The Total Economic Impact™ Of Microsoft Dynamics 365 For Field Service

Cost Savings And Business Benefits Enabled By Dynamics 365 For Field Service

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Benefits And Costs

60%
Fewer hours billed for maintenance and repair work

10%
Reduction in field dispatch

50%
Less driving time

20%
Fewer service calls

Executive Summary

Microsoft's Dynamics 365 product line provides small businesses and enterprises with a blend of enterprise resource planning (ERP) and customer relationship management (CRM) solutions for a multitude of use cases across the organization, both internal and customer-facing. Within this suite of solutions, Dynamics 365 for Field Service is a business application that facilitates the end-to-end process of carrying out work onsite at customer locations, including installations, maintenance, and repair jobs. Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Dynamics 365 for Field Service. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Dynamics 365 for Field Service on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed three customers with years of experience using Dynamics 365 for Field Service. Prior to using the solution, these organizations took a bare-bones approach to field service operations, which often included the combined usage of several manual and custom-developed tools that were not specifically designed for field service. However, as these organizations continued to scale, it became evident they needed a more proactive approach that could enable existing resources to take their labor hours further.

Key Findings

Quantified benefits. The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed:

› **Field teams reduced hours billed for repair and maintenance work orders by up to 60%.** While installation jobs were relatively unaffected as they were handled by a single, central team, organizations significantly streamlined maintenance and repair jobs. Total time billed per maintenance or repair work order decreased for each field resource, including technicians, supervisors, and dispatchers. Technicians could complete work orders in as little as half the time it took them in the previous environment. Similarly, supervisor and dispatcher tasks were largely streamlined or automated, resulting in 75% and 67% reductions in hours billed for supervisors and dispatchers, respectively. Over three years, the associated cost savings reached a PV of $1.4M.

› **Organizations eliminated field dispatch for over 10% of total work orders.** By using internet of things (IoT) to self-maintain and self-remediate basic equipment issues, organizations could address a portion of work orders without sending live technicians to the work site. The subsequent labor cost savings totaled a three-year PV of $360K.

› **Field workers slashed time driving to work sites by 50%.** D365 for Field Service optimized driving routes for the shortest distances and the right technicians, which reduced average driving time per work order. Additionally, organizations could address a portion of work orders with IoT, requiring no driving at all. Over three years, the saved fuel costs amounted to a PV of $28K.
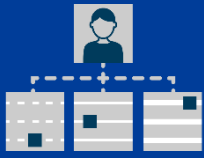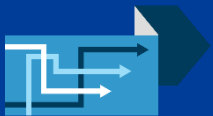
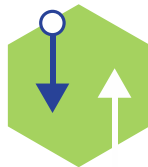**FORRESTER**®

ROI
363%

Benefits PV
$1.8 million

NPV
$1.4 million

Payback
<6 months

› **Call center agents reduced service calls by 20%.** By automating a portion of service tasks traditionally completed over phone, such as work order scheduling, reminders, and satisfaction surveys, call center agents could reduce the average number of calls made per day. The resulting cost savings accumulated to a three-year PV of $13K.

Unquantified benefits. Interviewed organizations also experienced the following benefits, which are not quantified for this study:

› Heightened customer experience and satisfaction.

› Reduced overtime pay.

› Improved hardware quality.

› Avoided regulatory penalties.

Costs. The interviewed organizations experienced the following risk-adjusted PV costs:

› **Product operations costs.** These costs, including the cost of engaging a partner to provide implementation services and ongoing support and the cost of cloud computing resources, totaled a three-year PV of $252K.

› **Product license fees.** These fees for the standard field service platform, the RSO (Resource Scheduling Optimization) add-on, and Power BI for dashboarding amounted to a three-year PV of $93K.

› **Opportunity cost of time invested for product training.** This cost resulted from field resources spending several hours over a handful of training courses to receive formal training from a technology partner and was tantamount to a three-year PV of $41K.

Forrester's interviews with three existing customers and subsequent financial analysis found that an organization based on these interviewed organizations experienced benefits of $1.8M over three years versus costs of $385K, adding up to a net present value (NPV) of $1.4M and an ROI of 363%.

Financial Summary
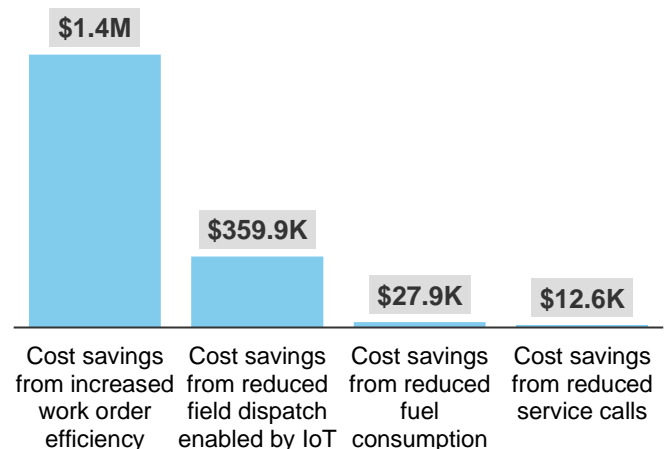
Payback:
<6 months

Total benefits PV, $1.8M

Total costs PV, $385K

Initial   Year 1   Year 2   Year 3

Benefits (Three-Year)

$1.4M

$359.9K

$27.9K

$12.6K

Cost savings from increased work order efficiency

Cost savings from reduced field dispatch enabled by IoT

Cost savings from reduced fuel consumption

Cost savings from reduced service calls

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> 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 interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Microsoft Dynamics 365 for Field Service.

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 Microsoft Dynamics 365 for Field Service can have on an organization:

DUE DILIGENCE
Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to Dynamics 365 for Field Service.

CUSTOMER INTERVIEWS
Interviewed three organizations using Dynamics 365 for Field Service 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 Microsoft Dynamics 365 for Field Service'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 Microsoft 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 Microsoft Dynamics 365 for Field Service.

Microsoft 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.

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

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The Dynamics 365 for Field Service Customer Journey

BEFORE AND AFTER THE DYNAMICS 365 FOR FIELD SERVICE INVESTMENT

Interviewed Organizations

For this study, Forrester conducted three interviews with Microsoft Dynamics 365 for Field Service customers. Interviewed customers include the following:

INDUSTRY	SIZE & REGION	OPERATIONS	ADD-ONS	INTERVIEWEE
Telecom	100 to 500 total FTEs 50 to 100 field FTEs EMEA	Installation, maintenance, repair	RSO (live) IoT (live)	Director of IoT
Construction	500 to 1,000 total FTEs 50 to 100 field FTEs North America	Installation, maintenance, repair	RSO (in road map) IoT (pilot)	President
Manufacturing	1,000 to 5,000 total FTEs 250 to 750 field FTEs	Installation, maintenance, repair	RSO (in road map)	Director of IT

Interviewed customers relied on a number of different manual or in-house solutions to meet their field service needs before deploying Microsoft Dynamics 365 for Field Service:

› **Regional provider of telecom services and kiosk operator with between 100 and 500 total FTEs and 50 and 100 field FTEs.** The telecom company sought a field service-specific solution to replace several different manual project management tools used to plan, schedule, and track field resources and work orders. Additionally, the company worked with an IoT partner to install software within its kiosks that would allow D365 for Field Service users to communicate with the machines remotely through a mobile device. Deployment lasted approximately eight months, with one month dedicated to working with the partner to proof-of-concept the software and the IoT add-on, four months for development and implementation, and three months to test the solution with simulated data from the kiosks.

› **Regional roofing contractor with between 500 and 1,000 FTEs and 50 and 100 field FTEs.** The construction company's field service operations are a revenue-generating business. D365 for Field Service increased the company's operating efficiency in response to a series of market events that had reduced customer work orders. The company deployed D365 for Field Service together with D365 CRM over one year, including three months of an in-depth vendor selection process, three months of project planning, three months to develop and implement the solution, and three months for a soft launch for testing and training.

› **Global manufacturing firm with between 1,000 and 5,000 total FTEs and 250 and 750 field FTEs.** The manufacturing company wanted an end-to-end field service solution, including the capabilities of the RSO, in an off-the-shelf package that would require little to no customization. Deployment lasted approximately nine months,

including a three-month planning process, a three-month pilot, and a three-month soft launch for testing and training. The company is currently upgrading its Microsoft environment in preparation for deploying the RSO add-on.

Key Challenges

Interviewed customers relied on a number of different bare-bones and manual solutions to meet their field service needs before deploying Microsoft Dynamics 365 for Field Service.

› **Organizations had limited visibility into their field operations.** Without a solution that could effectively track resources and work orders over time, organizations lacked the data needed to determine what their customer-facing service-level agreements (SLAs) and internal labor guidelines should be. Because of this limited visibility, quality often became a concern when jobs were poorly executed and required a second or even third trip to properly complete. A director of IoT for a telecom company explained, "Sometimes, we'd assign a resource to go and fix a particular issue only to find out three or four days later that it was never fixed."

› **Field work became increasingly costly.** As work orders increased due to both organic growth and the impact of the Dynamics CRM platform, so too did the costs associated with doing field work, which included not just direct labor costs, but also operational costs such as fuel and customer service. Eventually, organizations realized that they needed a way to do more with their existing resources instead of simply adding FTEs. One interviewee said, "We needed to be focusing on the exceptions rather than the rules, but it was the other way around, and it was putting a huge strain on our resources."

› **Lack of communication created further inefficiencies.** Prior to using D365 for Field Service, communication across internal parties such as technicians, supervisors, dispatchers, and service agents was sparse and relied heavily on human effort. Communication to customers, too, was often inconsistent and untimely, resulting in many wasted opportunities to gather valuable data, upsell products and services, or improve and personalize the customer experience.

"Before, there was no visibility on how much work was done in the field, how long certain issues took to resolve, which resources were active or not, or if our kiosks were even functioning at all."

Director of IoT, telecom

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Vendor Selection

Interviewed organizations each went through an in-depth vendor selection process before ultimately adopting Dynamics 365 for Field Service. Interviewees considered the following key factors during the decision-making process:

› **Dynamics 365 for Field Service provided a modern and customizable field service management solution.** As field operations continue to evolve, organizations too must continue to update the way they define, assign, and track their work processes. However, highly customizable field service solutions are also often the most at risk of becoming obsolete due to the high cost and complexity of making updates. With Dynamics 365 for Field Service, organizations could customize the solution to reflect their own operating characteristics while leaving the work of updating the solution to Microsoft. The president of the construction company remarked, "If I designed my own solution for the way we are today, we'd be obsolete in three months."

› **Dynamics 365 for Field Service could be used right out of the box with ample support**. Because of the prevalence of the Dynamics product suite in the market, interviewees knew there would always be adequate support for the product, regardless of the complexity of any environment-specific customization or configuration changes. A director of IT at a manufacturing firm noted, "From a total cost-of-ownership perspective, we wanted to use an off-the-shelf solution since there are established product support providers who can help us in case we run into any trouble instead of having to do it ourselves."

Key Results

The interviews revealed that key results from the Dynamics 365 for Field Service investment include:

› **Increased field utilization.** D365 for Field Service provided an all-in-one platform to help organizations visualize how, when, and where their resources were being utilized. Layered on top of this platform, the RSO add-on then helped to automatically match the right resources to the closest or most appropriate work orders to reduce travel time or risk of rework. As a result, organizations could take on more work orders with fewer field resources and subsequently reduce the average hours billed per work order. Utilization increased for all field roles, including technicians, supervisors, and dispatchers.

› **Improved transparency.** Visibility improved across stakeholder groups, including from work sites to the field, field to corporate, and field to customers. With the help of IoT, field supervisors could be alerted when there was an issue with any equipment. Corporate managers, on the other hand, had the data to know exactly how long specific work order types should take to complete. Finally, customers could be updated with information such as the status of work orders and arrival times of technicians.

> "I always account for the future development costs of the solution because even if it works today, what about five or even three years from now? Would we have to abandon the solution or completely redefine everything from the start? Microsoft gives us a path to the future without having to worry about any of that."
>
> *President, construction*

> "We used to average between two to three visits per work order, and we're now down to just one visit."
>
> *Director of IoT, telecom*

> "No more reading thousands of lines to see where an issue occurred. IoT tells us exactly what happened, when it happened, and what steps we need to take to fix a problem."
>
> *Director of IoT, telecom*

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> **Greater operational efficiency.** Efficiencies from D365 for Field Service were not limited to direct field resources. Other operational costs, such as the cost of vehicle fuel and the cost of customer servicing, were also impacted. By reducing the number of repeat visits and optimizing for the fastest routes from technician to work site, organizations significantly cut down on the amount of fuel consumed. On the servicing side, call center agents could cut down on the number of calls made for purposes such as appointment reminders or customer satisfaction surveys.

Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization is representative of the three companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite organization that Forrester synthesized from the customer interviews has the following characteristics:

> Regional full-service kiosk manufacturer that handles installation, maintenance, and repair work. Approximately 98% of work orders are repair or maintenance jobs while roughly 2% are net-new kiosk installations.

> Annual revenues of $30M and 300 total FTEs, including 40 field technicians and 20 field supervisors. Field FTEs are hourly contractors and compensated based on individual input on timesheets.

> In Year 1, the composite organization completed 2,750 work orders across 600 kiosks. A team of two (one technician and one supervisor) maintains existing kiosks and installs new kiosks. Each supervisor manages two technicians.

> Prior to D365 for Field Service, the composite organization used a combination of other Microsoft tools to meet its field service management needs, including Microsoft Access, Excel, and Project. These tools required a significant amount of manual labor to update and manage.

> Deployments of D365 for Field Service included RSO (resource scheduling optimization) and IoT and took place over nine months, split evenly into three phases: a three-month proof of concept with a technology partner that helped build and test the IoT solution on a small batch of kiosks; a three-month development and implementation process for the core D365 for Field Service platform and the RSO add-on; and a three-month soft launch pilot to test the combined field service platform with the RSO and IoT add-ons.

Key assumptions
Kiosk manufacturer
$30M revenue
600 kiosks
40 field technicians
20 field supervisors
98% repair/maintenance
2% installations

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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	Cost savings from increased work order efficiency	$437,580	$560,235	$696,150	$1,693,965	$1,383,832
Btr	Cost savings from reduced field dispatch enabled by IoT	$134,258	$145,446	$156,634	$436,337	$359,937
Ctr	Cost savings from reduced fuel consumption	$10,431	$11,286	$12,141	$33,858	$27,932
Dtr	Cost savings from reduced service calls	$4,703	$5,087	$5,472	$15,262	$12,591
	Total benefits (risk-adjusted)	$586,971	$722,054	$870,397	$2,179,422	$1,784,292

Cost Savings From Increased Work Order Efficiency

Before adopting D365 for Field Service, scheduling and dispatching resources for work orders was largely a bespoke activity and did not effectively optimize for factors such as travel time or the skill of the field worker. One interviewee said: "There was no structure in how we distributed our technicians or our support team. It was really based more on human relationships than business sense." Consequently, travel to work sites took longer than it should have, and multiple trips to fully address an issue were commonplace. As these jobs took longer to complete, resources continued to bill more hours and burden organizations with additional costs.

D365 for Field Service solved for these challenges in several of ways, detailed further below:

› The Dynamics platform provided a one-stop-shop view of the organization's entire field operations, from the availability of field resources and equipment to the status of work orders. RSO, which enhanced the platform even further, automated the task of scheduling and optimized travel routes, resources, and equipment with little need for manual input. These tasks traditionally consumed a significant portion of supervisor- and dispatcher-billed hours, which were reduced by 75% and 67%, respectively. One interviewee shared, "The RSO was a huge benefit because it allowed us to tackle our work orders based on level of priority and the availability of a resource."

› Over time, organizations compiled detailed data on work orders and resources. This data could be used to better understand how long a specific job should take or the productivity of any given field resource. Organizations used this data to optimize their talent pools and gradually improve customer-facing SLAs. The composite organization was able to slash hours billed by technicians by as much as 50%.

The cost savings resulting from the aforementioned efficiencies are based on the following assumptions:

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 composite organization expects risk-adjusted total benefits to be a PV of almost $1.8M.

"We always thought we were operating at 100% utilization, but what we learned was that we were really only at 50%. Once we made this discovery, we stopped growing the team and started taking steps to increase individual utilization and improve our SLAs instead."

Director of IoT, telecom

"As a division, we're now completing significantly more work orders per day than we were before."

Director of IT, manufacturing

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- Only maintenance and repair work orders are affected as installations are managed by a single, central installation team.

- Field FTEs in the composite organization are independent contractors and are paid based on total work hours self-reported on a timesheet.

The following factors may affect the actual cost savings from increased work order efficiency that other organizations experience:

- **Previous environment.** Other organizations will be operating at varying levels of efficiency prior to adopting D365 for Field Service depending on their previous field service management tools and unique operating characteristics, which may impact the degree to which field resources can become increasingly efficient.

- **Compensation and employment model.** While the composite organization exclusively employs contractors for field services and pays per work order, other organizations may hire full-time employees, in which case, cost savings would come in the form of saved productivity rather than reduced hours billed.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of $1.4M.

60%
Fewer hours billed for maintenance and repair

> Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Repair and maintenance work orders requiring field dispatch yearly		2,400	2,600	2,800
A2	Average hours billed per repair or maintenance work order in previous environment		12.75	12.75	12.75
A3	Average hours billed per repair or maintenance work order with D365 for Field Service		7.25	6.25	5.25
A4	Reduction in hours billed per repair or maintenance work order	A2-A3	5.50	6.50	7.50
A5	Fully burdened blended hourly field services rate		$39	$39	$39
At	Cost savings from increased work order efficiency	A1*A4*A5	$514,800	$659,100	$819,000
	Risk adjustment	↓15%			
Atr	Cost savings from increased work order efficiency (risk-adjusted)		$437,580	$560,235	$696,150

Cost Savings From Increased Work Order Efficiency: Calculation Table

Cost Savings From Reduced Field Dispatch Enabled By IoT

A core feature of the D365 for Field Service platform is its interoperability with IoT technology, which several interviewed organizations have already deployed or are in the process of deploying. IoT grants organizations access to information such as usage or the physical condition of their field equipment, in real time. Traditionally, field resources would have had to physically inspect equipment to acquire this data; however, with IoT, organizations could access this data through mobile devices and even communicate with the corresponding IoT devices to perform remote actions. As a result, organizations could address a portion of work orders without ever dispatching a live field resource. One interviewee noted, "With IoT, we get an alert every time

10%
Reduction in field dispatch

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there is an issue with one of our devices, and our system is configured to automatically reset that device up to three times. If that hasn't fixed the issue, only then do we dispatch a technician."

The composite organization resolved over 10% of total work orders without live field dispatch. The corresponding cost savings are based on the following assumption:

› The IoT device is a custom software that can be integrated directly into the kiosk machinery to communicate remote actions. Using IoT, the composite organization could perform simple fixes, such as resetting the kiosk remotely through a mobile application.

For other organizations, the cost savings experienced from reducing field dispatch through IoT will depend on the following variable:

› **Type of field equipment.** Depending on the type of field equipment being monitored, the IoT device may be in the form of software or hardware. For instance, nondigital equipment would require a physical IoT device to externally monitor the condition of the equipment. The data obtained from an external IoT device may not be as robust or accurate as data obtained from a device that is integrated into the equipment itself. Furthermore, without direct integration, self-remediation of equipment may be more difficult to achieve.

To account for this risk, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $360K.

> "IoT allows us to know the exact reason for the behavior of our kiosks. If connectivity breaks, for example, we'll know exactly what caused it to break and what steps we need to take to fix it."
>
> *Director of IoT, telecom*

Cost Savings From Reduced Field Dispatch Enabled By IoT: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Repair and maintenance work orders self-remediated by using IoT add-on		300	325	350
B2	Average hours billed per repair or maintenance work order in previous environment	A2	12.75	12.75	12.75
B3	Fully burdened blended hourly field services rate		$39	$39	$39
Bt	Cost savings from reduced field dispatch enabled by IoT	B1*B2*B3	$149,175	$161,606	$174,038
	Risk adjustment	↓10%			
Btr	Cost savings from reduced field dispatch enabled by IoT (risk-adjusted)		$134,258	$145,446	$156,634

Cost Savings From Reduced Fuel Consumption

Efficiencies from optimizing or eliminating travel were not limited to fewer labor hours billed. By spending less time on the road, organizations also cut back on the amount of fuel they consumed for field work. With D365 for Field Service coupled with RSO, organizations reduced total driving time and subsequent fuel costs by half. Additionally, using IoT, organizations could address more than 10% of work orders without live field dispatch and thus avoided fuel costs for these work orders entirely. For the composite organization, Forrester assumes that:

› One hour is the average total driving time spent per work order, including any additional time needed for repeat visits.

50%
Less driving time

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Other organizations may experience different benefits from reduced fuel consumption due to the following variables:

› **Operating region and footprint.** Organizations with a wider operating footprint may have a longer average drive time per work order.

› **Vehicle type.** Field equipment that uses large, heavy components may require a larger vehicle with lower fuel efficiency.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of $28K.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
Cost Savings From Reduced Fuel Consumption: Calculation Table					
C1	Average field time spent driving per work order prior in previous environment, in hours		1	1	1
C2	Average field time spent driving per work order using D365 for Field Service, in hours		0.5	0.5	0.5
C3	Average fuel cost per hour		$7.20	$7.20	$7.20
C4	Total work orders per year requiring live field dispatch		2,450	2,650	2,850
C5	Repair and maintenance work orders self-remediated by using IoT add-on	B1	300	325	350
C6	Saved fuel costs from reduced average field driving time	(C1-C2)*C3*C4	$8,820	$9,540	$10,260
C7	Saved fuel costs from avoided field trips using IoT	C1*C3*C5	$2,160	$2,340	$2,520
Ct	Cost savings from reduced fuel consumption	C6+C7	$10,980	$11,880	$12,780
	Risk adjustment	↓5%			
Ctr	Cost savings from reduced fuel consumption (risk-adjusted)		$10,431	$11,286	$12,141

Cost Savings From Reduced Service Calls

Traditionally, front-office field service operations needed to be heavily supported by a labor-intensive back-office function such as a call center. Call center resources would partake in a variety of activities, including receiving work requests, sending appointment reminders, handling inquiries, and conducting after-sales support. While organizations still found the call center function to be an important part of the customer experience even after adopting D365 for Field Service, they learned that the platform could reduce the burden on call center agents by automating or assisting specific tasks that would have required separate calls in the past.

After adopting D365 for Field Service, interviewed organizations experienced a drop in service calls by a minimum of 20%. As a core feature of the field service platform, users could automate specific actions to take place over the course of the work order. For example, once a technician was dispatched to the work site, an automated text message could be sent out to notify the customer. Similarly, when a work order was marked as complete, the D365 for Field Service platform could be used to immediately send the customer a follow-up customer satisfaction survey.

> "Even if I had 100,000 customers today, I'd be able to create a workflow that automatically sends 100,000 emails or text messages to remind them of their appointment. I wouldn't need to have service agents making all of those calls."
>
> *President, construction*

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The cost savings from reduced service calls experienced by the composite organization is based on the following assumption:

> The fully burdened cost of 1 minute of contact is approximately $1, and the average contact duration for the organization is 3 minutes.

The following characteristic may impact the cost savings that other organizations experience from reduced service calls.

> **Service calls made per work order.** The composite made an average of three service calls per work order for purposes such as sending appointment reminders or facilitating after-sales support. However, while these activities ensure high customer satisfaction, they are not always essential to field operations; thus, other organizations may not find it necessary to conduct the same number of service calls.

To account for this risk, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of $13K.

20%
Fewer service calls

Cost Savings From Reduced Service Calls: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	Total work orders per year		2,750	2,975	3,200
D2	Service calls per work order		3	3	3
D3	Reduction in service calls using D365 for Field Service		20%	20%	20%
D4	Average cost per contact		$3	$3	$3
Dt	Cost savings from reduced service calls	D1*D2*D3*D4	$4,950	$5,355	$5,760
	Risk adjustment	↓5%			
Dtr	Cost savings from reduced service calls (risk-adjusted)		$4,703	$5,087	$5,472

Unquantified Benefits

Organizations experienced additional benefits from Dynamics 365 for Field Service that were not quantified for the study but were nonetheless a significant part of the value that they experienced from the solution.

> **Heightened customer experience and satisfaction.** Using communication tools offered by the 365 for Field Service platform, organizations could keep customers updated with information such as technician arrival times and the status of work orders so that customers could have better visibility into field work being done. Furthermore, customers that rely on field equipment for their own productivity needs may notice an improvement in uptime in their equipment due to more timely maintenance and repair work.

> **Reduced overtime pay.** While the financial model for this study conservatively assumes that each hour of labor saved is billed at the normal rate, in reality, a subset of work orders is often completed outside of usual business hours and billed at the overtime rate. Using Dynamics 365 for Field Service, organizations can assign the overtime rate to specific resource bookings and thus determine the value of avoided overtime pay in their own environments.

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> **Improved hardware quality.** In addition to having better visibility into their field operations, organizations using D365 for Field Service with IoT could detect frequently occurring issues with their hardware components and thus improve or replace poorly functioning components over time. A director of IoT for a telecom company recounted, "Through IoT, we came to know that one model of our bill acceptors was creating a lot of trouble, so we stopped using it."

> **Avoided regulatory penalties.** Using D365 for Field Service, users can predefine the specific requirements to complete a work order to ensure that all field workers are taking the same steps. The president of a construction company mentioned: "In order for us to do a job, we have to secure a permit through our local municipality ahead of time. In the past, when we expanded with our workflow, we had fewer people to pay attention to our permitting, and we'd look back every couple of months and see hundreds of open permits requests that hadn't yet been issued. With D365 for Field Service, we can actively put stop gaps in our process to ensure that we always have a permit before we start a work order so we're never in danger of losing our license."

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Dynamics 365 for Field Service and later realize additional uses and business opportunities, including:

> **Staffing on alternative projects.** Some organizations found that reducing the hours needed to complete the average work order allowed them to decrease the number of field resources while others preferred to simply use the extra field utilization to expand staffing opportunities beyond their initial roles. By doing so, field FTEs could continue to develop their skills vertically across work order types while saving the organization the costs of hiring additional work order or project-specific resources.

> **Improved analytics and reporting.** D365 for Field Service allows organizations to set and monitor key performance indicators (KPIs) for managing work orders, scheduling activities, and customer interactions. Over time, organizations can harness this data to better understand customer pain points and how effective their field operations are at addressing them, ultimately delivering a positive customer experience.

> **Product upsell.** By enhancing collaboration among technicians, supervisors, customer service agents, and customers, organizations can gradually shift their field services from being simply a cost center to being more of a revenue-generating opportunity. For example, using the platform, organizations can generate surveys to gauge customer satisfaction and additional work needs. Technicians and customer service agents could then leverage these surveys to offer solutions that are customized to meet individual customer needs.

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

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.

"Oftentimes our customers will have specific follow-up questions or feedback on their technician. Using Dynamics, we've been able to use that feedback to improve and customize our services, and ultimately, boost our win rate."

President, construction

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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
Etr	Product operations costs	$192,500	$23,760	$23,760	$23,760	$263,780	$251,588
Ftr	Product license fees	$0	$37,200	$37,200	$37,200	$111,600	$92,511
Gtr	Opportunity cost of time invested for product training	$27,852	$5,412	$5,412	$5,412	$44,088	$41,311
	Total costs (risk-adjusted)	$220,352	$66,372	$66,372	$66,372	$419,468	$385,410

Product Operations Costs

Organizations incurred several upfront and ongoing costs to create the foundational backbone for their field operations using D365 for Field Service. Due to the wide availability of deployment and technology partners that work with the Dynamics product suite, all interviewed organizations found that they could deploy D365 for Field Service in less than one year. Furthermore, implementation costs were predictable because these partners would quote an upfront fixed flat or monthly fee. For the composite organization, total costs related to product operations included this implementation fee along with the cost of product support and cloud computing, as further detailed below:

> Implementation fees were provided by a third-party partner and expert in connected IoT technologies. This implementation fee included the cost of initial data migration and integration as well as customization and configuration tailored to the composite organization's environment. Additionally, the third party worked alongside the composite organization over the course of three months to proof-of-concept an IoT software that could be implemented across the organization's regional kiosk footprint.

> The technology partner also offered product support and charged the composite organization based on the number of D365 for Field Service users.

> Microsoft Azure provided cloud computing, which consisted of a monthly fee based on total cloud usage across the organization's kiosk footprint needed to transmit data from the IoT software installed within the kiosks to end user devices.

Total product operations costs account for the characteristics of the composite organization and are based on the following assumptions:

> Only supervisors held a unique D365 for Field Service license; therefore, product support costs were calculated based on 20 users.

> Product support was purchased for all 12 months of the year.

Product operations costs that other organizations experience will vary based on the following factors:

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 composite organization expects risk-adjusted total costs to be a PV of more than $385K.

$251,588
three-year cost PV

65%
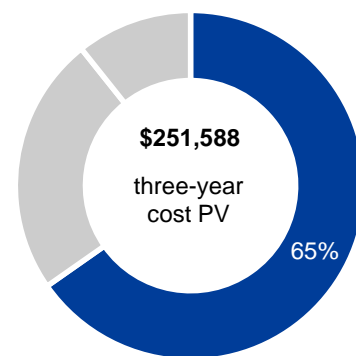
Product operations: 65% of total costs

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> › **Number and type of deployments.** The composite organization deployed the base D365 for Field Service platform and the RSO and IoT add-ons on a regional scale. However, other organizations may opt for fewer add-ons or may require several deployments of the Field Service platform to cover multiple geographies.

> › **Deployment complexity.** Other organizations may have a lengthier or more difficult data migration process, depending on their previous environments. Similarly, customization and configuration of the solution may require more work for some organizations than others depending on the complexity of field operations.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of $252K.

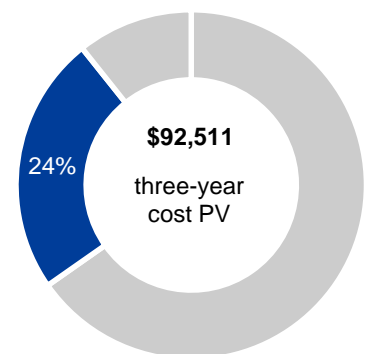|	**Product Operations Costs: Calculation Table**					
REF.	**METRIC**	**CALC.**	**INITIAL**	**YEAR 1**	**YEAR 2**	**YEAR 3**
E1	Partner implementation and ongoing support fees		$175,000	$9,600	$9,600	$9,600
E2	Cloud computing costs			$12,000	$12,000	$12,000
Et	Product operations costs	E1+E2	$175,000	$21,600	$21,600	$21,600
	Risk adjustment	↑10%				
Etr	Product operations costs (risk-adjusted)		$192,500	$23,760	$23,760	$23,760

Product License Fees

To achieve its goals of maximum field efficiency and transparency, the composite organization opted to deploy both the RSO and IoT add-ons and supplemented these capabilities with the dashboarding features of Microsoft Power BI. Adding IoT functionality is a feature of the standard D365 for Field Service platform and thus does not carry a separate cost; however, organizations pay additional license fees per user for the RSO add-on and usage of Power BI. Product license fees for the composite organization are based on the following assumptions:

> › Only supervisors held a unique D365 for Field Service license. Similarly, the RSO licenses and Power BI licenses were granted to the composite organization's 20 supervisors.

> › The composite organization purchased D365 for Field Service as part of the Customer Engagement Plan instead of as a standalone product.

The aforementioned product license fees are the actual fees charged by Microsoft; thus, Forrester made no risk adjustment. The combined license fees yielded a three-year PV of $93K.

24%

$92,511

three-year cost PV

Product licenses: **24%** of total costs

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Product License Fees: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Field service software license fees			$27,600	$27,600	$27,600
F2	RSO add-on fees			$7,200	$7,200	$7,200
F3	Power BI license fees			$2,400	$2,400	$2,400
Ft	Product license fees	F1+F2+F3	$0	$37,200	$37,200	$37,200
	Risk adjustment	0%				
Ftr	Product license fees (risk-adjusted)		$0	$37,200	$37,200	$37,200

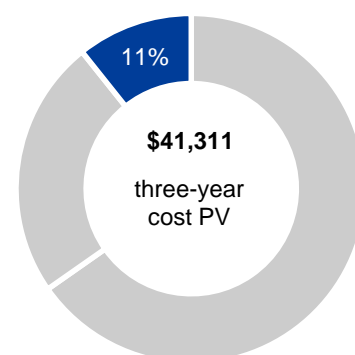## Opportunity Cost Of Time Invested For Product Training

As part of the implementation fee, the technology partner provided a number of formal training sessions for end users of the D365 for Field Service. For all interviewed organizations, training sessions facilitated change management and standardized usage of the platform. Interviewees noted that the platform was "intuitive" and "user-friendly" and thus did not warrant a lengthy process. Instead, training was fit into a handful of formal sessions and catered individually to supervisors and technicians, as noted below:

› Training for supervisors consisted of three initial sessions during deployment and one session per year after going live to level-set on the most recent features and rollouts deployed by Microsoft.

› Additionally, the technology partner hosted two live Q&A sessions during the deployment phase and one Q&A session per year after going live. Both technicians and supervisors attended these Q&A sessions.

The opportunity cost of time invested for product training that other organizations experience will vary based on the following factor:

› **Depth of training.** The composite organization held a total of five training sessions that lasted no more than half a day each; however, other organizations may need to hold more frequent or in-depth training sessions, depending on the complexity of their environments.

To account for this risk, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of $41K.

11%

$41,311

three-year cost PV

Product training: **11%** of total costs

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Opportunity Cost Of Time Invested For Product Training: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	Number of supervisor training sessions		3	1	1	1
G2	Duration per supervisor training session, in hours		4	1.5	1.5	1.5
G3	Number of field supervisors		20	20	20	20
G4	Fully burdened hourly supervisor rate		$47	$47	$47	$47
G5	Value of supervisor productivity lost during training	G1*G2*G3*G4	$11,280	$1,410	$1,410	$1,410
G6	Number of Q&A sessions		2	1	1	1
G7	Duration per Q&A session, in hours		3	1.5	1.5	1.5
G8	Total field service FTEs (technicians and supervisors)		60	60	60	60
G9	Fully burdened blended hourly field services rate		$39	$39	$39	$39
G10	Value of field productivity lost during Q&A sessions	G6*G7*G8*G9	$14,040	$3,510	$3,510	$3,510
G11	Opportunity cost of time invested for product training	G5+G10	$25,320	$4,920	$4,920	$4,920
Gt	Risk adjustment	↑10%				
Gtr	Opportunity cost of time invested for product training (risk-adjusted)		$27,852	$5,412	$5,412	$5,412

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Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)

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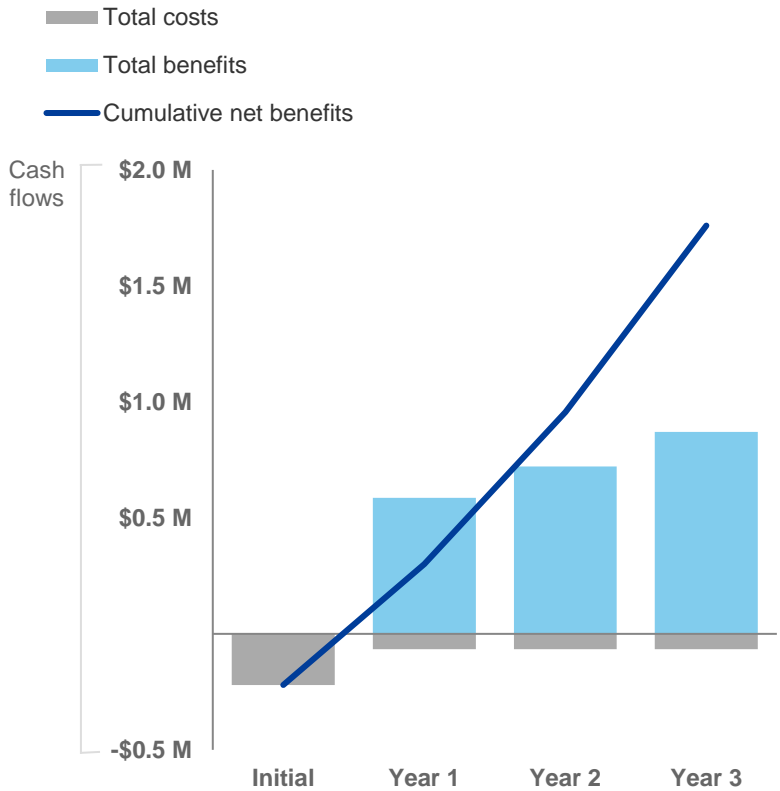
The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

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	($220,352)	($66,372)	($66,372)	($66,372)	($419,468)	($385,410)
Total benefits	$0	$586,971	$722,054	$870,397	$2,179,422	$1,784,292
Net benefits	($220,352)	$520,599	$655,682	$804,025	$1,759,954	$1,398,882
ROI						363%
Payback period						<6 months

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Microsoft Dynamics 365 for Field Service: Overview

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

Microsoft Dynamics 365 for Field Service delivers a seamless, end-to-end service experience. Built-in intelligence helps you resolve service issues before they occur, reduce operational costs, and deliver positive onsite experiences.

Drive operational efficiency with IoT

Gain insight and intelligence

Harness the power of IoT to detect and diagnose problems before customers become aware of an issue.

Automate work order creation
Automatically create work orders, and schedule and dispatch technicians with relevant customer information on their devices.

Transform service with predictive maintenance
Move from costly scheduled maintenance plans to just-in-time predictive maintenance and repair, clean, or replace parts only when needed.

Optimize your resources

Automate scheduling
Improve profitability by automatically scheduling the technician with the right job skills and best location to fit in more appointments per day.

Empower dispatchers
Manage resource assignments across multiple work orders using an interactive, drag-and-drop schedule board.

Streamline inventory management
Synchronize and track inventory down to the truck level with real-time visibility to increase first-time fix rates.

Make technicians more effective

Ensure on-time appointments
Keep technicians on time with the best route, turn-by-turn directions, and work order details that can be updated in real time on any device.

Share customer information
Get a 360-degree view of customer preferences and history with personalized, step-by-step instructions to reliably track and complete the task at hand.

Boost on-site efficiency
Improve field processes through mobile access to back-office information for technicians to effectively capture and update all work order details.

Create new levels of productivity
Improve outcomes with access to leading-edge technologies such as mixed reality headsets to offer technicians hands-free guidance.

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Engage with your customers

Build customer trust
Engage customers proactively to increase transparency and trust by seamlessly sharing quote, contract, and scheduling information.

Create effortless service experiences
Make it easy for customers to keep track of service activities and self-schedule appointments with a customer portal.

Communicate proactively
Provide your customers with real-time technician location tracking and automated voice and text appointment reminders so they know when to expect service.

Innovate with an adaptable platform

Adapt quickly
Accelerate time-to-market and adapt the application to your needs with no-code visual editors and tools that make it easy to build and deploy web and mobile apps.

Unify your service environment
Automate processes across Dynamics 365 applications and third-party systems for better engagement experiences.

Invest with confidence
Rely on the Microsoft cloud platform to reduce the cost and complexity of operating a global infrastructure and trust Microsoft's state-of-the-art data centers to safeguard your data.

Drive innovation
Transform your customer interactions with deep insights that guide your teams to the right business outcomes.

Modernize field service with mixed reality

Empower technicians
Equip technicians with modern tools like mixed reality video calling, annotations, and file sharing, so technicians can get the information they need to solve problems in context.

Solve complex problems faster
Enable on-site technicians to share what they see with remote experts, while staying heads-up, hands-free with Dynamics 365 Remote Assist on Microsoft HoloLens.

Easily access work orders
Integrate seamlessly with Dynamics 365 Field Service so technicians can view assignments and access work order data.

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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.

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