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The Total Economic Impact™ Of Microsoft Teams For Frontline Workers
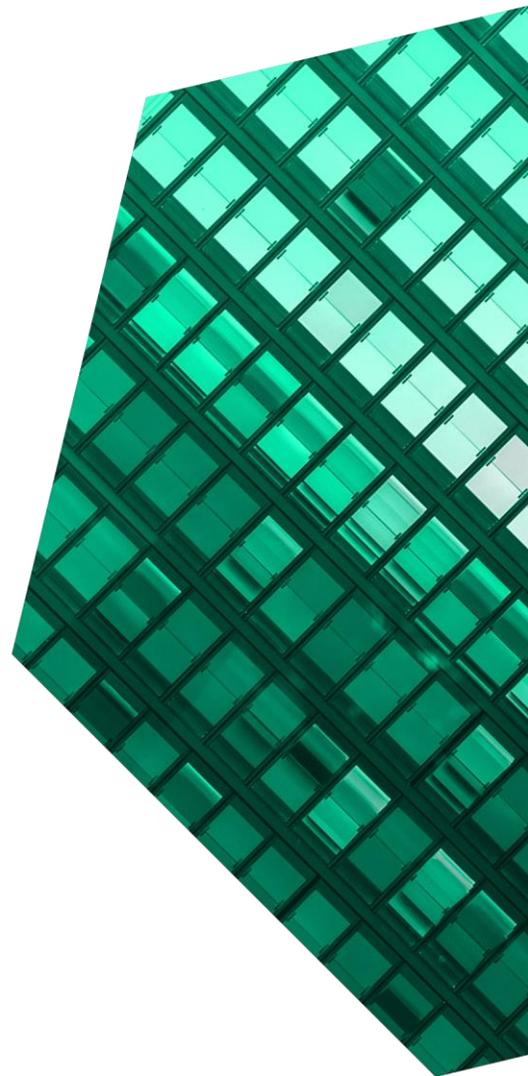
Cost Savings And Business Benefits
Enabled By Using Teams for Frontline Workers

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Executive Summary

> Until recently, frontline workers (those who build and deliver products, provide patient care, and interact directly with customers) have been left out of most digital transformation plans, but many executives are realizing that this uneven distribution of access to technology may be hindering their organization's success. These decision-makers are looking to invest in their frontline workforce with modern, intuitive, and secure solutions targeted to the activities and needs of these critical employees.

Microsoft Teams for frontline workers, with its customizable range of apps to improve engagement, efficiency, and productivity, serves as a modern, intuitive, and security-enhancing solution addressing the needs of frontline workers at organizations in a wide variety of industries. Employees can access Teams on a range of devices, including smartphones, tablets, and other mobile devices, facilitating collaborative work within frontline teams as well as between frontline employees and the rest of the organization. Microsoft Teams helps to close the long-standing technology gap that often separates frontline workers from the tools, resources, and expertise they need to do their best work.

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 Teams for their frontline workers.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of providing their frontline workers access to Teams on the job.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed representatives of seven organizations with experience using Teams for frontline workers (frontline worker). The interviewees' organizations were drawn from the healthcare, retail, manufacturing, and banking industries, and the

KEY STATISTICS

Return on investment (ROI)
345%

Net present value (NPV)
$14.79M

experiences of all those industries are represented in the findings and insights in this study.

For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is a global company with revenue of $10 billion and 50,000 employees, of which 30,000 are frontline workers.

These interviewees noted that prior to using Teams, their frontline workers' productivity suffered due to excessive reliance on manual processes and lack of access to information and expertise available in the organizations. Prior attempts to modernize the workplace had focused on leadership and knowledge workers, leaving a continued gap at the frontline. The interviewees agreed that after the investment in Teams, these workers were more productive and able to deliver a better customer experience (CX).

KEY FINDINGS

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

- **Enhanced supervisory productivity, which returns $9.1 million worth of working time to time-strapped frontline managers.** Supervisors in all the participating industries tend to have employees working at some distance (e.g., on the other side of a superstore or at a bank branch across town). Because these entry-level employees may need frequent direction, their supervisors often waste valuable time tracking them down to communicate with them. When frontline workers have Teams-enabled devices, those connections can be instantaneous.

- **Reduced errors due to misinformation, which delivers $6.1 million in improved outcomes.** Human errors in healthcare can cost not only money, but also cost lives. In other industries, poorly manufactured products, misplaced decimal points, and sloppy credit-card handling can cost companies millions. Teams provides workers with real-time access to standard operating procedure (SOP) documents and to supervisors or subject matter experts (SMEs) to answer their questions in the moment when they need help.

Increase in customers served due to Teams

15 to 20%

- **Increased revenue from better CX worth $2.7 million in incremental profits.** Today's consumers are demanding, and they have a

"We make 80,000 service calls in a typical day, including planned maintenance, but there are always unexpected repairs. For those, the technicians have access to all the up-to-date manuals, specifications, and their supervisors on the spot."

Head of global maintenance operations development, manufacturing

wealth of options. They are increasingly less likely to wait for service, come back for answers, or put up with an inconvenient experience. The same instant communication and access to information that avoids human error also allows frontline workers to respond to customers and keep them from walking out the door.

- **Avoided security breach costs totaling $551,300.** Providing a large and often geographically dispersed pool of frontline workers with access to even limited sensitive data can add to an organization's risk profile, but advanced security features available on the F3 license significantly mitigate that risk.

- **Improved internal meeting productivity among the entire frontline workforce, which saves $329,000.** While frontline attendance at team meetings varies quite a bit by industry, a quicker startup and consistent experience for such a large group saves a considerable amount of time even if they meet infrequently.

- **Retiring legacy collaboration solutions, which contributes $211,400 in economic impact.** Most organizations are already paying for one or more point solutions to communicate with their frontline workforce. These may include messaging apps, meeting platforms, telephone conference bridges or similar. Interviewees found they were able to consolidate that functionality into their Teams subscription, allowing them to avoid renewing their licenses for those point solutions.

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

- **Frontline worker empowerment.** Teams provides these workers with access to data relevant to performing their day-to-day duties, taking the democratization of data to the "last mile" of customer interaction.

- **Optimization and standardization of best practices and SOPs.** In preparation for the deployment of Teams, the composite organization takes time to optimize and document processes and information sources to improve worker performance.

- **Better team engagement.** The meeting and collaboration experience Teams delivers results in frontline workers who are better informed and more engaged with their employers.

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

- **License fees cost the organization $2.7 million over three years.** These fees cover F1 licenses for the majority of frontline workers and F3 security licenses for frontline supervisors that enable the benefits outlined above.

- **Implementation costs of $1.4 million, which are all a factor of employee time and not out of pocket.** Business leaders put in time before launch to identify and optimize documents and

procedures. Frontline workers put in time learning to use Teams on their devices and becoming familiar with all the functionality, as well as how that functionality applies to their organization and their role.

- **Ongoing Teams administration.** Although the composite organization does not have a dedicated Teams administrator, it does have a dedicated collaboration team within its IT department. These individuals spend part of their time keeping Teams optimized.

The representative interviews and financial analysis found that a composite organization experiences benefits of $19.09 million over three years versus costs of $4.29 million, adding up to a net present value (NPV) of $14.79 million and an ROI of 345%.

> **"We wanted the team to work the way we all agree is best. With all this content and access to each other, it's easy to get the whole team working together in the best way."**
>
> *Head of infectious diseases, healthcare*

ROI
345%

BENEFITS PV
$19.09M

NPV
$14.79M

PAYBACK
<6 months

Benefits (Three-Year)

Benefit	Value
Enhanced supervisor productivity	$9.1M
Reduced errors due to misinformation	$6.1M
Increased revenue from better customer experience	$2.7M
Avoided security breach costs	$551.3K
Improved internal meeting productivity	$329.0K
Retired legacy collaboration solutions	$211.4K
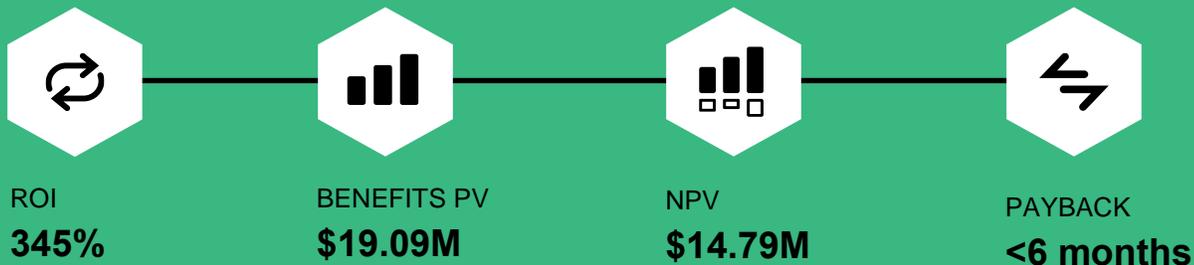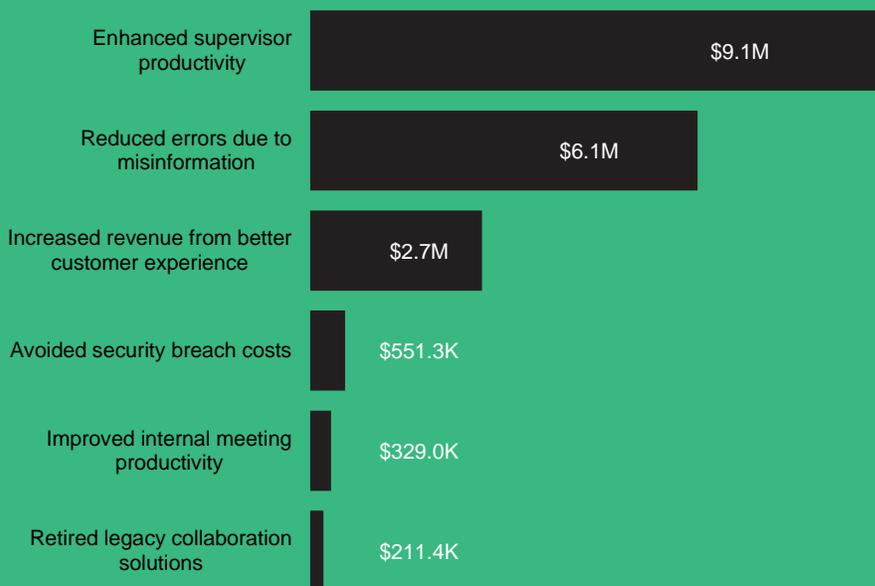
"Healthcare providers attend team meetings where participation has a direct impact on patient outcomes. With Teams, we get full participation and save attendees up to 30 minutes travelling to the meeting room."

— Attending physician, healthcare

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 Teams for frontline workers.

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 Teams for frontline workers can have on an organization.

Forrester Consulting conducted an online survey of 351 cybersecurity leaders at global enterprises in the US, the UK, Canada, Germany, and Australia. Survey participants included managers, directors, vice presidents, and C-level executives who are responsible for cybersecurity decision-making, operations, and reporting. Questions provided to the participants sought to evaluate leaders' cybersecurity strategies and any breaches that have occurred within their organizations. Respondents opted into the survey via a third-party research panel, which fielded the survey on behalf of Forrester in November 2020.

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 study to determine the appropriateness of an investment in Teams for frontline workers.

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 some of the customer names for the interviews but did not participate in the interviews.

DUE DILIGENCE
Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to Teams for frontline workers.

INTERVIEWS
Interviewed seven representatives at organizations using Teams for frontline workers to obtain data with respect to costs, benefits, and risks.

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

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

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

Interviews			
Role	**Industry**	**Region**	**Frontline Workers**
Head of infectious disease	Healthcare	Europe	~4,000
Attending physician	Healthcare	USA	~8,000
VP of IT	Retail	Global	~45,000
VP of retail operations	Grocery	USA	~230,000
Production engineer	Manufacturing	USA	~30,000
Head of global maintenance operations development	Manufacturing	Europe	~40,000
Executive director of digital transformation	Banking	Global	~40,000

KEY CHALLENGES

The interviewed executives told Forrester their organizations used several types of tools for communication and collaboration before they deployed Teams. Some used a phone in an office or back room along with conference bridges to dial in to regional or corporate-wide messaging. Others used a monitor or TV in a break room for broadcast meetings. Several were using competitive collaboration software which may have worked well for knowledge workers who used it multiple times per day, but that tended to pose technology or user problems in a frontline setting.

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

- **Supervisors were challenged communicating quickly with frontline workers about changing situations.** The organizations' frontline supervisors spent their days in a rush to accomplish a set of tasks that constituted the "last mile" of corporate strategy. They were also operating in real-world environments where daily or hourly changes in situations required them to change their own plans in response. The last thing these supervisors needed was to spend 15 to 20 minutes literally running around a retail, healthcare, factory, or bank floor trying to find a specific employee or superior to respond to those changing circumstances.

> **"We had a system that was a bit more complicated to use. It was no big deal for people in HQ who did lots of meetings every day, but for a frontline employee who only uses it a couple times a month for department meetings, it meant they had to start setting up half an hour early, and even then, they might need help."**
>
> *Production engineer, manufacturing*

- **Team members did not have easy access to data or knowledgeable sources.** While frontline workers at these organizations may have been capable and experienced employees, they often had little authority to act on their own initiative in unfamiliar or exceptional situations. As a result, they often needed additional information or supervisor approval to respond to customer requests, resolve disputes, or determine the appropriate course of action. Their inability to access those resources on the spot hampered their ability to do their jobs well. This was particularly the case during the COVID-19 pandemic when key personnel worked remotely and documents were inaccessible.

- **Frontline workers did not have a reliable way to pass on critical information to the next shift.** Many of the interviewees' organizations operate around the clock, including hospitals, factories, and even some retailers. Most of the organizations at least had 24/7 customer service via phone or internet. However, they often did not have any designated system for shift employees to leave instructions for the incoming shift regarding unfinished tasks, changes in priorities, or new instructions. While this kind of communication failure could result in life-threatening errors in the healthcare setting, it could also be dangerous in other industries.

- **Poor user experience with other collaboration solutions kept frontline teams from engaging with others or with the information shared.** Although the interviewees' organizations were using one or more solutions for communicating with frontline workers, those solutions made real engagement difficult due to the inconsistent experience offered. As a result, workers did not always internalize the information delivered.

Interviewees noted that prior to using Teams, their frontline workers' productivity suffered due to manual processes and lack of access to information and expertise. Prior attempts to modernize had focused on leadership and knowledge workers, leaving a continued gap at the frontline. The interviewees agreed that their investment in Teams for frontline workers addressed these pain points so that those workers were more productive and able to deliver a better customer experience (CX).

COMPOSITE ORGANIZATION

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

Description of composite. The organization is a $10 billion company with operations in multiple countries staffed by 27,000 frontline employees, most of whom have direct and frequent contact with customers. Those employees are managed by 3,000 frontline supervisors who work alongside them.

Deployment characteristics. The organization's 27,000 frontline workers have access to Teams via company-owned multifunction handheld devices using F1 licenses. Their 3,000 direct supervisors have access to Teams and other M365 applications using F3 licenses.

Key Assumptions

- **$10 billion revenue**
- **50,000 employees**
- **27,000 frontline workers**
- **3,000 supervisors**
- **F1/F3 licenses**

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	Enhanced supervisor productivity	$3,508,800	$3,684,240	$3,859,680	$11,052,720	$9,134,479
Btr	Reduced errors due to misinformation	$1,800,000	$2,496,000	$3,244,800	$7,540,800	$6,137,040
Ctr	Increased revenue from better customer experience	$850,000	$1,105,000	$1,379,040	$3,334,040	$2,722,044
Dtr	Avoided security breach costs	$215,479	$222,036	$228,856	$666,371	$551,334
Etr	Improved internal meeting productivity	$127,500	$132,600	$137,700	$397,800	$328,952
Ftr	Retired legacy collaboration solutions	$85,000	$85,000	$85,000	$255,000	$211,382
	Total benefits (risk-adjusted)	$6,586,779	$7,724,876	$8,935,076	$23,246,731	$19,085,231

ENHANCED SUPERVISOR PRODUCTIVITY

Evidence and data. Interviewees universally extolled this benefit of using Teams for their organizations' frontline workforces. As all the interviewees worked relatively closely with frontline workers and supervisors, they saw firsthand the impact of these employees' ability to message team members or use Teams' Walkie Talkie app to get in touch with employees and relay instructions or requests without interrupting their work in progress.

The VP of IT in the retail industry said: "It gives [our supervisors] additional functionality in terms of, 'Hey, you know what? I need our store associate to do something else. Let me get these three people on the Walkie Talkie app, and they're right there to collaborate in terms of what the store wants them to do."

Teams also helps supervisors by providing an official record of conversations with employees they can refer to or respond to when they have time. For instance, the executive director of digital transformation at a large bank recalled: "I may have

an employee ask for time off on Teams because they are making plans and need a quick answer. It's my job to manage the team availability calendar, but I can't drop everything and update it this minute. We both know that, using Teams, that request is officially documented, and I can go update the calendar when I'm free."

Finally, supervisors saved time by reaching out to resources around the organization in real time to make things happen. The VP of IT at a retail chain stated: "With Teams, you're able to do more than just hold meetings. Our supervisor might think, 'I have a project and I need input from an IT person, a supply chain person, and a buyer. Let me get them on Teams and get the answers right away.' That's the kind of thing that would have taken a week to get all the input before Teams."

Modeling and assumptions. Forrester makes the following assumptions about the composite organization in order to model the value of this benefit:

- The organization employs 3,000 frontline supervisors who each save close to 1 hour each week (50 minutes) by using Teams to streamline communications with their employees. They are able to check on and deploy (or redeploy) their people to accomplish tasks without having to, for instance, walk to a receiving dock, cross a 100,000 square-foot retail or factory floor, or drive to a nearby bank branch.

- The organization pays these supervisors an average of $40 per hour, including a base wage and an additional 30% in benefits. It also provides an annual wage increase of 4%.

- These busy supervisors use 80% of the time they save to attend to other tasks to achieve their daily and weekly goals.

Risks. Other organizations may experience a different impact as a result of:

- The number and percentage of frontline supervisors in the organization.

- The rate of pay for supervisors.

- The difficulty involved in communicating with frontline workers before deploying Teams and the related waste of time.

- The portion of time saved that can be productively reemployed.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $9.1 million.

"**While Teams helps all the store associates to work more effectively and efficiently, I think the biggest beneficiaries may be the frontline supervisors.**"

— VP of IT, retail

Enhanced Supervisor Productivity					
Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Minutes saved per week communicating with frontline worker employees/SMEs	Interviews	50	50	50
A2	Total hours saved per year per manager	A1*52 weeks	43	43	43
A3	Number of frontline supervisors	Composite	3,000	3,000	3,000
A4	Average fully burdened supervisor wage	TEI standard	$40	$42	$44
A5	Productivity recapture rate	TEI standard	80%	80%	80%
At	Enhanced supervisor productivity	A2*A3*A4*A5	$4,128,000	$4,334,400	$4,540,800
	Risk adjustment	↓15%			
Atr	Enhanced supervisor productivity (risk-adjusted)		$3,508,800	$3,684,240	$3,859,680
	Three-year total: $11,052,720		**Three-year present value: $9,134,479**		

REDUCED ERRORS DUE TO MISINFORMATION

Evidence and data. There were a number of ways in which interviewees told Forrester that Teams reduced errors among their organizations' frontline workforces. First, those employees had easy access to best practices, SOPs, frequently asked questions (FAQs), and other documents that provided them with the most accurate information and to which they could refer at any time.

Second, errors were avoided because it was easy for frontline workers to reach their supervisors, colleagues, or subject-matter experts regarding less routine questions. Several executives said that in the past, employees might not have bothered trying to find the right answer because they knew it would take too long. They would either use their own judgement (which could be wrong) or just not address the issue (which could cause other problems).

A production engineer in manufacturing said: "The people with the F1 licenses … have quick questions for an engineer or they need to look at a drawing with an engineer. They may have a question about it and it's not clear, and so they ping the engineer that's

responsible for it and they'll look it up. They can look at the drawing together on Teams and [the engineer will] highlight and circle specifics and write notes on it for the worker and supervisor.

Finally, the ease of running meetings with Teams, as well as the strong frontline worker engagement interviewees saw on those meetings resulted in a better, more universal understanding of a complicated topic. The vice president of retail operations at a grocery chain told Forrester: "We have weekly programs that we negotiate with food brands that have to be set up properly. I just get so much better execution when I can show the store employees a visual picture and talk through what it's supposed to look like versus something that goes out via email. And that means better sales for us and a greater likelihood that we'll get more of those programs than our competitors."

Modeling and assumptions. The model for this benefit assumes the following about the composite organization:

- The organization experiences costs due to error of 1.25% of revenue per year. This is a

conservative estimate based on closely tracked costs of error in healthcare.[2]

- 23% to 33% of that total is due to human error, and approximately half of that human error is the result of misinformation.[3]

- Making better information and advice available to frontline workers when they need it reduces errors due to misinformation by 15% in Year 1.

- As frontline workers come to use and rely on Teams, the reduction grows to 25% in Year 3.

Risks. Other organizations may experience a different impact as a result of:

- The rate of human error the organization experiences before deploying Teams.

- The portion of human error related to misinformation rather than poor judgment or other causes.

- The rate of Teams adoption among frontline workers.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV of $6.1 million.

> **"A teller might be faced with a customer bringing in a torn bill and may not know what to do, so they use Teams to reach out to a branch manager or central policy person."**
>
> *Executive director of digital transformation, banking*

\ **Reduced Errors Due To Misinformation**					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Total cost of errors	Assumption	$125,000,000	$130,000,000	$135,200,000
B2	Portion attributable to misinformation	Assumption	12%	12%	12%
B3	Reduction in errors attributable to Teams	Interviews	15%	20%	25%
Bt	Reduced errors due to misinformation	B1*B2*B3	$2,250,000	$3,120,000	$4,056,000
	Risk adjustment	↓20%			
Btr	Reduced errors due to misinformation (risk-adjusted)		$1,800,000	$2,496,000	$3,244,800
	Three-year total: $7,540,800		**Three-year present value: $6,137,040**		

INCREASED REVENUE FROM BETTER CUSTOMER EXPERIENCE

Evidence and data. Frontline workers are in a unique position to influence customer experience and brand perceptions. Interviewed executives described the ways in which providing them with access to information, to their supervisors, and to other subject-matter experts allowed their organizations to provide better service, higher quality products, and better patient outcomes than before Teams was in place.

Interviewees in clinical healthcare settings told Forrester that HIPAA regulations can pose a challenge in sharing medical information to provide better care for patients. This information is safe in hospitals' or clinics' employee health records (EHR) systems, but not when texted from one nurse to another or when shared to other medical professionals via some consumer messaging apps. With Microsoft Teams, health organizations can enable seamless virtual visits and collaboration experiences with a HIPAA business associate agreement (BAA) automatically in place. As a result, medical team members are free to share critical information to improve patient outcomes without putting those patients' privacy at risk.

The head of infectious diseases at a hospital told Forrester: "We also measure our patients' experience and make changes to improve it. In our travel vaccination clinic, we have cut 30 minutes off the average amount of time a patient spends here."

The executive director of digital transformation at a large bank related: "We measure productivity, for instance, in terms of how many customers a teller serves in an average day with and without Teams. We have seen a 15% to 20% improvement in that."

This type of CX improvement is directly most clearly related to sales in the retail environment. The VP of IT at a large retail chain explained: "How many times have you been in line, and you hear 'price check' and you think, 'Oh no!'? Now our cashier can use the

Walkie Talkie app on Teams and have someone immediately check the price instead of waiting for associates to run around the store. … [similarly,] when a customer can't find what they want in the store, the associate can quickly reach another store via Teams and say: 'We don't have it here, but there is another store 20 minutes away that has it. I can put it on hold for you.' That's a sale that probably would have been lost before."

> **"Teams makes it possible to share medical records and consult with physicians in our other locations in real time, all within a HIPAA-protected environment."**
>
> *Attending physician, healthcare*

Modeling and assumptions. Forrester modeled the impact of this benefit based on these assumptions:

- Poor customer experience costs the composite organization 0.5% of total revenue each year.

- Teams enables frontline workers to respond to changing situations (e.g., quality issues, raw material shortages) and customer needs (e.g., inventory or price checks, questions about vaccine follow-up, etc.) in real time. This improves CX by 20% in Year 1, rising to 25% in Year 2 and to 30% in Year 3.

- The average operating margins are 10% on the resulting incremental revenue. This is quite a conservative estimate: Retail margins are often lower than this, but manufacturing and banking margins are likely quite a bit higher.

Risks. Other organizations may experience a different impact as a result of:

- The likelihood that customers will walk away due to a less-than-ideal experience.

- The rate of adoption by frontline workers.

- The average profit margins of the organization's industry.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $2.7 million

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Increased Revenue From Better Customer Experience					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Sales lost due to poor experience	Assumption	$50,000,000	$52,000,000	$54,080,000
C2	Improvement attributable to Teams	Interviews	20%	25%	30%
C3	Operating margin percentage	Composite	10%	10%	10%
Ct	Increased revenue from better customer experience	C1*C2*C3	$1,000,000	$1,300,000	$1,622,400
	Risk adjustment	↓15%			
Ctr	Increased revenue from better customer experience (risk-adjusted)		$850,000	$1,105,000	$1,379,040
	Three-year total: $3,334,040		**Three-year present value: $2,722,044**		

AVOIDED SECURITY BREACH COSTS

Evidence and data. Many of the executives Forrester interviewed commented that the need for faster communication and remote collaboration among frontline workers had led those workers and supervisors to begin using consumer messaging apps and other means of meeting those needs digitally. Since those tools were rarely managed within the organizations' security protocols, they introduced an increased level of vulnerability.

Several interviewees estimated that frontline workers may relay sensitive information with supervisors or subject experts 20 times a day or more. They feared that frontline workers might be tricked into taking risks with that kind of data when using their own text- or photo-sharing apps. But as part of their organizations' technology stacks, Teams provided a secure environment for sharing that data.

Interviewees in healthcare said their organizations struggled with an additional set of security issues surrounding patient privacy under HIPAA regulations. An attending physician at a major teaching hospital said: "We often have palliative care meetings with family, and it's quite a challenge to get the family and the whole care team all together. Sometimes, family [members] are not even in the country. Teams makes it possible to get them all on board at the same time in a HIPAA-protected clinical environment."

Modeling and assumptions. Forrester makes the following assumptions about the composite organization in order to model the value of this benefit:

- The composite organization experiences 4.3 breaches annually.[4]

- For each breach, the organization incurs $282,093 in internal and external costs.[5]

- Each breach also results in an average of 4.6 hours downtime for 10% of the total workforce.[6]

- The average fully burdened hourly wage across the entire workforce is $39 with a 4% inflation adjustment.

- Teams reduces the organization's risk of breach by 5% over and above the existing security measures already in place.

Risks. Other organizations may experience a different impact as a result of:

- The size of the organization.

- The actual frequency and cost of security breaches.

- The effectiveness of the security measures already in place.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $551,300.

Avoided Security Breach Costs					
Ref.	Metric	Source	Year 1	Year 2	Year 3
D1	Projected breaches per year	Forrester research	4.3	4.3	4.3
D2	Average cost per breach	Forrester research	$282,093	$282,093	$282,093
D3	Projected annual direct cost of breaches	D1*D2	$1,213,000	$1,213,000	$1,213,000
D4	Average hours of downtime per employee per breach	Forrester research	4.6	4.6	4.6
D5	Average employees affected per breach	Assumption	5,000	5,000	5,000
D6	Average fully burdened hourly wage	TEI standard	$39	$41	$43
D7	Projected annual cost of breach-related employee downtime	D4*D5*D6	$3,857,100	$4,011,384	$4,171,839
D8	Security improvement due to M365 security features	Assumption	5%	5%	5%
Dt	Avoided security breach costs	(D3+D7)*D8	$253,505	$261,219	$269,242
	Risk adjustment	↓15%			
Dtr	Avoided security breach costs (risk-adjusted)		$215,479	$222,036	$228,856
Three-year total: $666,371			**Three-year present value: $551,334**		

IMPROVED INTERNAL MEETING PRODUCTIVITY

Evidence and data. Interviewees identified three primary ways that Teams increased meeting productivity in their organizations. First, they said the meeting experience was intuitive and consistent, which allowed everyone involved to join virtual meetings easily and run them smoothly, rather than

spending the first 5 minutes or more helping people sign on.

Further, having the ability to meet easily and participate meaningfully from any location saved employees from having to travel physically to a meeting location. Not only was this a critical feature while organizations were trying to operate under

restrictions due to the COVID-19 pandemic, it saved employees from traveling to meetings — even from across a 150,000 square-foot retail or factory floor. The interviewed attending physician described frequently driving 25 minutes or more each way to attend meetings at urban and suburban locations of his hospital system.

Finally, meetings became more productive because employees were more engaged. Rather than listening to a supervisor's voice over a conference phone, frontline workers were able to see meeting materials, read the faces and expressions of other participants, and ask questions. Several interviewees commented on the usefulness of the breakout room function in Teams for ensuring that attendees understood and absorbed the information presented.

"We had so many problems with our previous platform that I created a process I read out at the beginning of all my meetings that was basically a checklist on how we would run the meeting."

VP of retail operations, grocery

Modeling and assumptions. Forrester used the following assumptions to model this benefit:

- Each of the composite organization's 30,000 frontline employees (including both supervisors and their reports) participate in an average of four meetings each week.

- This cadence may vary between industries or even from one organization to another.

- Each meeting includes an average of three minutes of wasted time spent determining who is

absent and trying to track them down and get them to the meeting.

- Average blended fully burdened hourly wage for frontline worker and supervisors is $25, rising 4% per year. Employees in the meetings use 80% of the time saved to work on other productive tasks.

Risks. Variability in the value realized from this benefit is related to:

- The size and pay of the frontline workforce.

- The number of meetings frontline workers attend.

- The number of participants per meeting and/or length of the average meeting, which impacts the amount of time wasted during those meetings.

- The degree of difficulty starting up and running meetings and the resulting wasted time before the Teams deployment.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $329,000

Improved Internal Meeting Productivity

Ref.	Metric	Source	Year 1	Year 2	Year 3
E1	Frontline worker base	Composite	30,000	30,000	30,000
E2	Meetings per week per worker	Interviews	3	3	3
E3	Minutes per meeting saved	Interviews	5	5	5
E4	Average hourly fully burdened wage	TEI standard	$25	$26	$27
E5	Productivity recapture	TEI standard	80%	80%	80%
Et	Improved internal meeting productivity	(E1*E2*E3/60)*E4*E5	$150,000	$156,000	$162,000
	Risk adjustment	↓15%			
Etr	Improved internal meeting productivity (risk-adjusted)		$127,500	$132,600	$137,700
Three-year total: $666,371		**Three-year present value: $551,334**			

RETIRED LEGACY COLLABORATION SOLUTIONS

Evidence and data. All the executives Forrester interviewed relayed that their organization used an alternative platform or sometimes several for communicating with frontline workers. The VP of retail operations at a grocery chain told Forrester: "We had a competitive virtual meeting deployment in our organization, and then we had a couple different conference bridge licenses. We had some small call bridges for 50 participants or less, and we had some super users with more than 450 lines available. We had combinations of all those around the company."

The production engineer at a manufacturing facility recalled: "We had a meeting platform that allowed us to share files and presentations in the meeting, but once we hit a threshold of about 25 people, problems would start to happen with the connection. It was so hit-or-miss that people came up with all kinds of workarounds for it.

Modeling and assumptions. Forrester makes the following assumptions to model this benefit:

- The composite organization subscribes to one or more communication/collaboration tools before deploying Teams, and it paid $500,000 per year in license fees for those capabilities.

- Approximately 20% of that cost was driven by frontline worker usage.

- The organization terminates that subscription after successfully deploying Teams.

Risks. Potential variability in the value of this benefit may be related to:

- The cost of the collaboration tools in place before rolling out Teams.

- The degree to which frontline worker activity drives the usage and cost of those tools.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $211,400

Retired Legacy Collaboration Solutions					
Ref.	Metric	Source	Year 1	Year 2	Year 3
F1	Annual cost of legacy solution(s)	Interviews	$500,000	$500,000	$500,000
F2	Portion attributable to frontline worker	Interviews	20%	20%	20%
Ft	Retired legacy collaboration solutions	F1*F2	$100,000	$100,000	$100,000
	Risk adjustment	↓15%			
Ftr	Retired legacy collaboration solutions (risk-adjusted)		$85,000	$85,000	$85,000
Three-year total: $255,000			Three-year present value: $211,382		

UNQUANTIFIED BENEFITS

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

- **Team empowerment.** Interviewees described the impact of the data democratization that Teams supported. Both supervisors and their subordinates were energized by feedback they could follow in real time and that measured factors relevant to their job priorities. In some cases, frontline teams actually created their own data-driven feedback loops to measure the things they knew were important and that they could impact. There was a real sense among some of these teams that they were more in control of their own destinies.

- **Optimization and standardization of best practices and SOPs.** Although it required a time investment up front (quantified in the Cost section), interviewees agreed that their organizations' teams benefitted from the examination and documentation of best practices. This was especially true for the organizations that included frontline workers in that initial work.

- **Better team engagement.** Interviewees said this benefit had two elements to it. The first was related to being able to gather virtually and

interact in a way that was more like a face-to-face meeting. This was especially important during the period of heavy disruption due to COVID-19 pandemic restrictions but continued even as staffing levels and routines returned to normal.

The second element is the greater meeting effectiveness that frontline workers experienced after deploying Teams. The atmosphere in the meetings was more conducive to participation, and easy-to-use features like breakout rooms facilitated better engagement with and understanding of what was discussed.

> "I can tell you, yes, we are doing a good job because we have the numbers in real time, and the whole team has access. We don't have to ask IT or another department in the hospital. This is in our hands."
>
> *Head of infectious diseases, healthcare*

FLEXIBILITY

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

- **The opportunity to use relevant data, analytics and, eventually, machine learning to improve processes on the floor.** Most of the interviewees believed that there was much more upside in collecting and using data through Teams. While their organizations made significant leaps in this area, virtually all agreed that they were not leveraging Power BI or similar tools to the extent they could. They clearly felt this was an area for future focus. The head of infectious diseases put it this way: "We fill in the forms, but we really don't use big data or artificial intelligence or automatic ways to extract the data from our data warehouse. All of this is manual right now."

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

> "One thing we have definitely been doing a lot recently with Teams is making breakout rooms to facilitate the meeting, to make it better and more engaging for the technicians."
>
> *Head of global maintenance operations development, manufacturing*

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Gtr	Fees paid to Microsoft	$0	$1,067,850	$1,067,850	$1,067,850	$3,203,550	$2,655,585
Htr	Implementation costs	$74,448	$825,000	$386,100	$400,950	$1,686,498	$1,444,779
Itr	Ongoing Teams administration	$0	$74,360	$77,334	$80,428	$232,122	$191,939
	Total costs (risk-adjusted)	$74,448	$1,967,210	$1,531,284	$1,549,228	$5,122,170	$4,292,303

FEES PAID TO MICROSOFT

Evidence and data. Interviewees' organizations used a combination of different Microsoft 365 licenses designed for the frontline workforce (F-licenses) to meet their organizations' specific needs. The F1 license provides access to Teams, but it provides limited or no access to other applications in the Microsoft 365 suite, while F3 licenses provide broad access at a higher price.

Modeling and assumptions. The following assumptions factor into the model for this cost.

- The composite organization purchases F3 licenses for its 3,000 frontline supervisors and F1 licenses for their 27,000 direct reports.

- The organization pays $8 per month per user for the F3 licenses and $2.25 per month per user for the F1 licenses.

- While the price of the licenses includes more than the access to Teams (quite a bit more in the F3 licenses), Forrester used the full price of the licenses to be conservative.

- Pricing may vary. Contact Microsoft for additional details.

Risks. Variability in the magnitude of this cost may be the result of:

- The size of the organization and its frontline workforce

- The mix of license types purchased.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $2.7 million

Fees Paid To Microsoft

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
G1	F3 annual license cost per user	Microsoft		$96	$96	$96
G2	F3 licensees	Composite		3,000	3,000	3,000
G3	F1 annual license cost per user	Microsoft		$27	$27	$27
G4	F1 licensees	Composite		27,000	27,000	27,000
Gt	Fees paid to Microsoft	(G1*G2)+(G3*G4)	$0	$1,017,000	$1,017,000	$1,017,000
	Risk adjustment	↑5%				
Gtr	Fees paid to Microsoft (risk-adjusted)		$0	$1,067,850	$1,067,850	$1,067,850
	Three-year total: $3,203,550			**Three-year present value: $2,655,585**		

IMPLEMENTATION COSTS

Evidence and data. Several interviewees described process work their organizations underwent before deploying Teams to optimize their use of it. The head of infectious diseases in healthcare told Forrester: "The important thing is if you don't change the analog processes, the digital processes won't help you. We involved people from 14 departments, including nurses, administrative assistants, finance people, board members, and others. It took several months to create all the content we use with Teams every day."

Interviewees said that once the platform was deployed, there was minimal need for formal training of the users. They did, however, acknowledge that it took some time for their frontline workforces to fully adopt Teams. This was not a function of their inability to use the apps; it was a matter of changing routines (to which some team members were more resistant than others) and having the opportunity to use all the features often enough to become familiar with them.

Modeling and assumptions. Forrester developed the model for this cost based on the following:

- Approximately eight to 10 of the composite's mid-senior level leaders spend a total of 720 hours

reviewing and revising SOPs and reference documents prior to launch.

- Their average fully burdened hourly pay is $94.

- All 30,000 frontline workers receive an hour of training on the job during Year 1 of deployment.

- Frontline workers receive an additional 15 minutes of training per year on new features.

- Frontline worker turnover of 20% per year creates the need for initial 1-hour training for 6,000 new employees each year.

- The average fully burdened wage for frontline workers is $25, and it rises by 4% a year.

Risks. Other organizations may experience a different cost based on these drivers:

- The amount of up-front process development and documentation that needs to be completed.

- The size, pay, and turnover of the workforce.

Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $1.4 million.

Implementation Costs

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
H1	Business leader planning/preparation total hours	Interviews	720			0
H2	Average fully burdened business leader salary	TEI standard	$94			
H3	Frontline worker adoption/training hours (including employee turnover)	Composite		30,000	13,500	13,500
H4	Average hourly fully burdened wage	TEI standard		$25	$26	$27
Ht	Implementation costs	(H1*H2)+(H3*H4)	$67,680	$750,000	$351,000	$364,500
	Risk adjustment	↑10%				
Htr	Implementation costs (risk-adjusted)		$74,448	$825,000	$386,100	$400,950
	Three-year total: $1,686,498			**Three-year present value: $1,444,779**		

ONGOING TEAMS ADMINISTRATION

Evidence and data. While none of the interviewees specified that their organization had an IT professional primarily responsible for Teams, the solution is within the purview of the IT department. Interviewees related that collaboration specialists within IT spent part of their time addressing Teams.

Modeling and assumptions. Forrester makes the following assumptions about ongoing operations:

- The composite organization employs two FTEs as collaboration experts within the IT team.

- The two associates spend approximately 40% of their time on Teams-related issues.

- Their average fully burdened salary is $84,500.

Risks. Variability in this cost element is driven by:

- The size and structure of the IT organization.

- The amount of time IT associates spend on monitoring and responding to Teams issues.

Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $192,000.

Ongoing Teams Administration

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
I1	Collaboration IT associates	Interviews		2	2	2
I2	Average fully burdened salary	TEI standard		$84,500	$87,880	$91,395
I3	Percent of time spent on Teams	Interviews		40%	40%	40%
It	Ongoing Teams administration	I1*I2*I3	$0	$67,600	$70,304	$73,116
	Risk adjustment	↑10%				
Itr	Ongoing Teams administration (risk-adjusted)		$0	$74,360	$77,334	$80,428
	Three-year total: $232,122			**Three-year present value: $191,939**		

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

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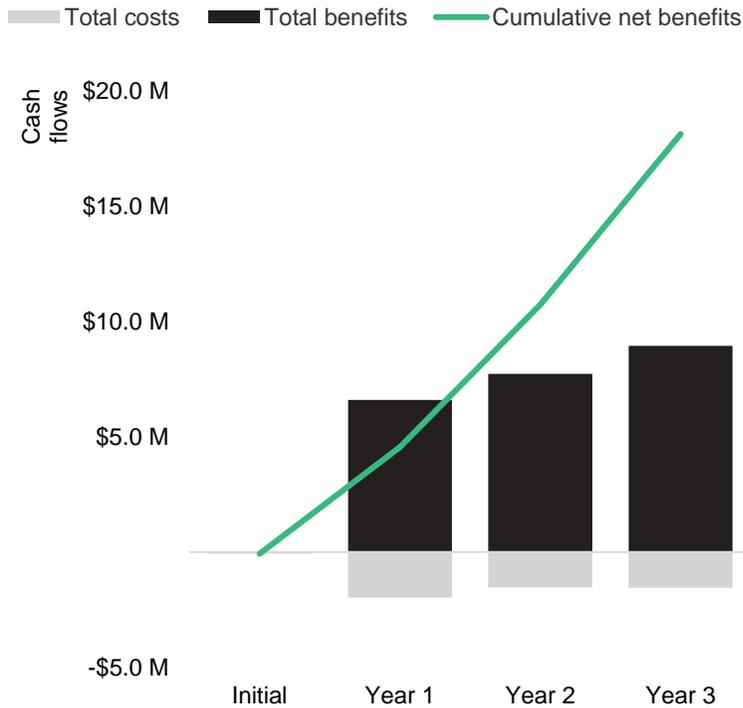
The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

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	($74,448)	($1,967,210)	($1,531,284)	($1,549,228)	($5,122,170)	($4,292,303)
Total benefits	$0	$6,586,779	$7,724,876	$8,935,076	$23,246,731	$19,085,231
Net benefits	($74,448)	$4,619,569	$6,193,592	$7,385,848	$18,124,561	$14,792,928
ROI						345%
Payback						<6 months

Appendix A: Total Economic Impact

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

TOTAL ECONOMIC IMPACT APPROACH

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

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

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

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

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

PRESENT VALUE (PV)

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

NET PRESENT VALUE (NPV)

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

RETURN ON INVESTMENT (ROI)

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

DISCOUNT RATE

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

PAYBACK PERIOD

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

Appendix B: Endnotes

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

[2] "The Financial and Human Cost of Medical Error," Betsy Lehman Center for Patient Safety, June, 2019 (https://betsylehmancenterma.gov/assets/uploads/Cost-of-Medical-Error-Report-2019.pdf).

[3] Ibid.

[4] Source: Forrester Consulting Cost Of A Cybersecurity Breach Survey, Q1 2021.

[5] Ibid.

[6] Ibid.

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