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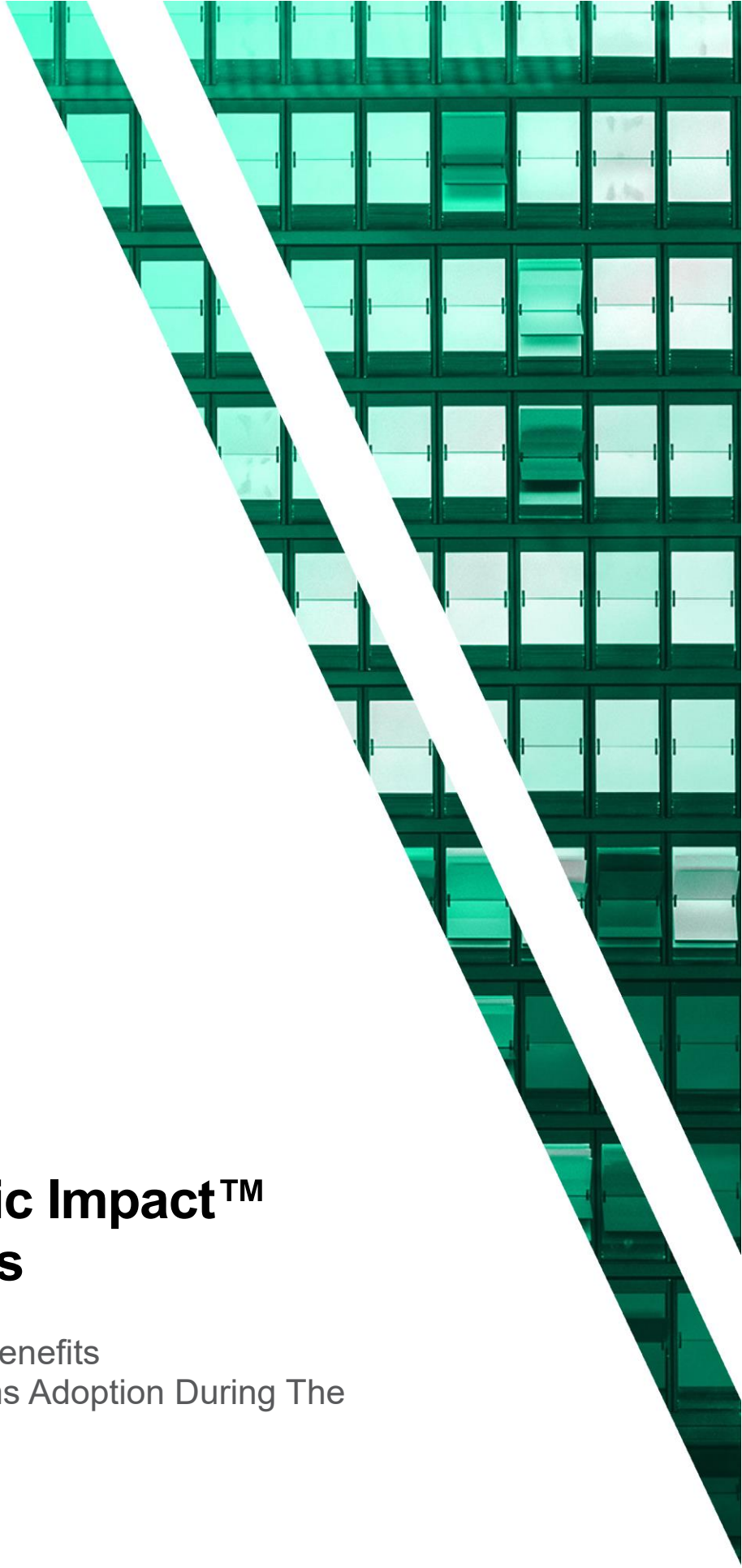

The Total Economic Impact™ Of Microsoft Teams

Cost Savings And Business Benefits Enabled By Accelerated Teams Adoption During The COVID-19 Pandemic

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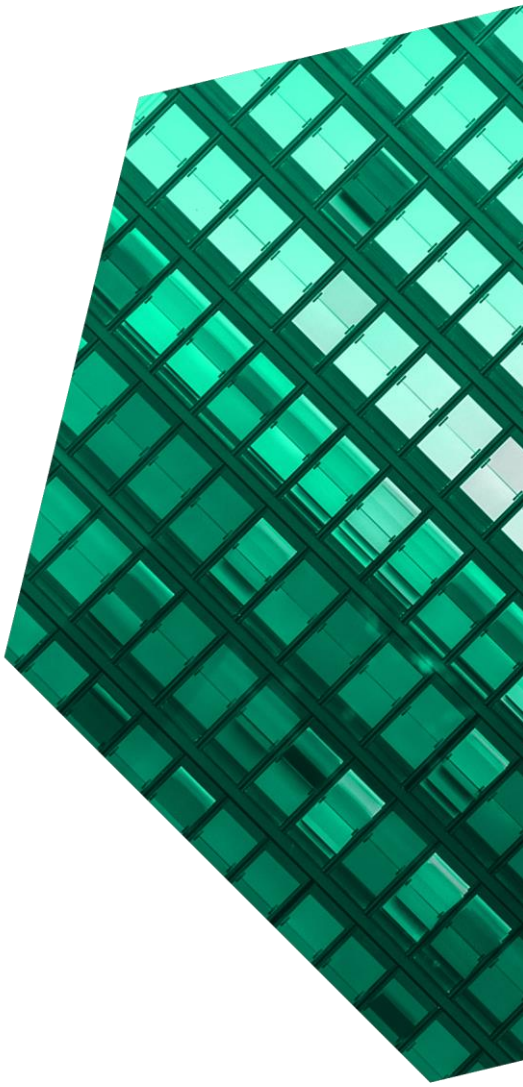


Executive Summary

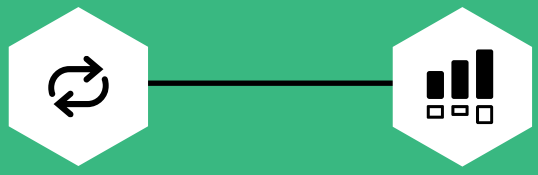
According to Forrester Research, global software technology decision-makers say that enterprise collaboration (EC) is critical: 36% of those who are adopting collaboration software have either implemented it or are in the process of doing so. And a further 25% are upgrading or expanding their current software. These decision-makers tell Forrester that investment drivers come from both execs — who feel that collaboration can drive long-term differentiation — and from business users, who use tools like social networking, team messaging, and file-sharing solutions.[1]

Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by further deploying Microsoft Teams during the COVID-19 pandemic. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Teams on their organizations. Teams, as a hub for communication and collaboration, is the tool that organizations relied upon to not only maintain the status quo when the pandemic resulted in organizations quickly adopting work-from-home models of employment, but also to further innovate due to Teams deployment despite the shifting landscapes and uncharted territories organizations faced.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four customers with experience using Teams. 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 the pandemic, customers had rolled out Teams to most of their employees. However, adoption rates were low and prior change management strategies yielded limited success, leaving customers with many disparate and redundant tools in place for collaboration and communication. Having multiple tools to meet the same needs meant customers faced unnecessary costs, confusion in their workforce due to the overlap, and less visibility into the quality and security of those tools. Additionally, development efforts were scattered as there was no single tool for a quorum of their employees that warranted the focus of innovation efforts. As a result, employees operated without the benefits of the latest features and functionalities in their collaboration tools.

KEY STATISTICS



Return on investment (ROI)	Net present value (NPV)
148%	**$7.3M**

With the pandemic, the customers saw improved adoption rates for Teams which allowed them to streamline more of the enterprise to Teams for collaboration and communication. Key results from the higher adoption rates included scaled productivity for the larger volume of employees, amplified efficiency benefits from new automation functionality, and cost savings associated with streamlining to a single communication and collaboration tool. Additionally, Teams provided a venue to support ongoing operations, develop new revenue streams, and elevate security and compliance processing as customers reimagined a changing workforce.

"Our goal was to create an environment where people could be more collaborative, more productive, and engage people in more of our operations."

Superintendent of IT services and analytics, financial services

KEY FINDINGS

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

- **Improved adoption of Teams by 45% to drive further productivity gains.** Mandatory stay-at-home orders and other consequences of the pandemic resulted in ramped adoption of Teams by 45% in Year 1. With more employees actively using Teams as a hub for communication and collaboration, time savings grew by 15% year-over-year (YoY). Each employee saved an average of 75 hours per year, which is worth more than $6.7 million in total to the organizations over three years.
- **Elevated time savings for users by 130 hours annually from process automations.** Higher adoption of Teams inspired organizations to spend more time on the development of new features and functionality. Through this effort, the introduction of process automations led to additional time savings of 30 minutes on average per day for employees across various business units. Over three years, the associated cost savings totaled $4.2 million.
- **Reduced volume of IT help-desk tickets by 20% each year.** As employees adjusted to new and shifting work environments, the average volume of logged IT help-desk tickets doubled in Year 1. Chatbots were developed in Teams to combat the higher volumes of tickets and assist IT professionals by answering FAQs and pointing employees to self-service materials. The reduction of help-desk tickets resulted in cost savings of $207K over three years.
- **Expedited consolidation of redundant tools by four months.** The pandemic jump-started the adoption of Teams and allowed for faster consolidation of redundant platforms by four months. Therefore, organizations benefited from the associated cost savings for the additional months, totaling $600K.
- **Eliminated $500K of legacy equipment from conference rooms.** Physical conference rooms required an update as organizations considered transitioning back to physical office spaces post-pandemic. To capitalize on the shift to Teams, and encourage continued adoption of the platform, organizations replaced legacy meeting room equipment with Teams devices. Physical hardware displacement saved $500K in Year 1, and it led to additional savings on maintenance cost avoidance in subsequent years. In total, the organizations saved $537K over three years.

Unquantified benefits. Benefits that are not quantified for this study include:

- **Increased revenue by three times where digital channels were introduced.** The organizations utilized Teams to support digital channels that encouraged continued customer engagement throughout the pandemic. Digitalizing previously in-person interactions not only made these interactions possible during the pandemic, but they also ensured that organizations would not miss out on associated revenue streams. Enabling digital channels through Teams therefore contributed to revenue growth by three times.
- **Reduced IT compliance costs by 14.1% and time spent on e-discovery by 12.3% to**

improve security and compliance efforts.[2] Security and compliance efforts were of heightened importance during the pandemic when shifting work environments left organizations even more exposed to security threats. New Teams features and functionalities allowed organizations to streamline security and compliance efforts to reduce or avoid the associated costs. For instance, organizations reduced time spent on e-discovery by 12.3% and reduced IT costs associated with compliance efforts by 14.1%.

- **Heightened trust in virtual platforms.** Teams proved itself to be both reliable and high-performing as the hub for communication and collaboration throughout the COVID-19 pandemic. Teams demonstrated how successful daily operations and communications could be with the platform. And as a result, future work environments were no longer influenced by the habits of the past, especially where travel and physical office space were concerned. Less travel for meetings and fewer physical office spaces could lead to additional cost savings.

Costs. Risk-adjusted PV costs include:

- **Internal time spent on training and ongoing maintenance of Teams.** Internal FTEs were required to spend time on ongoing training and maintenance efforts. Organizations introduced ambassador programs to foster higher Teams adoption rates by supporting general employee user training. Additional technical resources were added to the maintenance of Microsoft tools to meet the needs of a larger Teams user base. Across all training and maintenance activities and resource types, internal time spent totaled $2 million over three years.
- **Internal time spent on Teams development effort.** With the renewed investment in Teams, the organization dedicated five FTEs to the development of new features and functionality. Time spent on the development effort totaled $1.7 million over three years.
- **Costs associated with outfitting physical meeting rooms with Teams devices.** Replacing legacy meeting room hardware with Teams devices required fees associated with physical Teams devices and licensing per meeting room. In total, outfitting meeting rooms with Microsoft Teams devices, cost $1.2 million over three years.

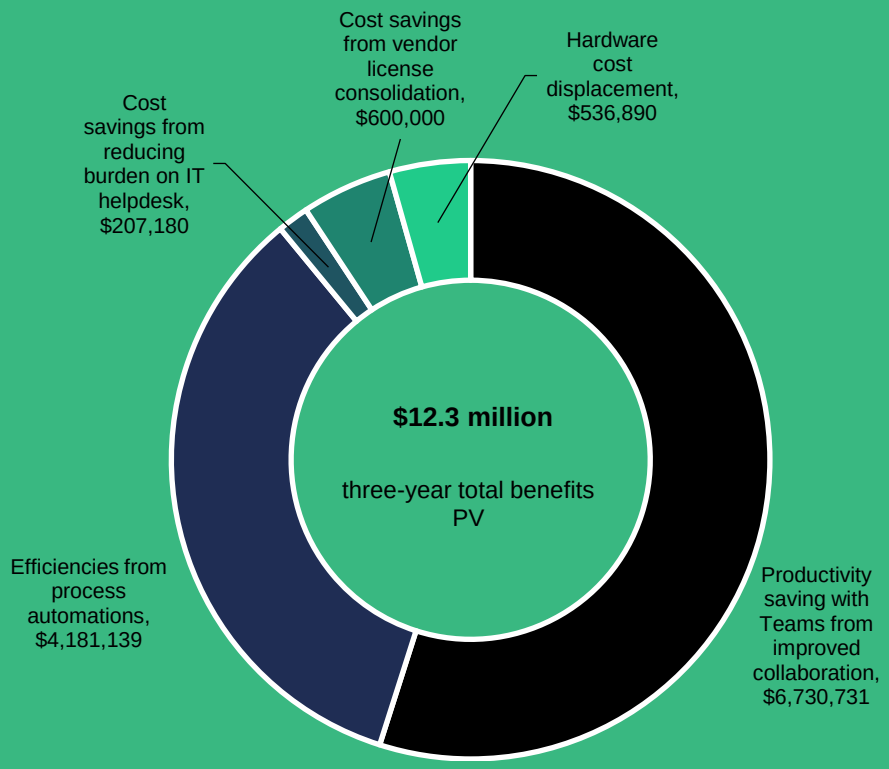
The customer interviews and financial analysis found that a composite organization experiences benefits of $12.3M over three years versus costs of $5M, adding up to a net present value (NPV) of $7.3M and an ROI of 148%.

ROI
148%

BENEFITS PV
$12.3M

NPV
$7.3M

Benefits (Three-Year)



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 the Teams.

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

DUE DILIGENCE

Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to the Teams.

CUSTOMER INTERVIEWS

Interviewed four decision-makers at organizations using Teams to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewed customers.

FINANCIAL MODEL FRAMEWORK

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

CASE STUDY

Employed four fundamental elements of TEI in modeling the 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 Microsoft Teams Customer Journey

Drivers leading to the Teams investment

Interviewed Customers

Industry	Interviewee	Total Employees	Teams Active Users Since COVID-19 (%)
Media/entertainment	VP, workplace collaboration and user experience (UX)	45,000	90%
Automotive	Senior manager, network platforms	48,000	75%
Financial services	Superintendent of IT services and analytics	67,000	89%
Healthcare	CIO	>40,000	50%

KEY CHALLENGES

Prior to the pandemic, customers' organizations struggled when it came to standardizing and streamlining communication and collaboration tools to Microsoft Teams.

This resulted in common challenges, including:

- **Low adoption rates.** While Teams was widely rolled out prior to the pandemic, customers struggled with change management. The resulting low adoption rates meant that any existing productivity or efficiency benefits were restricted to small groups of active users. Due to spotty adoption, active users could only collaborate with a limited number of peers, let alone attempt to communicate and collaborate across the enterprise.
- **Disparate legacy tools.** Low adoption of Teams meant that many legacy tools remained in place at the customers' organizations. While there was a desire to streamline all communication and collaboration to Teams at the enterprise-level, customers were not successful in that effort prior to the pandemic. Therefore, disparate and redundant tools were spun up inside functional groups, often without proper governance or security, which left organizations exposed to more risk. Additionally, the customers' organizations were left paying for licensing and ongoing maintenance for the many overlapping tools and platforms in place.

> **"We had a lot of different products in place from different vendors to hold meetings and separate tools for chat. Then, employees were going off and using their own free instances for different tools for various purposes. Employees were using [the free instances of certain tools] without any governance or security which posed a risk. We always had a plan to remove those tools from our suite, but we had not had a good opportunity to do so in the past."**
>
> *VP of workplace collaboration and UX, media/entertainment*

- **Restricted development and rollout of new functionality.** The limited functionality available in legacy tools left customers' employees searching for and engaging with their own replacements for communication and collaboration. This created a technology landscape that was rampant with rogue tools and shadow IT efforts. This resulted in organizations

lacking a single platform to focus on for development, nor was there any reason to heavily invest in one specific tool. Employees were not benefitting from new features and functionality available in Teams, and organizations were not getting the most out of their technology investment.

"The tool we had in place prior to Teams provided a good texting or communication tool. But it was pretty limited in its capabilities, and it was an expensive tool for what it provided. Additionally, it did not integrate well into our overall environment. So, we were basically stuck in it."

CIO, healthcare

The challenges experienced by the interviewed customers left them in a poor position to face all of the downstream business impacts of the COVID-19 pandemic, namely the change to a work-from-home employment model. They wished to consolidate and streamline their communication and collaboration technologies to Teams to maximize the impact of that investment and minimize costs and risks associated with a technology landscape riddled with disparate and redundant tools and platforms.

"We were looking at how do we optimize our communication technologies. Obviously, because Teams is much more stable [than any technology we had in place prior], we are much more confident in saying that this is the only technology that we're going to support and everyone has to move over to this. So, then we could remove those other technologies."

Senior manager of network platforms, automotive

COMPOSITE ORGANIZATION

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

Description of composite. The global, billion-dollar composite organization has a headcount of 10,000 total employees, which includes both information workers (IW) and firstline workers (FLW) that span many geographical locations and time zones.

Deployment characteristics. Prior to the pandemic, the composite organization rolls out Teams to the majority of their 10,000 employees. They initially target general collaboration, including chat, calling, and meetings, as the primary use case.

With the onset of the pandemic, stay-at-home orders jump-started the composite organization's desire to drive up adoption of Teams and streamline communication and collaboration. As adoption rates soar, the composite organization deploys new functionality that includes process automations and chatbots to further scale the realized benefits.

Key assumptions

- **$1B in revenue**
- **10,000 employees**
- **Improve Teams adoption by ~40% on average each year**
- **Accelerate consolidation to Teams by four months**

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	Productivity savings with Teams from improved collaboration	$2,527,200	$2,609,194	$3,030,578	$8,166,972	$6,730,731
Btr	Efficiencies from process automations	$1,347,840	$1,701,648	$2,062,397	$5,111,885	$4,181,139
Ctr	Cost savings from reducing burden on IT help desk	$108,000	$81,810	$55,085	$244,895	$207,180
Dtr	Cost savings from vendor license consolidation	$660,000	$0	$0	$660,000	$600,000
Etr	Hardware cost displacement	$450,000	$81,000	$81,000	$612,000	$536,890
	Total benefits (risk-adjusted)	$5,093,040	$4,473,652	$5,229,061	$14,795,753	$12,255,940

PRODUCTIVITY SAVINGS WITH TEAMS FROM IMPROVED COLLABORATION

Evidence and data. The interviewed customers experienced improved employee productivity from using Teams as a hub for collaboration work. Features such as file sharing, chat, video, and calling contributed to time savings. While this functionality existed before the pandemic, streamlining the enterprise to Teams only enhanced productivity benefits as more employees were using the same tool for the same purposes. Ultimately, the need for tool/application switching and email communications reduced while the enhanced reliability of the Teams platform made for more efficient meetings.

- An executive at a media company explained how having one platform for communication and collaboration contributed to overall productivity levels. They said: “On the productivity side, the biggest benefit is not having to question what tool to use when. I just go to Teams and figure it out. I tell people to, ‘just find me on Teams,’ or ‘send the file on Teams and we will collaborate there.’ Do not send me 15 different attachments.”
- The same executive explained how consolidating communication and collaboration platforms to Teams resulted in fewer emails. They said: “I save at least 4 hours a week because I’m not chasing people down and waiting for a response or because they gave inaccurate information. I feel that Teams reduced the amount of replies required via email by offering chat channels for quick answers.”
- Another executive at a health services organization reiterated that reducing the volume of emails saved time. They attributed fewer emails to the enhanced file-sharing capabilities available through Teams. They said: “The simplicity of sharing a document without multiple emails is a huge productivity savings. It has made it a lot easier to do document-sharing, so people are not sending documents across email. Most employees will tell you that the number of emails going back and forth are significantly lower now.”
- An executive at an automotive company saw meeting efficiencies from having more of their enterprise using the more reliable Teams

platform. They said: “With Teams being a stable and better platform, we are able to have our meetings more efficiently and can focus on topics at hand versus technical issues. With our legacy virtual meeting platform, we were experiencing 86% to 87% of good quality calls. Now, with Teams, we are in the upper 90s for quality. We have over 400K calls per month, so this is a large time savings.”

- Meeting efficiencies and fewer emails contributed to a sense that, overall, information was flowing more easily throughout the organization. An executive at a media company indicated that they reduced the overall number of meetings required to stay on top of tasks and projects. They said: “Our writers and editors are either remote, at home, or they’re out in the field. We used to have at least four to five meetings a day to get updates on task completion. Now, they have one meeting a day at the end of the day, because during the day, people are within Teams checking off their items in real time.”
- An executive at a health services company also attributed fewer meetings to Teams features and functionality. They said: “Employees are using the recording feature now. All the notes of the meeting and the recording is right in the archive, in the meeting notes. So, if you forgot what happened in the meeting or missed it, it’s all there. This reduces the number of times somebody must be reminded of what was discussed in the meeting. Overall, it reduces the number of meetings required to come to consensus.”
- An executive at a financial services organization measured employee productivity as it related to Teams usage. They said that “72% of employees save more than 4 hours a day using Teams,” and that, “every employee is 7% more productive on average.”

Modeling and assumptions. For the purposes of the financial model, Forrester assumes the following:

- The composite organization has 10,000 employees and experiences 1% YoY growth.
- Prior to the pandemic, 25% of those employees

Annual time savings per employee with Teams:

75 hours

are considered active users of the Teams platform. Without the pandemic, the percentage of active users would have scaled to 30% in Year 2 and 35% in Year 3.

- The volume of active users jumps to 70% during the pandemic in Year 1. The percentage of active users remains at 70% in Year 2 as the organization’s employees slowly come out of the mandatory stay-at-home orders and enter a hybrid workplace scenario. By Year 3, the volume of active users grows to 75% as the composite organization solidifies Teams adoption outside of the pandemic ramp.
- Employees each save 15 minutes per day with Teams in Year 1. As development of Teams introduces more functionality to users and adoption grows internally, time savings increase to 17 minutes per day in Year 2 and 20 minutes per day in Year 3.
- On average, employees have an hourly fully burdened rate of $36.
- Thirty percent of employee time savings is reallocated to productivity.

Risks. Employee productivity may vary depending on the following:

- The total volume of employees at the organization and the percentage of active users prior to the pandemic.
- The percentage of active users during and after the pandemic. This number will vary depending on how the organization responded to the initial pandemic in terms of stay-at-home orders and whether or not they feel comfortable transitioning out of that initial workplace scenario. Adoption of Teams may drop for some organizations after the initial stay-at-home orders are lifted and employees return to physical offices.
- Teams features and functions available to employees and usage rates impact employee time savings.
- Average hourly rates for employees.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV of $6.7M.

Productivity Savings With Teams From Improved Collaboration

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Number of employees	Includes 1% YoY growth	10,000	10,100	10,201
A2	Microsoft Teams active users typical non covid ramp	Interview	25%	30%	35%
A3	Microsoft Teams active users after covid protocols	Interview	70%	70%	75%
A4	Average number of workdays per year	Assumption	260	260	260
A5	Time saved with Teams per day (minutes)	Increases by 15% YoY (rounded)	15	17	20
A6	**Subtotal: Hours saved per user with Teams**	**A4*A5/60 (rounded)**	**65**	**75**	**86**
A7	Average user hourly burdened rate	$75K/2,080 hours (rounded)	$36	$36	$36
A8	Productivity recapture rate	Assumption	30%	30%	30%
A9	Productivity savings per Teams active user	A6*A7*A8	$702	$807	$928
At	Productivity savings with Teams from improved collaboration	A1*(A3-A2)*A9	$3,159,000	$3,261,492	$3,788,223
	Risk adjustment	↓20%			
Atr	Productivity savings with Teams from improved collaboration (risk-adjusted)		$2,527,200	$2,609,194	$3,030,578
	Three-year total: $8,166,972		**Three-year present value: $6,730,731**		

EFFICIENCIES FROM PROCESS AUTOMATIONS

Evidence and data. With higher adoption of Teams, as seen by the interviewed customers, organizations could reinvest back in the platform. Meaning, that some of the interviewee's organizations dedicated development resources to rolling out new features and functionality. The biggest area to benefit from the invigorated development effort was process automations. With more employees on the platform, there were more opportunities for the automation of full processes as well as areas where the introduction of new functionality, such as chat bots, could provide

further assistance. Process automations were amplified during the pandemic for specific groups within the organization that benefited the most from the heightened efficiencies they offered — think processes that involved high-priority groups like firstline workers, IT staff, or those with customer-facing functions. Applying innovative development efforts to process automations greatly improved efficiencies during the pandemic and proved to the organizations that the Teams platform was a worthwhile future development investment.

- The executive at a media company described how they built process automations for their sales teams to standardize data intake efforts. They said: “Some sales teams are using process automations to monitor when deals are signed and to alert the coordinators that they need to go into third-party tools to enter the appropriate information. Previously, this process was completed via email. In the old way, the formatting was off, the intake forms were missing information — the quality was all over the place. With Teams, they have used Microsoft Forms and Power Automate to help standardize the intake process and help put the information in a consistent format and notify all parties of the update.”
- During the pandemic, firstline workers specifically experienced a large impact to their daily work. This was especially true for organizations in the healthcare industry. An executive at a health services company indicated that they utilized process automations through Teams to enable better and more efficient experiences for their clinicians so that they could focus their time and effort on treating patients and not on administrative hurdles. They described how they focused on bot development during the pandemic, saying: “In the last six to eight months, we have brought in a lot of functionality to the bots we have created. Currently, we have one big bot that has about 10 different functionalities.” That bot included functionality that allowed clinicians to, “contextualize conversations about the patients that they’re looking at, which is a huge productivity gain, because they don’t have to go back to the EMR [electronic medical record], every single time. I don’t know how much you’ve heard from the EMR industry, but that industry hasn’t changed in 25 years, in that they use essentially green screen systems.” In total, this bot saves clinicians about 20 to 30 minutes a day.
- The same health services executive explained how the process automations became even more prevalent during the pandemic: “The value of the bot [that essentially delivered patient test results] was greatly amplified during the pandemic, because doctors would wait for a result to come back on a COVID test. In the early days of the pandemic, it usually took 24 hours for the results to come back. And, once it came back, you must immediately move the patient to isolation. So, clinicians would keep going through the electronic medical record and hitting the refresh button waiting for the result. Now, Teams just send them the message automatically.”
- The pandemic inspired additional use cases for the bot created by the health services organization. Once the bot successfully delivered patient test results to clinicians through Teams, they expanded to allow the bot to locate past lab results by patient name and to connect the clinician to other healthcare providers in the network. Once connected, the clinician could schedule meetings to facilitate ongoing care for patients directly through Teams. Additionally, the bot generated reports that tracked COVID-19 progression. For example, it could report on the number of patients that tested positive for the virus over a designated period of time, which greatly increased efficiencies for the nurses, physicians, and nurse managers previously involved in the reporting process.

- The same bot extended functionality to support customer service channels that fielded questions about the COVID-19 pandemic. Throughout the pandemic, call centers were inundated with panicked questions from patients. The bot was embedded in a Teams channel that supported the call center to divert calls away from human agents. Instead, the bot could direct inquirers to FAQs and self-service materials where appropriate. Fairly immediately, the bot was able to divert 200 to 300 calls away from the call center.
- An executive at a financial services organization reiterated how important it was to focus on bot development to improve process automations during the pandemic. They said, “Today, we have four major use cases for bots and 50 total bots — all of which were deployed in the last three months [during the pandemic].” The major use cases for the developed bots and associated process automations were: 1) service desk for service technology requests; 2) HR or people management for employee benefit requests; 3) DevOps operations; and 4) contact center for customers that access the banking platform.

The executive at the financial services organization indicated that of the four major use cases targeted for bot development, the DevOps use case was perhaps the most successful in delivering efficiencies. They said, “We have saved approximately 32 minutes per day for each of our 11,000 engineers.” The additional time savings for engineers resulted from having Teams at the center of everything inside the DevOps operations: “Currently, we do not need to access any outside platforms, including Jira. We can conduct the entire DevOps process through Teams by connecting a bot to the DevOps platform through a webhook. This bot shares information through Teams across the various engineering groups involved in the process, including the code engineer, the quality engineer, the security engineer, etc. So, the productivity savings was from reducing tool switching and streamlining the information across the various groups and individuals involved in the end-to-end process.”

Annual time savings per employee from process automations with Teams:

130 hours

Modeling and assumptions. For the purposes of the financial model, Forrester assumes the following:

- The composite organization rolls out process automation developments and specifically bots to a subset of the overall population — targeting specific use cases by functional area. Therefore, 12% of the employees are impacted by improved process automations in Year 1. As the organization gets more comfortable and develops more bots to enable process automations, more employees receive the benefits — 15% of all employees in Year 2 and 18% by Year 3.
- The impacted employees save an additional 30 minutes per day from the process automation improvements enabled through Teams.
- On average, employees have an hourly fully burdened rate of $36.
- Thirty percent of employee time savings is reallocated to productivity.

Risks. Efficiencies gained from process automations will vary depending on the following:

- The total volume of employees at the organization as well as the scale for process automation improvements.
- Process automation complexity and bot development sophistication levels will impact the employee time savings experienced.

- Average hourly rates for employees.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV of $4.2M.

Efficiencies From Process Automations

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Number of employees	A1	10,000	10,100	10,201
B2	Percentage of employees impacted by process automations	Customer interviews	12%	15%	18%
B3	Average time saved from automated processes per day (minutes)	Customer interviews	30	30	30
B4	Average number of workdays per year	A4	260	260	260
B5	**Subtotal: Hours saved from automated processes per user with Teams**	**B3*B4/60**	**130**	**130**	**130**
B6	Average user hourly burdened rate	A7	$36	$36	$36
B7	Productivity recapture rate	Assumption	30%	30%	30%
Bt	Efficiencies from process automations	(B1*B2)*B5*B6*B7	$1,684,800	$2,127,060	$2,577,997
	Risk adjustment	↓20%			
Btr	Efficiencies from process automations (risk-adjusted)		$1,347,840	$1,701,648	$2,062,397
	Three-year total: $5,111,885			**Three-year present value: $4,181,139**	

COST SAVINGS FROM REDUCING BURDEN ON IT HELP DESK

Evidence and data. One area of process automations and bot development that blossomed during the pandemic was IT operations, this includes help-desk channels. Forrester Research indicates that, with the importance of automation, self-service, and remote support growing, now is the time to consider investing in chatbots for IT operations.[3] Organizations looking to improve employee technology experiences or increase automation capabilities can use IT chatbots to: deflect tickets from the help desk; automate Q&A by helping users locate needed information faster; reduce time to assistance for end users; assist IT operations pros in daily activities; and improve the user experience with IT.[4]

The interviewed customers focused their development effort on building bots within Teams to increase automation capabilities and improve the employee technology experience throughout the pandemic, when IT help desks were inundated with tickets from employees attempting to navigate their new home office environments.

- An executive at a financial services institution indicated that they developed a bot for their IT help-desk channel in Teams to reduce both the time to respond and solve tickets and the overall volume of tickets. They said: “With the bot we developed in Teams, we were able to reduce time to respond and solve IT tickets from 15 minutes to 3 minutes. We also reduced overall tickets [volume] by 70%. In the beginning of the

pandemic, we had 57,000 tickets per month, and now we have 19,000."

- The same executive at a financial services organization explained how they accomplished these reductions: "We did this by using the bots to deliver the automation for self-service. For example, if an employee wants to install an application, they can order it through bots, the bots will answer questions and lead the employee through the self-service installation process."

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization's 10,000 employees contact the help desk at a heightened volume during the pandemic in Year 1; this averages to four contacts per employee per year. The higher volume of help-desk interactions begins to level off in Year 2, with three contacts per employee, until it reaches the pre-pandemic volume in Year 3 with two contacts per employee on average.
- The bot reduces the volume of help-desk tickets that land in IT by 20% for each year of the investment. While bot development continues in all three years of the investment, part of the improvement works to reduce the inflated volumes of employee interactions the organization experiences throughout the pandemic.
- The average cost of an IT help-desk ticket is $15.

Risks. Cost savings from reducing the burden on the IT help desk may vary depending on the following:

- The volume of employees at the organization and the average number of contacts made to the IT help desk per year. This figure will also be impacted by the pandemic, in that most organizations saw heightened help desk activity during the mandatory stay-at-home orders.

20% reduction in annual help-desk tickets.

- Bot sophistication and dedication to the development effort will impact the reduction of tickets that land in IT.
- The average cost per ticket depends on the complexity of the questions that land in IT, the level of IT professional required to solve and close the ticket, and the time required for assistance.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $207K.

Cost Savings From Reducing Burden On IT Help Desk					
Ref.	**Metric**	**Calculation**	**Year 1**	**Year 2**	**Year 3**
C1	Number of employees	A1	10,000	10,100	10,201
C2	Number of times an average employee contacts the help desk per year	Assumption	4	3	2
C3	Reduction in number of tickets that land in IT due to introduction of bots during the pandemic	Customer Interviews	20%	20%	20%
C4	**Subtotal: Number of IT tickets eliminated from the help desk with Microsoft Teams**	**C1*C2*C3**	**8,000**	**6,060**	**4,080**
C5	Average cost per ticket	Assumption	$15	$15	$15
Ct	Cost savings from reducing burden on IT help desk	C4*C5	$120,000	$90,900	$61,206
	Risk adjustment	↓10%			
Ctr	Cost savings from reducing burden on IT help desk (risk-adjusted)		$108,000	$81,810	$55,085
	Three-year total: $244,895		**Three-year present value: $207, 180**		

COST SAVINGS FROM VENDOR LICENSE CONSOLIDATION

Evidence and data. The interviewed customers indicated that they desired to streamline their disparate communication and collaboration platforms with the help of Teams. The pandemic provided an opportunity for these organizations to put change management tactics in place and achieve this goal. The interviewed customers agreed that they were able to improve adoption of the Teams platform enough to decommission redundant tools for calling, chat, and virtual meetings. Not only did the pandemic provide the opportunity and impetus to move to a single platform for communication and collaboration at the enterprise level, but it also enabled this transformation to happen quickly. As a result, the customers' organizations realized the associated cost savings, months sooner than they would have outside of a pandemic timeline.

- An executive at a health services organization indicated that they were able to, "decommission our previous virtual meting tool within three months, thus saving a couple million dollars on licensing costs." This timeline was greatly expedited, as compared to expectations which estimated that it would take eight to 12 months to fully decommission the redundant platform. The same executive said: "And then pretty much, three months into the pandemic, nobody used our other virtual meeting platform at all. Every single meeting, every single virtual setting was converted into a Teams meeting. In that sense, we were able to sunset the legacy platform very quickly."
- An executive at a financial services organization also experienced cost savings associated with decommissioning legacy tools: "In consolidating previous collaboration tools, we collect hard money on that. So far, we have decommissioned multiple chat tools and our legacy virtual meeting platform, among others."
- Teams also replaced or mitigated the costs associated with usage of other voice and calling platforms and services. The executive at an automotive organization explained: "We also have a global VMR [video meeting room], which is another solution that we use more for global meetings. So globally, we are standardizing on Teams as our platform, and we are able to reduce the cost of that global VMR service. We're able to cut back a couple hundred thousand

dollars a year on that, and [we] think we will eventually get rid of that service as well."

- An executive at a health services organization saw savings on dial-up-related costs as the enterprise preference shifted to Teams calling.

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization saves $2M a year from fully decommissioning redundant communication and collaboration platforms. Additionally, the composite organization reduces reliance on legacy voice and calling services to save $200K annually.
- The composite organization decommissions, or reduces usage, of these redundant platforms four months faster than they would have outside of a pandemic timeline. Therefore, the cost savings is realized four months sooner than it would have in the alternative scenario.

Risks. Cost savings from vendor license and usage consolidation may vary depending on the following:

- The number of redundant platforms and services in place prior to standardizing the enterprise on Teams.
- The associated licensing and usage costs for the redundant platforms and services in place in the before state.
- How quickly the organization standardizes to Teams and the comfortability with decommissioning legacy platforms.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $600K.

Cost Savings From Vendor License Consolidation

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Total annual cost savings from decommissioning a redundant virtual meeting platform	Customer interviews	$2,000,000	$2,000,000	$2,000,000
D2	Total annual cost savings from reduction in voice dial up and global calling platform usage	Customer interviews	$200,000	$200,000	$200,000
D3	Monthly cost savings from vendor license consolidation/reduction	D1+D2/12	$183,333	$183,333	$183,333
D4	Number of months of additional cost savings due to rapid consolidation or reduction in usage of redundant platforms	Customer interviews	4	0	0
Dt	Cost savings from vendor license consolidation	D3*D4	$733,333	$0	$0
	Risk adjustment	↓10%			
Dtr	Cost savings from vendor license consolidation (risk-adjusted)		$660,000	$0	$0
	Three-year total: $660,000		**Three-year present value: $600,000**		

HARDWARE COST DISPLACEMENT

Evidence and data. The interviewed customers saw cost savings associated with: 1) the expedited timelines and high adoption rates attributed to the pandemic and 2) the associated impact to the workplace. However, as the pandemic progressed, organizations began to shift their focus to maintaining and eventually growing their Teams adoption in

future work models. To future-proof the Teams investment, interviewed customers analyzed their physical office spaces and decided to upgrade the hardware in their physical meeting rooms so that they would be better enabled for Teams usage in hybrid work environments. This eliminated legacy meeting room hardware and the associated maintenance of the older products, resulting in further cost savings for the interviewed customers.

- An executive at an automotive organization said, "In our conference rooms, we save $500K per year from getting rid of legacy hardware and the associated maintenance."
- The same executive explained where the motivation to upgrade physical meeting room devices came from: "We needed to have a plan if everybody returned to on campus. The last thing we wanted to do now that everyone was on Teams, was to make it so they could not join any of the Teams meetings in our conference rooms. So, we had to get all those conference rooms, about 1,500 of them, upgraded and ready to be able to support Teams meetings. For our major conference rooms, we had a complex design previously. We had different technologies with different physical hardware requirements. The first thing we did with the project was to redesign the more complex meeting rooms and simplify by taking out hardware components that were not needed and standardizing them on a Microsoft Teams room solution [device]."

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization removes legacy conference room hardware to save $500K in Year 1. In each additional year, the composite organization saves on the associated maintenance costs of the past devices.

Risks. Hardware cost displacement may vary depending on the following:

- The number of conference rooms updated as part of the standardization to Teams project.
- The type of meeting room hardware in place prior to Teams and the associated costs (including maintenance).

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $537K.

Hardware Cost Displacement: Calculation Table

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Annual cost savings on conference room hardware and maintenance from replacing with Teams	18% on maintenance in subsequent years	$500,000	$90,000	$90,000
Et	Hardware cost displacement	E1	$500,000	$90,000	$90,000
	Risk adjustment	↓10%			
Etr	Hardware cost displacement (risk-adjusted)		$450,000	$81,000	$81,000
	Three-year total: $612,000			**Three-year present value: $536,860**	

UNQUANTIFIED BENEFITS

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

Increased revenue. Forrester Research indicates that as the immediate COVID-19 crisis wanes, firms will rethink their engagement models for the entire customer lifecycle. The first wave of pure-play digital engagement will give way to hybrid combinations of physical and digital experiences that will have less direct human contact; however, they'll also be more purposeful, needs-based, and outcome-focused.[5]

Organizations that were ahead of the curve have already dabbled in digital channels for customer engagement — not only to improve safety measures during the pandemic, but to also support revenue streams that might have only been relevant to prior in-person customer interactions.

The interviewed customers found opportunities to support customer interactions with the Teams platform to redirect in-person revenue streams to digital channels during the pandemic.

- An executive at a financial services organization stated: "I watched the commercial department, the sales department, increase the number of virtual visits for customers by 400%. Our middle-market operation increased virtual visits from two visits per day to nine visits per day during the pandemic. This improvement increased revenue by three times."
- That same executive said: "I think that the pandemic provides for this business model a different, more virtual, approach. I don't think that it would be possible to do that with any of our legacy tools, because they were not as integrated as Teams. Without Teams, I do not think we would have been prepared to go 100% digital [to support these revenue streams]."

400% improvement to virtual visit volumes that increased revenue 3x.

Improved security and compliance measures. When entire workforces moved to a work-from-home model, it put a lot of pressure on data security measures for organizations. Forrester Research indicates that during the pandemic, malicious attackers are ramping up phishing and social engineering attacks as well as taking advantage of vulnerabilities in collaboration tools.[6]

The interviewed customers cited specific Teams features that helped to mitigate the security concerns related to a pandemic work environment. These features included: invite-only capabilities, private channels and meeting passwords, structured data by the data loss prevention (DLP) capacity, and unstructured data by the sensitive labels capability. To read more about the latest Microsoft Teams security features, click here.

- An executive at a media organization said: "We have removed the 'chat with anyone in the world who has Teams capability' to prevent outsiders from masking themselves as an organizational user. We also have a list of domains that we can chat with, and [we] have removed the ability to add personal Teams accounts — this has helped mitigate security concerns a lot."

Outside of the pandemic, Microsoft Teams has been proven to reduce IT compliance and e-discovery efforts and related costs. Teams provided a centralized platform for communication and collaboration which enabled more comprehensive risk audits, better policy enforcement, and better e-discovery for internal and external investigations. According to a Forrester survey, Microsoft Teams users benefited from the following:[7]

- IT compliance-related costs were reduced by 14.1%.

- Time spent on e-discovery activities decreased by 12.3%.

The interviewed customers had the following to say about how Teams improved data security and compliance efforts:

- An executive at a media organization explained how consolidating disparate tools to the Microsoft Teams platform improved organizational security and compliance: “So what’s happening is we’re finding these small niche internal companies and functional groups using tools we didn’t know they were using. And now they want to get off those tools and get on Teams, which is a good thing.” What this does is allow them to, “be able to control all of our data in one place [Microsoft Teams], which has been the biggest security improvement.”
- An executive from a financial services organization said: “I believe that we increased levels of compliance with [the Teams platform], because we decommissioned our other platforms [for communication and collaboration]. Teams compliance tools are already compliant with industry regulations so there is nothing additional we have to do to meet compliance standards.”

14.1% reduction in IT compliance costs

12.3% decrease in time spent on e-discovery

Heightened trust in virtual platforms. The Teams platform was tested during the COVID-19 pandemic with increased adoption and high usage rates. In this time, Teams proved itself to be both reliable and high performing. The interviewed customers agreed that Teams rose to the occasion to demonstrate how much of their daily communications could happen successfully on the Teams platform. As a result, organizations saw the following benefits:

- **Reduced reliance on travel.** An executive at an automotive organization explained how Teams eased discomfort around the transition to virtual meetings. They said that one of their C-level executives was particularly uncomfortable with the idea of virtual settings for important meetings, that previously required travel, such as end-of-year fiscal reviews: “We had our annual report out for the end of the fiscal year, in April of this year, and we were not able to travel for it because of COVID restrictions. That would normally be 15 to 20 people that would travel to Asia to do this report. Our [C-level executive] had to do the meeting remotely. He used Teams and his feedback was that by using this platform, it changed his mind about what we could do with this technology. He said the feedback was great, the video quality was great. He had a very productive meeting and it saved him a 15-hour flight.” Please note that this benefit was quantified in the Microsoft 365 E5 TEI study, which can be downloaded here.
- **Reduced physical office space.** In thinking about post-pandemic work environments, some organizations expected to downsize their physical office space to account for future hybrid work models and fewer overall employees in physical offices. A commissioned survey conducted by Forrester Consulting on behalf of Microsoft in December of 2020 yielded the following data that point to the reduction in physical office spaces and associated costs. Please note that this benefit was quantified in the Microsoft 365 E5 TEI study, which can be downloaded here:
    - Twenty-eight percent of surveyed organizations expected to see real estate and office space expenditures decrease in the post-pandemic years.

- Surveyed organizations project having a substantial portion of their workforce remain remote after society begins to return to normal, with the majority of firms having 26% or more of their real estate footprint as free space.

"Where we are lagging and where we need to get into is the next level of automation, which will include actual actions completed within Teams or those that will trigger another system to do something."

VP of workplace collaboration and UX, media/entertainment

FLEXIBILITY

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

- **Continuing to reinvest in the Teams platform to build out new features and functionality.** Customers indicated that they had many different strategic plans for their Teams investment once they secured the high adoption and usage rates experienced during the pandemic. Future use cases include:
  - **Placing physical Teams devices in patient rooms.** An executive at a health services organization indicated that they have started to pilot placing physical Teams devices in patient rooms. Those devices connect to their counterparts in nursing stations to enable contactless communication during the patient's stay. Even beyond the pandemic, having a contactless option for communication was important to the organization to not only improve the productivity of the healthcare provider productivity during visit surges, but to also enhance the safety of patients and health care providers alike.
  - **Doubling down on process automations by introducing more complex technology.** Many organizations made great headway during the pandemic to build out process automations. However, fewer organizations were able to develop process automations that involved such complex technology as AI and chatbots. Those organizations planned to introduce this level of functionality as the next step in furthering their Teams development, broadening their use cases across the enterprise, and driving efficiencies.

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

"We look forward to taking Teams to the next level. We are focusing on how to help our users optimize and get more out of Teams by integrating outside applications to enable automations. Currently, there is a big project going on to integrate a chatbot that uses artificial intelligence."

Senior manager of network platforms, automotive

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**
Ftr	Internal effort	$0	$1,007,021	$708,941	$712,584	$2,428,545	$2,036,749
Gtr	Development effort	$0	$690,000	$690,000	$690,000	$2,070,000	$1,715,928
Htr	Teams meeting room costs	$0	$1,179,360	$85,428	$60,984	$1,325,772	$1,188,565
	Total costs (risk-adjusted)	$0	$2,876,381	$1,484,369	$1,463,568	$5,824,317	$4,941,242

INTERNAL EFFORT

Evidence and data. With the licensing investment being previously made by interviewed customers, the increased adoption experienced during the pandemic required additional internal resource time to be spent on training and maintenance efforts.

For employee training. As adoption rates soared, the interviewed customers focused their efforts on maintaining, supporting, and ensuring future growth of adoption at the enterprise level by implementing ambassador programs. Ambassador programs leveraged a select group of business stakeholders to manage high levels of Teams usage. Mainly, ambassador programs created time and space for the identified business stakeholders to directly learn about new Teams features and functionality from Microsoft. These stakeholders then disseminated this information across their business units as a means of supporting general employee training efforts. General employees were required to spend time on training efforts each year of the investment. Both the ambassador program and the general employee training continued beyond the pandemic to ensure adoption of the Teams platform and its features and functionalities.

For platform maintenance. Interviewed customers already had internal resources dedicated to supporting the various components of their Microsoft 365 tooling. However, the higher adoption and usage of the Teams platform required that the customers dedicated additional resources to Teams platform maintenance.

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization identifies 85 business stakeholders to join the ambassador program in Year 1, with continued effort across Years 2 and 3.
- The ambassador program required participants to spend 45 minutes every other week learning from Microsoft about Teams tips and tricks as well as new features and functionalities.
- Ambassador program participants are responsible for disseminating learned information to general employee users. General employees and ambassadors spend 4 hours per year on this training effort.
- Business stakeholders and general employees have an average hourly rate of $36.
- Additionally, the organization dedicates 2 additional IT FTEs to the maintenance and

support of the Teams platform at $120K average annual salary.

Risks. Internal resource time spent on training and maintenance efforts may vary depending on the following:

- The size and scope of the ambassador program put in place during the pandemic as well as the plan for maintaining that program in terms of resources required and the time spent.
- The volume of employees that require training depends on the volume of new active users in Year 1 as well as attrition rates for subsequent years.
- The size of the technical support team dedicated to the Microsoft 365 tool set and the additional dedicated resources required to meet demands of high Teams adoption rates.
- Hourly and annual rates for the identified resource varieties.

To account for these risks, Forrester adjusted this cost upward by 15%, yielding a three-year, risk-adjusted total PV of $2M.

Internal Effort

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
F1	Business stakeholders identified as Teams ambassadors (FTEs)	Interview		85	85	85
F2	Hours spent per ambassador on training annually	45 minutes*26 weeks		19.5	19.5	19.5
F3	Ambassador and general employee fully burdened hourly rate	A7		$36	$36	$36
F4	**Subtotal: time spent on training for Teams ambassadors**	**F1*F2*F3**	**$0**	**$59,670**	**$59,670**	**$59,670**
F5	Employees that require training annually	High adoption then, 22% attrition on total		4,000	2,200	2,222
F6	Hours spent on training for employees annually	Interview		4	4	4
F7	**Subtotal: time spent on training for employees**	**F6*F7*F3**		**$576,000**	**$316,800**	**$319,968**
F8	Additional IT resources dedicated to ongoing maintenance and support of Teams	Interview		2	2	2
F9	IT resource annual fully burdened salary	Assumption		$120,000	$120,000	$120,000
F10	**Subtotal: time spent on ongoing maintenance and support for additional IT resources**	**F9*F10**	**$0**	**$240,000**	**$240,000**	**$240,000**
Ft	Internal effort	F4+F7+F10	$0	$875,670	$616,470	$619,638
	Risk adjustment	↑15%				
Ftr	Internal effort (risk-adjusted)		$0	$1,007,021	$708,941	$712,584
	Three-year total: $2,428,545			**Three-year present value: $2,036,749**		

DEVELOPMENT EFFORT

Evidence and data. The interviewed customers agreed that the improved usage of the Teams platform inspired additional development efforts. These development efforts focused on delivering new capabilities to end users of the Teams platform, which included complex technology such as chatbots and integrations with other third-party software and tools. To meet development expectations and deliver on these new capabilities, customers dedicated additional technical resources to Teams development.

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization dedicates five additional technical resources to the development of Teams.
- The average annual salary for these technical resources is $120K.

Risks. Development effort may vary depending on the following:

- The size of the development team dedicated to Teams prior to the pandemic and the strategic roadmap for the investment that would drive additional resource dedication.
- Average annual salaries associated with additional resources dedicated to Teams development.

To account for these risks, Forrester adjusted this cost upward by 15%, yielding a three-year, risk-adjusted total PV of $1.7M.

Development Effort: Calculation Table

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
G1	Development FTE dedicated to Teams	Interview		5	5	5
G2	Development resource annual fully burdened salary	Assumption		$120,000	$120,000	$120,000
Gt	Development effort	G1*G2	$0	$600,000	$600,000	$600,000
	Risk adjustment	↑15%				
Gtr	Development effort (risk-adjusted)		$0	$690,000	$690,000	$690,000
	Three-year total: $2,070,000			**Three-year present value: $1,715,928**		

TEAMS MEETING ROOM COSTS

Evidence and data. To ensure Teams adoption rates are maintained throughout the pandemic and into the introduction of hybrid work environments, customers indicated that they desired to outfit their physical meeting rooms with Teams devices. In order to outfit a meeting room for Teams capabilities, customers paid annual Teams licensing for each updated conference room. Additionally, customers purchased physical Teams devices for each updated conference/meeting room.

Modeling and assumptions. For purposes of the financial model, Forrester assumes the following:

- The composite organization embarks on a project to update most of their conference rooms in Year 1 by outfitting 240 conference/meeting rooms

with Teams. Subsequent years account for outfitting new or additional conference rooms at a smaller scale, with 12 rooms being added in Year 2 and four rooms being added in Year 3.

- With this volume of conference rooms, the composite organization pays annual licensing fees per room on the total volume of rooms each year. The composite organization also pays one-time rates for physical Teams devices on a project basis for newly outfitted conference rooms each year.
- Annual license costs per meeting room total $15/month.
- One-time Teams device fees per meeting room total $4,500 in Year 1 and $3,000 in Years 2 and 3.

Risks. Teams meeting room costs may vary depending on the following:

- The volume of conference/meeting rooms targeted for Teams devices and the rate at which that demand is filled.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $1.2M.

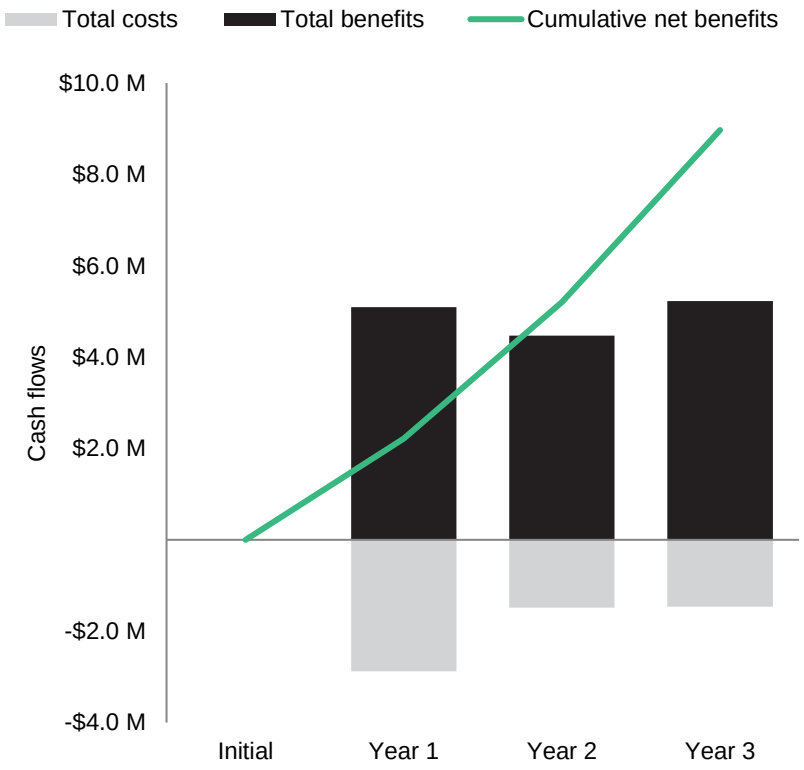
Teams Meeting Room Costs

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
H1	Number of meeting room licenses			240	252	256
H2	Annual cost of meeting room licenses	$15/month		$180	$180	$180
H3	Incremental meeting rooms outfitted with Teams devices			240	12	4
H4	Cost per meeting room for physical devices			$4,500	$3,000	$3,000
Ht	Teams meeting room costs	(H1*H2)+(H3*H4)	$0	$1,123,200	$81,360	$58,080
	Risk adjustment	↑5%				
Htr	Teams meeting room costs (risk-adjusted)		$0	$1,179,360	$85,428	$60,984
	Three-year total: $1,325,772			**Three-year present value: $1,188,565**		

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	$0	($2,876,381)	($1,484,369)	($1,463,568)	($5,824,317)	($4,941,242)
Total benefits	$0	$5,093,040	$4,473,652	$5,229,061	$14,795,753	$12,255,940
Net benefits	$0	$2,216,660	$2,989,283	$3,765,493	$8,971,436	$7,314,698
ROI						148%

Appendix A: Total Economic Impact

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

TOTAL ECONOMIC IMPACT APPROACH

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

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

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

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

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

PRESENT VALUE (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

NET PRESENT VALUE (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

RETURN ON INVESTMENT (ROI)

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

DISCOUNT RATE

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

PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

Appendix B: Endnotes

[1] Source: “Setting The Technology Foundation For Your Enterprise Collaboration Strategy,” Forrester Research, Inc, July 10, 2020.
[2] Source: “The Total Economic Impact™ Of Microsoft 365 Enterprise E5,” a commissioned study conducted by Forrester Consulting on behalf of Microsoft, December 2020.
[3] Source: William McKeon-White and Charles Betz, “The Second Edition Of Our Forrester New Wave™ Evaluation On Chatbots For IT Ops,” Forrester Blogs (https://go.forrester.com/blogs/the-second-edition-of-our-new-wave-evaluation-on-chatbots-for-it-ops/).
[4] Ibid.
[5] Source: ““The New, Unstable Normal: How COVID-19 Will Change Business And Technology Forever,” Forrester Research, Inc., July 14, 2020.
[6] Source: “Address The Security And Privacy Challenges Of Working From Home,” Forrester (https://www.forrester.com/fn/21NX5awkIkxYASgFFz0Ejx).
[7] Source: “The Total Economic Impact™ Of Microsoft 365 Enterprise E5,” a commissioned study conducted by Forrester Consulting on behalf of Microsoft, December 2020.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