolls per year, Forrester projects an efficiency

improvement of 16% across all of the truck rolls in a given year due to intelligent assignments.

> **"We measure the effectiveness of the organization and its tools by looking at how many cases can be supported by a single field service engineer. In the last couple of years, our efficiency grew by 20%. ServiceNow is a critical enabler of increasing the effectiveness of the organization."**
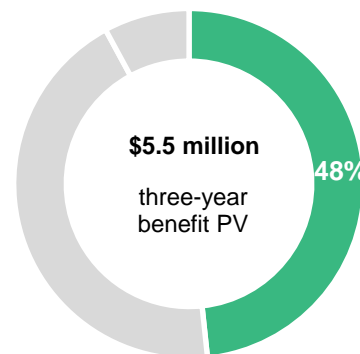>
> *Service solutions architect, industrial machines*

- One interviewee told Forrester: "ServiceNow has helped us with the dispatch process, knowledge sharing, and customer and engineer satisfaction. We're quite happy with the results."

Risks. Possible risks that are involved with a reduction of the value are as follows:

- A high level of maturity in place with integration between solution sets – usually homegrown

- Cost of truck rolls that may be for less complex situations and therefore cost less.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $5,450,642.

Field Service Efficiency Gains

$5.5 million
three-year
benefit PV

48%

Field Service Efficiency Gains

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Field service agents	Composite	200	206	212
A2	Truck rolls annually (actual)	A1*average of 2 truck rolls per day* 260 days*75% utilization	78,000	80,340	82,680
A3	Cost per truck roll	Hourly labor cost*3 hours*2x ancillary cost multiplier	$234	$234	$234
A4	Total cost of truck rolls annually	A2*A3	$18,252,000	$18,799,560	$19,347,120
A5	Increase in efficiency from proper routing and selection of assets/personnel	Interviews	13%	15%	16%
A6	Savings from intelligent routing based on capability, drive path, and inventory on hand	A4*A5	$2,372,760	$2,819,934	$3,095,539
At	Field service efficiency gains	A6	$2,372,760	$2,819,934	$3,095,539
	Risk adjustment	↓20%			
Atr	Field service efficiency gains (risk-adjusted)		$1,898,208	$2,255,947	$2,476,431
	Three-year total: $6,630,587		**Three-year present value: $5,450,642**		

CALL CENTER AND TRUCK ROLL DEFLECTION

Evidence and data. Beyond field service efficiency, the interviewees also noted a high level of truck roll deflections. The observations are as follows:

- The organizations leveraged self-service enabled by ServiceNow to decrease a reliance on dispatches and otherwise unnecessary truck rolls.

  Knowledge bases and self-service portals integrate historical resolutions to issues, technical information, and guided help allowed the organizations to resolve cases before tickets were initiated.

- A supervisor of network field services at a utilities company conveyed: "Our team has introduced capabilities with the knowledge center that have been effective to automate and streamline call deflection."

- Another interviewee said: "Because of ServiceNow, we now know that 99% of cases have been seen before, however weird the cases might be. The machine learning in ServiceNow correlates the cases to provide our engineers and groups with suggested fixes based on probability and historical fixes. This is only doable because of how the platform centralizes information."

> **"What is important to us is that we have what we call shift left. We see that in the escalation path, issues more often can be resolved by the customer themselves, stopping escalations earlier and helping us send out less field visits."**
>
> *Service solutions architect, industrial machines*

- Customer issues that could not be resolved with self-help resulted in contact with call centers and field visits if necessary. It was important to stem the issue as early as possible for these organizations, with one interviewee stating that "solving a problem on-site is between five to 10 times higher in cost than to resolve early on remotely."

  Higher first-call and first-visit resolution rates by sending a technician with the right skills and parts deflected upwards of 10% for many of the interviewees' organizations because of no further escalations.

- Proactive monitoring and planned maintenance/service paired with visibility allowed the organizations to prevent outages and what could have led to additional customer service and more field service tickets. From a business perspective, the difference between preventing an outage versus the inability to prevent an outage because of lack of visibility from the field service platform meant either gaining new contracts worth hundreds of thousands of dollars or losing thousands of retail orders. The visibility and suggestive insights created by ServiceNow allowed the interviewees' organizations to gain approximately 5% in field service deflection.

> **"ServiceNow allows the field service agents to prioritize their work, which is something they haven't been able to do in the past. It also allows them to start being more proactive. They are able to start doing things like replacing equipment as a preventative measure and use that to have personalized follow-ups with VIPs in face-to-face appointments."**
>
> *Director of ITSM, government*

Modeling and assumptions. Based upon the information provided by the interviewees, Forrester modeled the composite organization with the following attributes:

- Three main segments of deflection are reflected in the savings: call-center contact deflections, truck-roll deflections due to self-service, and truck-roll deflections due to first contact resolution and preventative service.

- Call-center and truck-roll deflections increase yearly due to growth in the knowledge base and associated intelligence on issue remediation to promote self-resolution. The rate of deflection grows from 3% in Year 1 to 5% in Year 3.

- The cost of call center contact is $12.40 per call, although this only accounts for the cost of labor and does not factor in nonlabor costs such as technology (for software and infrastructure), attrition, and physical structure. Forrester elected to exclude these other cost factors due to the current uncertainty surrounding the COVID-19 pandemic, so the cost structure may change significantly.

- Truck-roll costs are significantly more expensive at $234 for each incident.

Deflect truck rolls with FCR/FTF:

Reduce costs by $2.3M/year

- Shifting left on the case escalation path, which includes first-call resolution (FCR) or first-time fix (FTF) as well as preemptive maintenance advised by ServiceNow, prevents the need for further truck rolls. The rate of deflection from shifting left is ramped from 10% in Year 1 to 12% by Year 3 of operation. Deflections are expected

to further rise beyond year 3, as case handling continues to improve in FCR and FTF with continuous improvement based on capabilities like ServiceNow Performance Analytics.
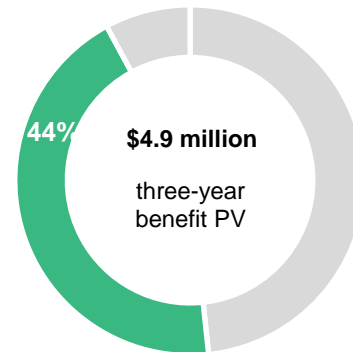
Risks. Forrester factored the following risks that could potentially change the benefit value calculated:

- Due to uncertainty with the pandemic, there remains a possibility for both up and down costs per contact in the call center. The need for truck rolls can also change in such uncertain times.

- The cost of truck rolls and call center contact points are a factor of industry vertical and the type of work completed.

- The effective build-out of a knowledge base and self-service functions are based upon the resources allocated to execute upon the initiative. Most organizations will vary in the amount of

effort, and the variability is factored in with the assigned risk factor.

To account for these risks, Forrester approached this with conservatism in mind and adjusted this benefit downward by 30%, yielding a three-year, risk-adjusted total PV of $4,939,540.

Call Center And Truck Roll Deflection

44%

$4.9 million

three-year benefit PV

Call Center And Truck Roll Deflection					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Overall field service requests annually prior to ServiceNow	A2	78,000	80,340	82,680
B2	Deflections driven by self-service portal and knowledge base	Interviews	3%	4%	5%
B3	Average time on customer service call to diagnose and determine need for truck roll (minutes)	Interviews	24	24	24
B4	Cost of call center labor per hour	Payscale	$31	$31	$31
B5	Call center deflections due to self-service and knowledge base (showing rounded value)	B1*B2*B3/60*B4	$29,016	$39,849	$51,262
B6	Cost per field service truck roll	A3	$234	$234	$234
B7	Truck roll deflections driven by self-service/knowledge base	B1*B2*B6	$547,560	$751,982	$967,356
B8	Deflections driven by remediation on first visit or preempted visit	Interviews	10%	11%	12%
B9	Savings on deflections due to first visit resolution/preemptive work	B1*B6*B8	$1,825,200	$2,067,952	$2,321,654
Bt	Call center and truck roll deflection	B5+B7+B9	$2,401,776	$2,859,783	$3,340,272
	Risk adjustment	↓30%			
Btr	Call center and truck roll deflection (risk-adjusted)		$1,681,243	$2,001,848	$2,338,190
	Three-year total: $6,021,281		Three-year present value: $4,939,540		

FIELD SERVICE INFRASTRUCTURE RATIONALIZATION

Evidence and data. Organizations that adopted ServiceNow Field Service Management eventually retired a portion — if not all — of their legacy field service tools including dispatch, scheduling, inventory management, and asset management. Many of the tools were built or bought during the pre-digital transformation age, making them difficult to incorporate into the great customer service and field service arena that should sit in the cloud along with other services like CRM and enterprise resource planning (ERP). Due to the retirement of these systems, the interviewees' organizations experienced the following:

- A general rationalization of legacy solutions happened. Field service dispatch and management solutions were first in line, along with services that went as far as FSM modules with CSM tools.

- The cost of most of these solutions were not recoverable as they were on-premises or internally-built solutions, but the maintenance and support of the solutions and their related infrastructure came to more than 20% of the original cost of purchase.

- The organizations were able to retire newer subscription-based solutions that augmented legacy solutions. This saved ongoing costs, but more importantly, the new replacements from ServiceNow offered easier and tighter integration that cost less capital to work together.

- Some of the interviewees' organizations were able to reduce laptop usage among field technicians by shifting to mobile and small form-factor devices that were operationalized with ServiceNow, reducing capex.

Modeling and assumptions. Based upon the information provided by the interviewees, Forrester

modeled the composite organization with the following attributes:

- The composite organization has a total of six legacy solutions that are sunset, and each has an average total cost of $200,000.

- ServiceNow Field Service Management contains the feature set and capabilities to replace all of the retired solutions with the added benefit of ongoing improvements by ServiceNow and integration with other ServiceNow platforms in different business units.

- Based on 20% of the original cost to maintain and support, the organization saves $240,000 with the rationalization effort.

- The savings accumulated from this benefit go primarily to the IT group that supports the services.

Field service infrastructure rationalization
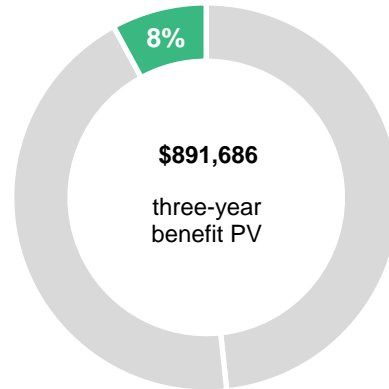
6+ tools and $940K savings

Risks. The maturity of every organization for its field service management is different, which Forrester recognized from the interviews. Some risks that come with this include:

- Organizations may have greenfield implementations where field service is a new area to address.

- Some organizations with disparate systems that might be already in the cloud may have a different integration experience leading to different cost savings.

- Some legacy solutions are heavily intertwined with other business activities which are not

planned for replacement, and therefore cannot be sunset.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $940,030.

Field Service Infrastructure Rationalization

8%

$891,686

three-year
benefit PV

Field Service Infrastructure Rationalization

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Solutions sunsetted paid in perpetuity	Interviews	6	6	6
C2	Estimated cost of each solution	Interviews	$200,000	$200,000	$200,000
C3	Cost of maintenance and support	20% of solution costs (C1*C2) for support, admin, maintenance, and hosting	$240,000	$240,000	$240,000
C4	Ongoing solution license costs	$60 per seat* number of users* 12 months per year	$158,400	$158,400	$158,400
Ct	Field service infrastructure rationalization	C3+C4	$398,400	$398,400	$398,400
	Risk adjustment	↓10%			
Ctr	Field service infrastructure rationalization (risk-adjusted)		$358,560	$358,560	$358,560
Three-year total: $1,075,680			**Three-year present value: $891,686**		

UNQUANTIFIED BENEFITS

Additional benefits that customers experienced but were not able to quantify include:

- **Improved data visibility and single source of truth for compliance and audit.** The full line of evidence and granularity in the audit trail that is produced by ServiceNow allows for faster audits and proving compliance.

- A director of ITSM from a government agency stated: "Dashboarding out-of-the box is

phenomenal. It's allowed us the capability to support a single source of truth platform, where the client can get near real-time data through their dashboarding almost instantaneously."

- **Increased customer satisfaction.** ServiceNow Field Service Management provides greater customer satisfaction through increased case visibility, communication, and quicker and more effective service. A service solutions architect at an industrial machinery organization explained:

"The engineer can resolve the case, but only the customer can close the case that they open. When they do, there are notified by either the portal or email, and they are given the opportunity to provide specific feedback about the quality of the case. Since we launched these tools, customer satisfaction has increased by more than 30%."

Another interviewee at a fast-casual chain stated: "Getting those things fixed faster and [doing] the truck rolls faster and done right the first time definitely increased our customer service … That type of customer interaction, because of the data that that manager has received through ServiceNow, is definitely an extremely positive experience."

- **Improved vendor relationships and experience.** A director of ITSM at a fast-casual chain said: **"**We can correlate that our expectation and satisfaction are very high for vendors with ServiceNow because we know what they're doing at all times. ServiceNow gives us that platform. For vendors without [ServiceNow], we just send them a work order and we get an email back that says: 'Okay. Yeah, we got it. We'll take care of it.' And then it kind of goes dark. ServiceNow definitely helped our visibility and really opened communication back and forth utilizing the tool."

FLEXIBILTY

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

- **More strategic prioritization of field service work.** ServiceNow provides increased visibility into crucial field service KPIs, allowing field service leaders to better prioritize and position their business. An IT director of operations at an energy company stated: "There's always going to

be more work than we can do by design, so we have to prioritize that work. We've definitely matured tremendously around what is critical and what is not critical. [ServiceNow] has helped us define better metrics and [gain a] better understanding around response times and what is and isn't critical."

- **Repurposing of field technicians to provide revenue plus tasks.** A solutions architect at an industrial machinery organization told Forrester: "We are trying to provide a lot more value-added services, such as selling additional services to our customers and training them on how to get the most of their product. We want to make the customer more efficient and also generate more revenue."

- **Increased preparation for lasting effects of the COVID-19 pandemic.** ServiceNow Field Service Management provides greater flexibility around avoiding outages and ensuring business continuity. In turn, this allows field service leaders to focus their efforts on adapting to changing business demands. A director of ITSM at a fast-casual restaurant explained: "One-to-one marketing is definitely something that is in our innovation lab and things that we're working through, because the crisis is a crisis. But I think the effects of it will live with us for a long time where we see drive-throughs and curbside pickup becoming the norm within our cafes."

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

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
Dtr	Investment costs	$1,812,573	$488,770	$488,770	$121,500	$2,911,614	$2,752,137
	Total costs (risk-adjusted)	$1,812,573	$488,770	$488,770	$121,500	$2,911,614	$2,752,137

INVESTMENT COSTS

Modeling and assumptions. ServiceNow investment costs include licensing fees, up-front internal implementation time, change management, training, and external consultant assistance. For the composite organization, Forrester assumes:
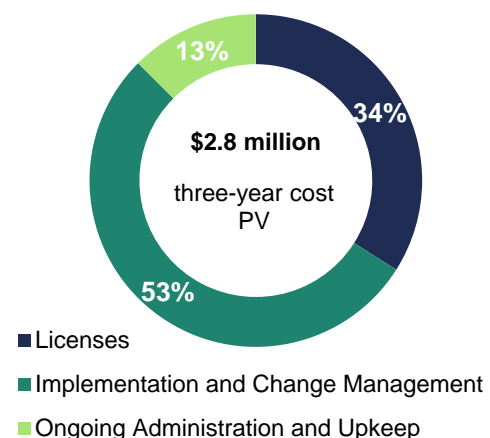
- It has 200 field technicians and 20 dispatchers.

- Field technician and dispatcher license fees are both $100 per user per month.

- Internal implementation requires a total of eight FTEs over five months, with process documentation counted separately.

- The total external implementation fees are $250,000 to assist in requirement gathering, data migration, integrations, testing, and other implementation activities.

- Process buildouts, training material development, and control development by administrators and managers are required to deliver effective training to dispatchers and field technicians. The effort consists of six manager-level FTEs spending approximately 1.5 months of their time.

- Change management and training for updated workflows and processes require a total of 1.5 weeks for all dispatcher and field technicians. The majority of training is conducted during the initial rollout period with additive courses through the first year of usage.

Risks. Forrester accounted for the following risks regarding investment costs:

- The compensation rates and demand for field technicians and dispatchers may vary with each industry.

- Implementation length, labor requirements, and external fees will vary by organizational needs and existing skill sets/abilities. Consider the market rate and burdened costs of resources assigned to these tasks.

- The extend of process buildouts, reorganization, and documentation may take longer for some organizations in some industries. This could lead to higher internal costs.

To account for these risks, Forrester adjusted this cost upward by 25%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $2,752,137.
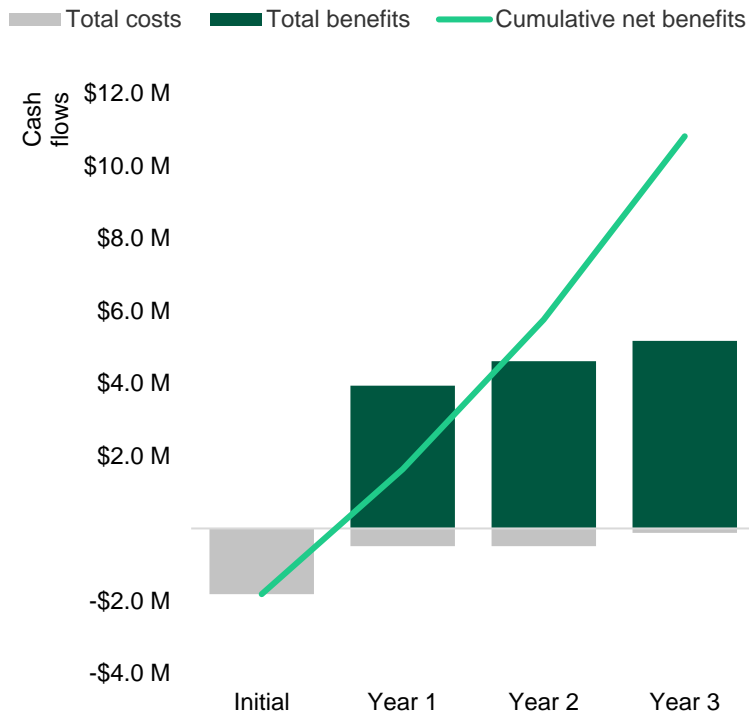

Investment Costs

$2.8 million three-year cost PV

- 34%
- 53%
- 13%

■ Licenses
■ Implementation and Change Management
■ Ongoing Administration and Upkeep

Investment Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
D1	Dispatcher and field technician licenses		$264,000	$264,000	$264,000	
D2	Implementation costs - internal	8 implementation FTEs ($76,000 per FTE)*5 months	$339,733			
D3	External implementation team costs	Interviews	$250,000			
D4	Process mapping, control formation, and training development and administration	6 manager level FTEs ($15,187.50 per FTE per month)*1.5 months	$91,125	$4,556	$4,556	
D5	Change management and training	1.5 weeks*number of dispatchers and field agents	$505,200	$25,260	$25,260	
D6	Ongoing administration and upkeep of ServiceNow Field Service Management	Admin FTEs ($72,000*1.35x benefits modifier)		$97,200	$97,200	$97,200
D7	Average cost of CSM dispatcher, fully loaded per hour	$48,000*1.35x/2,080 hours	$31	$31	$31	$31
D8	Average cost of field service agent, fully loaded per hour	$60,000*1.35x/2,080 hours	$39	$39	$39	$39
D9	Average cost of implementation specialists	$76,000*1.35x/2,080 hours	$49	$49	$49	$49
Dt	Investment costs	D1+D2+D3+D4+D5+D6	$1,450,058	$391,016	$391,016	$97,200
	Risk adjustment	↑25%				
Dtr	Investment costs (risk-adjusted)		$1,812,573	$488,770	$488,770	$121,500
	Three-year total: $2,911,614			**Three-year present value: $2,752,137**		

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	($1,812,573)	($488,770)	($488,770)	($121,500)	($2,911,614)	($2,752,137)
Total benefits	$0	$3,938,011	$4,616,355	$5,173,182	$13,727,548	$11,281,868
Net benefits	($1,812,573)	$3,449,241	$4,127,585	$5,051,682	$10,815,934	$8,529,731
ROI						310%
Payback period						7 months

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."

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.

FORRESTER®