A Forrester Total Economic Impact™
Study Commissioned By IBM
July 2019

The Total Economic Impact™ Of IBM MaaS360 With Watson

Cost Savings And Business Benefits Enabled By MaaS360

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ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

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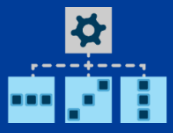
Benefits

Minutes saved per end user per day:

2.5 minutes



Reduced time needed to configure endpoints:

96%

Reduced time needed to set up end users:

47%

Executive Summary

IBM MaaS360 with Watson provides a unified endpoint management solution (UEM) that enables its customers to manage endpoints and end users in a central console. IBM commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential ROI enterprises may realize by deploying MaaS360. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the MaaS360 on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed and surveyed several customers with years of experience using MaaS360. MaaS360 enables organizations to provide their end users with a seamless user experience across various applications, driving employee productivity. MaaS360 does this by increasing the number of applications end users can use on their mobile devices, providing single sign-on (SSO) and multifactor authentication (MFA) capabilities, enabling organizations to adopt bring-your-own-device (BYOD) programs, and delivering a self-service portal and cognitive assistant that increases end user productivity. MaaS360 provides these user experience (UX) benefits while enabling organizations to meet regulatory and privacy policies like SOX, PCI, HIPAA, or GDPR. At the same time, MaaS360 is able to reduce the amount of time IT administrators spend configuring endpoints through a low-touch, no-touch deployment process, eliminating the need for images. IT administrators are also able to save time managing and securing endpoints through patching and update capabilities.

Prior to using MaaS360, the interviewed organizations either had various management solutions for multiple device types and operating systems, or they lacked a management solution altogether. In either scenario, organizations needed to spend significant amounts of manual effort managing devices throughout their life cycle, from the provisioning and imaging of endpoints to the day-to-day modern management of endpoints and troubleshooting of end user issues.

The interviewed organizations sought a solution that could reduce the amount of time IT administrators spent managing endpoints, reduce their security posture, meet regulatory requirements, and improve their end user UX to boost productivity.

Key Findings

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

- **Reduced the time needed to configure endpoints by 96%.** With MaaS360's low-touch, no-touch deployment capabilities, organizations no longer had to manually provision and image endpoints individually. This results in a three-year, risk-adjusted PV savings of nearly $1.2M.
- **Reduced the time needed to set up end users by 47%.** The granular configurations enabled by MaaS360 reduced the amount of additional configuration and setup that IT administrators have to do with end users. This results in a three-year, risk-adjusted PV savings of over $2.8M.

ROI
160%

Benefits PV
$5.6 million

NPV
$3.4 million

Payback
<3 months

- **Modern management of devices decreased time spent on auditing by 58% and updating devices by 50%.** With MaaS360, the ability to manage and secure devices became far more simplified. IT administrators now had full visibility into their security posture across endpoints and operating systems in one, centralized console. Furthermore, MaaS360 enables the IT organization to apply patches and updates for Windows laptops, desktops, and mixed reality devices quickly and easily, regardless of whether a device is on the enterprise network. This results in a three-year, risk-adjusted PV savings of over $22.9K.
- **Reduced the number of tickets received by 50% and reduced the remediation time by 50%.** SSO, a self-service portal, and an AI assistant both reduce the number of tickets that end users submit every year. In addition, the added visibility and control provided by MaaS360 enables IT administrators to resolve tickets faster than before. This results in a three-year, risk-adjusted PV savings of over $26K.
- **Cost savings on remediation of incidents due to 80% reduction in cybersecurity incidents.** With features like modern management that enables organizations to ensure endpoints are in compliance, identity management features like SSO and MFA, container apps to ensure personal data is separate from work for strong data leak prevention, and application security; organizations reduced their security posture across all endpoints. Furthermore, MaaS360's mobile threat defense and AI-powered insights and analytics enabled organizations to detect, analyze, and remediate threats faster than before. With MaaS360, organizations are able to reduce the number of security incidents each year. This results in a three-year, risk-adjusted PV savings of over $2.2M.
- **Two and a half minutes saved per end user per day due to improved access.** In addition to the benefits listed above, end users could now access important files and applications across more devices and geographies, increasing their productivity outside of work. This results in a three-year, risk-adjusted PV savings of over $1.5M.

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

- **Planning, implementation, and ongoing maintenance costs.** The composite organization dedicates four FTEs, one per supported device type, creating the configurations, and planning the rollout of MaaS360. Afterward, each FTE spends 96 hours per year managing these configurations. The composite organization also leverages professional services to implement SSO and assist with configurations.
- **MaaS360 licensing costs.** The organization pays monthly licensing costs per device.
- **Training costs.** The four FTEs tasked with implementation and management spend 80 hours each on training in the initial phase. Afterward, they each spend 20 hours per year staying up to date with the features and capabilities offered by MaaS360.

Forrester's interviews with two existing customers and additional online interviews with 17 customers, and subsequent financial analysis found that an organization based on these customers experienced benefits of $5.6 million over three years versus costs of $2.1 million, adding up to a net present value (NPV) of $3.4 million and an ROI of 160%.

TEI Framework And Methodology

From the information provided in the interviews and survey, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing IBM MaaS360 with Watson.

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 MaaS360 can have on an organization:

The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DUE DILIGENCE
Interviewed IBM stakeholders and Forrester analysts to gather data relative to MaaS360.

CUSTOMER INTERVIEWS AND SURVEY
Interviewed two organizations and conducted 17 online interviews of organizations using MaaS360 to obtain data with respect to costs, benefits, and risks.

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

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

CASE STUDY
Employed four fundamental elements of TEI in modeling MaaS360's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by IBM and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in IBM MaaS360 with Watson.

IBM 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.

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

The MaaS360 Customer Journey

BEFORE AND AFTER THE MAAS360 INVESTMENT

Interviewed Organizations

For this study, Forrester conducted two interviews and an additional 17 online interviews with IBM MaaS360 with Watson customers. Interviewed customers had the following characteristics:

- Interviewed industries included financial services, nonprofit, utilities, production manufacturing, and professional services.
- The titles interviewed included IT decision makers such as the director of mobile product and innovation, the senior product manager of mobile devices, the manager of technology operations, and the lead engineer for mobile devices
- The numbered of managed endpoints ranged from 500 to 100,000.

Key Challenges

Prior to adopting MaaS360, interviewed organizations lacked an effective method of managing the various endpoints within the organization. The organizations:

- **Struggled to provide a unified, seamless user experience.** Prior to adopting MaaS360, the interviewed organizations struggled to provide a consistent user experience across devices. Only a small subset of applications available on laptops and desktops were also available on mobile devices. As a result, end users were limited in the type of work they could accomplish away from their desktops or laptops. End users expressed frustrations that they couldn't access important files and applications on their mobile devices. In response, the director of mobile product and innovation explained, "We wanted to improve the user experience by increasing the number of applications we provide and improving our management capabilities."

  In addition, organizations lacked SSO capabilities, meaning that end users had to remember several different passwords to access important business applications. This led to users often forgetting their passwords, resulting in password reset requests and ultimately lost time.

  The interviewed organizations were hoping to adopt a solution that would improve UX and expand the offerings it could provide to its end users, increasing user productivity.
- **Spent substantial time configuring and setting up end users on their endpoints.** In the prior state, organizations had to manually provision and image every endpoint at their central facility. Endpoints had to be shipped to the organization's central headquarters to be configured, and then they would have to be shipped out to satellite offices, remote workers, or contractors. The organizations wanted to move away from the high-touch, centralized imaging process and more toward a less labor-intensive configuration process that would provide them with more granular control over endpoints.

> "We wanted to improve our end user's experience by adopting a solution that would tightly integrate with the other applications in our stack."
>
> *Director, mobile product and innovation, financial services*

- **Lacked the tools and capabilities to efficiently audit and patch endpoints.** Since not all applications were on mobile device management (MDM), enterprise mobility management (EMM), or unified endpoint management (UEM) solutions, auditing and patching endpoints was done unevenly. The organization relied on custom scripts, manual auditing, and patching devices. Furthermore, organizations had no way to enforce updates; they relied on their IT departments reaching out to users to apply patches and updates. All of this meant that the organization was only able to handle the most serious security vulnerabilities at any given moment.

  The organizations wanted to centralize and improve the auditing and patching of endpoints to reduce their security posture and prevent any serious breaches.

Solution Requirements

The interviewed organizations searched for a solution that could:

- Manage the diverse devices and platforms across their organizations with one solution.
- Improve their endpoint and mobile management capabilities through containerization and application security.
- Shift to a more comprehensive, user-based permissioning with a unified identity and access management (IAM) solution.
- Improve visibility and auditing of systems regardless of OS and device type.
- Provide end users with an improved experience that meets their business needs.

> "With MaaS360, we can provide our end users the applications they need to maximize their day. They don't have to do everything in the office anymore."
>
> *Director, mobile product and innovation, financial services*

Key Results

The interviews revealed the following key results from the MaaS360 investment:

- **Moving to a low-touch configuration process reduced the time IT administrators needed to configure new endpoints.** With MaaS360's low-touch, no-touch deployment capabilities, organizations no longer had to manually provision and image endpoints individually. The director of mobile product and innovation at the financial services organization explained, "From the point of shipping to the point of automation, everything is pretty much all automated now." IT administrators no longer have to continuously maintain or create images for various device types. In addition, because of the granular configuration capabilities enabled in MaaS360, IT administrators don't have to use monolithic images and then manually install and configure department-specific applications, devices, or configurations. This greatly reduces the amount of manual labor that needs to be performed during the configuration process.

  This new method of configuring endpoints has additional benefits as well. For example, organizations no longer need to ship all endpoints for configuration and then ship them out to their final destination; instead, they can be delivered directly to their final destination, where local IT teams can verify everything is working. This not only saves the composite organization money on shipping, but it also helps deliver devices faster to end users.

> "Since adopting MaaS360, we have had an internal net promoter score of +90%. Our end users are saying that their mobile devices are helping or drastically helping in their work."
>
> *Manager, technology operations, nonprofit*

- **Accelerated the end user setup time by reducing the amount of additional manual configuration for IT administrators.** The granular configurations enabled by MaaS360 reduces the amount of additional configuration and setup that IT administrators have to do with end users. IT administrators no longer have to deal with department-specific configurations. The process is far more automated with MaaS360, for example, one interviewee explained how the process for configuring mobile devices improved: "Once end users have unboxed their phone, they just boot it up, and then they'd just enter their employee number, and their devices would be provisioned and configured. It's a big change in onboarding for our population, which has been extremely valuable from a provisioning/support perspective."

  During the setup process, IT administrators can focus on answering end user questions, going over the capabilities of the user's new device, and, for new hires, going over corporate policies.

> "Once end users have unboxed their phone, they just boot it up, and then they'd just enter their employee number and their devices would be provisioned and configured. It's a big change in onboarding for our population, which has been extremely valuable from a provisioning/support perspective."
>
> *Director, mobile product and innovation, financial services*

- **Reduced time spent running reports and addressing security flaws on endpoints with automatic auditing and patching capabilities.** With MaaS360, IT administrators can quickly and easily see all endpoints, across device type and OS, that require patching. Before, IT teams would either have to run audits across different management solutions or manually audit endpoints that weren't on a management solution; afterward, these reports would have to be consolidated to give the IT team full visibility into their security posture.

  The AI capabilities provided by Watson speed up the resolution of security flaws. Watson can quickly and provide IT administrators with all the relevant information about a security flaw, including the severity of the flaw, the proper way to resolve that flaw, and any other relevant information. These added insights reduce the amount of manual effort that IT teams had to spend managing and securing devices — it also reduces the organization's security posture.

> "Our previous solution didn't integrate with our directory system. With MaaS360, we're able to integrate our directory system and offer our users a SSO experience."
>
> *Manager, technology operations, nonprofit*

- **Provided end users with SSO, a self-service portal, and an AI assistant, reducing the annual number of tickets received per year.** MaaS360 provides organizations with a host of capabilities that reduce the number of common IT issues their end users experience, improving UX, and reducing the number of support tickets received. Features like SSO and a self-service portal reduces ticket requests like password resets, application installation requests, printer mapping, and other common requests. In addition, MaaS360 provides end users with an AI assistant that can further help deflect ticket submissions by answering common IT-related questions.

  MaaS360 also helps organizations to reduce the number of cybersecurity incidents they experience, compared to their previous solution. Organizations see an 80% reduction in the number of security events experienced, greatly reducing the cost associated with the remediation of these events. In addition, IT administrators resolve tickets faster by giving them improved visibility and control into endpoints. IT administrators can remotely push updates or applications to an endpoint or do a screen-sharing session to see exactly what problem an end user is experiencing.

> "Before MaaS360, our mobile devices had only five or six applications. With MaaS360, we're now offering our end users with over 60 applications that add extreme value."
>
> *Director, mobile product and innovation, financial services*

- **Improved access to important applications and files increases end user productivity outside of work.** In addition to the UX benefits listed above, end users have benefited from having access to a larger set of applications across a wider set of endpoints. For example, the director of mobile product and innovation said that in its previous state, mobile phones only had five or six applications, "With MaaS360, we're

now offering our end users with over 60 applications that add extreme value." The interviewed organizations were able to provide more applications to their end users than they could before while still complying with regulator and privacy regulations. End users now have access to softphone apps, collaboration tools, and corporate-specific apps. End users can read or complete training on their commute to work, or as one interviewee explained, complete reimbursement requests on their mobile device faster than they could have on their desktop.

By providing end users with a larger set of applications, and improving their access to corporate data and applications from anywhere, employees can be more productive than before. According to the manager of technology operations for a nonprofit, "Since adopting MaaS360, we have had an internal net promoter score of +90%. Our end users are saying that their mobile devices are helping or drastically helping in their work."[1]

"Increasing the number of applications our users have access to helps them maximize their day, they don't have to do everything in the office now."

Director, mobile product and innovation, financial services

Composite Organization

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

Description of the composite. The US-based, global, multibillion-dollar financial services organization, with annual revenue of $1.3 billion, has over 9,500 employees spread across six offices around the globe and as remote workers. The composite organization has over 22,000 endpoints; providing many of its workers with both a laptop/desktop and a mobile phone. The organization configures roughly a third of its total devices per year. These configured endpoints are either new (replacing retired endpoints) or endpoints in the ecosystem that are being repurposed.

The composite organization has the following device types in its ecosystem:

- Apple iOS (iPhones and iPads)
- Apple macOS (Macs)
- Google Android devices
- Windows 7 and Windows 10 desktops and laptops

The organization is not currently leveraging a single UEM solution to manage everything within its ecosystem. The organization is using some management tools for some of its endpoints, but in general, management is uneven and inconsistent.

Deployment characteristics. The composite organization has four FTEs, one per device type, trained on how to leverage MaaS360. The four FTEs spend 100% of their time over two months learning about MaaS360. Afterward, they spend an additional two months creating the configurations for each device type. The composite organization leverages third-party professional services for training and enabling SSO for its end users.

Composite organization

- $1.3B in revenue
- 9.5K employees
- Over 22K endpoints managed by Year 3

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	Endpoint configuration savings	$249,216	$415,472	$830,876	$1,495,563	$1,194,174
Btr	End user setup savings	$149,472	$230,676	$433,571	$813,719	$652,274
Ctr	Modern management time savings	$9,233	$9,233	$9,233	$27,698	$22,960
Dtr	Support ticket time savings with	$10,494	$10,494	$10,494	$31,483	$26,098
Etr	Cost savings of remediation of security breach with	$869,022	$869,022	$869,022	$2,607,066	$2,161,129
Ftr	End user productivity savings	$278,531	$696,329	$928,438	$1,903,298	$1,526,238
	Total benefits (risk-adjusted)	$1,565,968	$2,231,225	$3,081,634	$6,878,827	$5,582,873

Endpoint Configuration Savings

Before adopting IBM MaaS360 with Watson, configuring endpoints was a high-touch endeavor that required manually provisioning individual endpoints with the correct network details, applications, and settings. Configuration involved having endpoints shipped to the organization's headquarters, imaging endpoints, manually installing department specific applications, and shipping them to satellite offices or remote workers.

With MaaS360, the organization is able to move to a low-touch deployment process, reducing the amount of manual labor needed to set up endpoints. The provisioning of the endpoint and the installation of software is now done automatically either over the air or over the network.

The organization can now ship endpoints straight to their final destinations. In addition, the IT department no longer has to maintain multiple images for different endpoints and departments.

For the composite organization, Forrester assumes that:

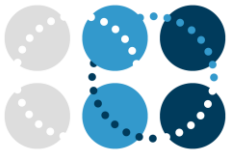
- The composite organization configures 3,698 in Year 1, increasing to 12,329 by Year 3.
- Prior to the investment in MaaS360, the average time spent configuring each endpoint was 2 hours.
- With MaaS360, the composite organization is able to streamline and automate the configuration of endpoints, reducing the time spent on the process by 96%.

The savings from reduced time spent on configuring endpoints will vary with:

- The number of endpoints in the organization.
- The number of endpoints configured annually.
- The time required to configure endpoints prior to adopting MaaS360.

To account for these risks, Forrester adjusted this benefit downward by

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of more than $5.5 million.



Streamlined configuration process: **96% reduction in time**

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

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10%, yielding a three-year, risk-adjusted total PV of $1,194,174.

Endpoint Configuration Savings: Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
A1	Number of endpoints configured via MaaS360	Increases YoY	3,698	6,165	12,329
A2	Time required to configure endpoints before MaaS360	Hours	2	2	2
A3	Total hours spent configuring endpoints	A1*A2	7,396	12,330	24,658
A4	Percent reduction in time required to configure endpoints with MaaS360		96%	96%	96%
A5	Total hours saved configured endpoints with MaaS360	A3*A4	7,100	11,837	23,672
A6	Fully loaded IT administrator hourly salary		$39	$39	$39
At	Endpoint configuration savings	A5*A6	$276,906	$461,635	$923,196
	Risk adjustment	↓10%			
Atr	Endpoint configuration savings (risk-adjusted)		$249,216	$415,472	$830,876

End User Setup Savings

The composite organization relied on high-touch, monolithic images in its prior state. This caused IT staff to spend additional time with end users configuring their endpoints, specifically:

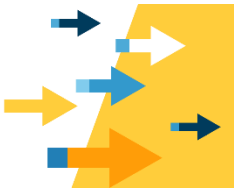
- Ensuring devices were working properly and that all baseline applications and policies were installed and configured.
- Installing department-specific applications and printers.

In addition, because the composite organization lacked an IAM solution, IT administrators had to ensure that end users and their devices were provisioned to access various applications.

With MaaS360's more granular provisioning capabilities, IT administrators have to spend less time distributing and verifying that applications and devices are working properly during the setup process. Moreover, since the composite organization adopted MaaS360's IAM solution, IT administrators have to spend less time provisioning new hires and managing access to applications.

For the composite organization, Forrester assumes that:

- The number of new endpoints set up per year increases as overall adoption of MaaS360 increases, starting at 3,698 in Year 1 and increasing to 12,329 by Year 3. Prior to adopting MaaS360, IT administrators spent an average of 42 minutes setting up end users on their devices, 33 minutes provisioning new user accounts per account.
- An average of 25 minutes distributing and managing access to applications per new device.



MaaS360's IAM solution enables the organization to **spend less time** verifying that end users and their endpoints are properly provisioned.

- With MaaS360, the organization recognizes a 47% reduction in setup time, an 85% reduction in the time needed to create and provision new accounts, and a 55% reduction in the time needed to distribute and manage access to new devices.

The reduction in end user setup savings will vary based on:

- The number of department-specific applications.
- The time required to set up applications before adopting MaaS360.
- The number of new devices set up per year.
- The time spent distributing and managing access to applications before adopting MaaS360.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $652,274.

End user setup time savings:
47% reduction in time

End User Setup Savings: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Number of new device setups performed annually	A1	3,698	6,165	12,329
B2	Time required to setup employees on new devices prior to MaaS360	minutes	42	42	42
B3	Hours setting up user on new devices prior to MaaS360	B1*(B2/60)	2,589	4,316	8,630
B4	Percent reduction in setup time with MaaS360		47%	47%	47%
B5	Total hours saved setting up employees on new devices	B3*B4	1,217	2,028	4,056
B6	Fully loaded IT administrator hourly salary		$39	$39	$39
B7	Average fully loaded employee hourly salary		$45	$45	$45
B8	**Time saved setting up users**	**(B1*B2)+(B1*B7)**	**$102,198**	**$170,376**	**$340,724**
B9	Number of new employees each year	9,500 employees *17.8% average turnover rate	1,691	1,691	1,691
B10	Time required to create and provision new account prior to MaaS360	minutes	33	33	33
B11	Hours spent creating and provisioning new accounts prior to MaaS360		930.05	930.05	930.05
B12	Percent reduction in setup time with MaaS360		85%	85%	85%
B13	**Savings from creating and provisioning new accounts**	**B11*B12*B6**	**$30,831**	**$30,831**	**$30,831**
B14	Time required for distributing and managing access to applications prior to MaaS360	minutes	25	25	25
B15	Hours spent distribution and managing access to applications prior to MaaS360	B1*(B13/60)	1,540.83	2,568.75	5,137.08
B16	Percent reduction in time with MaaS360		55%	55%	55%
B17	Total hours saved on distribution and managing access to applications	B15*B16	847	1,413	2,825
B18	**Total savings on distribution and managing access to applications**	**B17*B6**	**$33,050.88**	**$55,100**	**$110,190**
Bt	End user setup savings	B8+B13+B18	$166,080	$256,307	$481,746
	Risk adjustment	↓10%			
Btr	End user setup savings (risk-adjusted)		$149,472	$230,676	$433,571

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Modern Management Time Savings

Before adopting MaaS360, the composite organization's ability to audit and patch endpoints was uneven and varied, based on device type. Since not all devices were managed by an EMM, MDM, or UEM, the organization had to rely on custom scripts, remoting into endpoints and other workarounds to audit and patch endpoints. This method was highly manual and meant that the organization could only focus on the most urgent security vulnerabilities.

After adopting MaaS360, the ability to manage and secure macOS, Windows laptops, desktops, and Windows Mixed Reality devices became far more simplified. IT administrators have full visibility into their security posture across endpoints and operating systems in one, centralized console. Furthermore, MaaS360 enables the IT organization to apply patches and updates for Microsoft Windows 7, Windows 10, and HoloLens. This is accomplished regardless of whether a device is on the enterprise network.

Finally, MaaS360's AI assistance reduces the time that IT administrators need to spend researching vulnerabilities and their proper resolution.

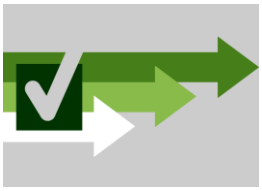
For the composite organization, Forrester assumes that:

- IT administrators spent an average of 24 hours per month auditing endpoints before adopting MaaS360.
- The organization recognizes a 58% reduction in the time required to audit endpoints through MaaS360.
- IT administrators spent an average of 16 hours per month patching endpoints and updating software before adopting MaaS360.

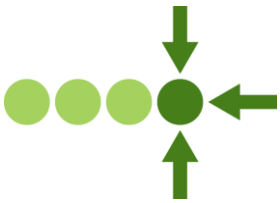
With MaaS360, the organization recognizes a 50% reduction in time required to update endpoints. The time saved on auditing and patching will vary based on:

- An organization's security posture.
- Vertical-specific compliance and regulatory mandates.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $22,960.



MaaS360 **simplifies** the ability to manage and secure endpoints.



Auditing efficiency:
58% reduction in time

Time required to update endpoints:
50% reduction in time

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Modern Management Time Savings: Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
C1	Annual hours spent auditing endpoints before MaaS360	24 hours per month*12 months	288	288	288
C2	Reduction in time spent on auditing activities with MaaS360		58%	58%	58%
C3	**Hours saved auditing endpoints**	**C1*C2**	**167**	**167**	**167**
C4	Annual hours spent updating endpoints and software before MaaS360	16 hours per month*12	192	192	192
C5	Reduction in time spent updating endpoints and software with MaaS360		50%	50%	50%
C6	**Hours saved updating endpoints and software attributed to MaaS360**	**C4*C5**	**96**	**96**	**96**
C7	**Total hours saved on modern management with MaaS360**	**C3+C6**	**263**	**263**	**263**
C8	Fully loaded IT administrator hourly salary		$39	$39	$39
Ct	Modern management time savings	C7*C8	$10,259	$10,259	$10,259
	Risk adjustment	↓10%			
Ctr	Modern management time savings (risk-adjusted)		$9,233	$9,233	$9,233

Support Ticket Time Savings

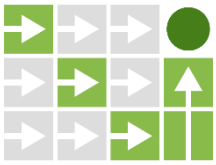
Prior to adopting MaaS360, the composite organization had no way of deflecting routine ticket requests: password resets, printer mapping, application installation, and other common issues. As a result, the IT organization spent over a thousand hours per year resolving these types of issues.

After adopting MaaS360, the composite organization implemented a self-service portal, enabling end users to install applications and printers by themselves. The organization was able to provide its end users with an SSO experience by adopting IBM's IAM solution; as a result, it saw a reduction in the number of password-reset requests that end users submitted. The organization also adopted MaaS360's AI assistant, which further reduced the number of common IT inquiries the organization received.

In addition to helping reduce the number of tickets received, MaaS360 also helps IT administrators resolve ticket inquiries faster by allowing them to: do remote sessions across any device; push applications or policies to endpoints, and gain additional visibility into an end user's device through the MaaS360 console.

To calculate this benefit, the model assumes that:

› Before adopting MaaS360, the organization received 302 tickets per month related to endpoints.



Ticket submission reduction:
50% reduction tickets

Ticket resolution efficiency gains:
55% reduction in time

- Before adopting MaaS360, the composite organization spent an average of 18 minutes on common inquiries.
- With MaaS360, the organization decreases the number of inquiries received by 50%.
- In addition, the organization decreases the average time to resolve a ticket by 55%.
- The average fully loaded salary for an IT administrator is $39 per hour.

The reduction in support tickets and resolution times will vary with:

- An organization's existing ability to deflect common support tickets.
- An organization's average time to resolve common support tickets.
- The average hourly salary of IT administrators.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $26,098.

Support Ticket Time Savings: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	Annual number of support tickets related to endpoints prior to MaaS360	302 tickets per month*12 months	3,624	3,624	3,624
D2	Average minutes to resolve support ticket prior to MaaS360		18	18	18
D3	Total hours spent on endpoint support tickets before MaaS360	D1*(D2/60)	1,087	1,087	1,087
D4	Percent reduction in number of tickets with MaaS360		50%	50%	50%
D5	Percent reduction in time to resolve support ticket with MaaS360		55%	55%	55%
D6	Minutes saved in resolution time with MaaS360	(D1*D4)*(D2*D5)	17,938.8	17,938.8	17,938.8
D7	Fully loaded IT administrator hourly salary		$39	$39	$39
Dt	Support ticket time savings	D6/60*D7	$11,660	$11,660	$11,660
	Risk adjustment	↓10%			
Dtr	Support ticket time savings (risk-adjusted)		$10,494	$10,494	$10,494

Security Breach Remediation Time Savings

In addition to support ticket time savings, interviewees also reported a significant reduction in cybersecurity threats experienced. Before their investment in MaaS360, the composite organization experienced a number of security incidents each year. The security incidents varied in terms of cost and severity, but Ponemon Institute estimates the average total cost of a data breach to be $3.86M, with the most expensive data breaches happening in the US at $7.91M.[2] Additionally, the cost of a data breach is growing each year, with a 6.4% increase in cost over the past year. The composite organization wanted to reduce their risk of experiencing a costly security breach.

With MaaS360, the composite organization reduced the number of cybersecurity incidents by 80%. With features like modern management that enables organizations to ensure endpoints are in compliance, identity management features like SSO and MFA, container apps to

ensure personal data is separate from work for strong data leak prevention, and application security; the composite organization is able to reduce its security posture across all endpoints. Furthermore, IBM MaaS360's mobile threat defense and AI-powered insights and analytics enable the composite organization to detect, analyze, and remediate threats faster than before.

For this benefit, Forrester focused on the time associated with the remediation of a cybersecurity incident. It is important to note that the cost of a cybersecurity incident could have major repercussions across an organization. While this calculation focuses solely on the remediation time, organizations should consider the various direct and indirect costs that may arise from a large security incident, such as costs associated with forensic experts and outsourcing hotline support, providing free credit monitoring, in-house investigations and communication, as well as the value of lost sales and loyalty resulting from turnover or diminished customer acquisition rates.

To calculate this benefit, the model assumes that:

- Before adopting MaaS360, the organization experienced five cybersecurity incidents per year.
- With MaaS360, the organization decreases the number of cybersecurity experienced by 80%, dropping down to one event per year.
- The Ponemon Institute estimates the average time associated with managing a security event is 266 days, and as multiple people are involved at different times of an incident, Forrester estimates a total of 3,990 hours involved with the remediation of a cybersecurity incident.
- The average fully loaded blended salary of the employees across IT, the line of business, and higher level management involved with remediation is $60.50 per hour.

The cost savings on remediation of a security breach with MaaS360 will vary with:

- The breadth and scope of the security breach.
- The average hourly salary of individuals involved with the incident.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $2.2 million.

Reduction in cybersecurity incidents: **80% reduction in number of incidents**

Security Breach Remediation Time Savings: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
E1	Number of cybersecurity incidents before MaaS360		5	5	5
E2	Number of cybersecurity incidents after implementing MaaS360		1	1	1
E3	Average hours to remediate data breach	266 days*15 hours per day	3,990	3,990	3,990
E4	Average hourly blended salary of team involved with cybersecurity remediation		$60.50	$60.50	$60.50
Et	Security breach remediation time savings	(E1-E2)*E3*E4	$965,580	$965,580	$965,580
	Risk adjustment	↓10%			
Etr	Security breach remediation time savings (risk-adjusted)		$869,022	$869,022	$869,022

End User Productivity Savings

Prior to adopting MaaS360, end users struggled to be productive outside of their offices. End users only had access to their corporate email on mobile devices. End users lacked the ability to be productive across various geographies or endpoints prior to the organization adopting MaaS360.

The composite organization gained the ability to grant end users secure access to a more extensive set of applications. MaaS360 enables the composite organization to centrally manage, distribute, and update applications while blacklisting malicious applications. MaaS360 provides the composite organization with a way of containerizing and encrypting those applications. The composite organization is able to protect its employees' personally identifiable information (PII) and enforce data leakage prevention (DLP) policies.

The composite organization is further able to increase end user productivity by establishing a BYOD program. As a result, end users can be productive across a wide variety of devices and geographies.

Lastly, interviewees explained that MaaS360's AI assistant saves end users' time by helping them schedule meetings, find attachments and emails.

Based on the customer interviews, Forrester assumes that:

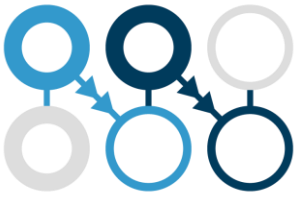
- End users save an average of 2.5 minutes per day through the various productivity enhancements provided by MaaS360.
- The 2.5 minute time savings is recognized over an average of 260 working days in a calendar year.
- The blended average fully loaded FTE salary for the organization is $45.
- As not all time saved translates into additional, value-add work, only 25% of this benefit is realized.

This benefit may vary due to uncertainty related to:

- The applications end users had access to in their prior state.
- Existing BYOD programs.
- The average fully loaded FTE salary for an organization.

To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV of $1,526,238.

With MaaS360, end users have **more secure access to more applications.**



Improved end user UX and access to critical applications and files:

2.5 minutes saved per day per end user

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End User Productivity Savings: Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
F1	Total number of end users with devices managed by MaaS360		2,857	7,142	9,522
F2	Time saved due to improved access and self-service with Watson	2.5 minutes per day	2.50	2.50	2.50
F3	Average fully loaded FTE salary		$45	$45	$45
F4	Savings	(F1*F2)/60*260*F3	1,392,657.02	3,481,642.56	4,642,190.07
F5	Value recapture		25%	25%	25%
Ft	End user productivity savings	F4*F5	$348,164.26	$870,410.64	$1,160,547.52
	Risk adjustment	↓20%			
Ftr	End user productivity savings (risk-adjusted)		$278,531	$696,329	$928,438

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement MaaS360 and later realize additional uses and business opportunities, including:

- **Expansion into the wearable and internet-of-things (IoT) space.** Organizations can adopt a wider variety of devices while maintaining a high level of security and control through MaaS360.
- **Expand BYOD program.** The interviewed organizations adopted a combination of BYOD and corporate-owned endpoints. However, with MaaS360, organizations have the option of reducing the number of endpoints they have to purchase and allowing end users to use their own devices.

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

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so.

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	Planning, implementation, and ongoing maintenance costs	$65,604	$26,225	$15,725	$15,725	$123,278	$114,255
Htr	Licensing costs	$0	$419,353	$699,059	$1,398,119	$2,516,531	$2,009,392
Itr	Training	$13,728	$3,432	$3,432	$3,432	$24,024	$22,263
	Total costs (risk-adjusted)	$79,332	$449,010	$718,216	$1,417,275	$9,000,000	$7,461,000

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than $7.4 million.

Planning, Implementation, And Ongoing Maintenance

The composite organization dedicated four FTEs to the initial planning and implementation phase of their MaaS360 deployment. The FTEs were tasked with creating the proper configurations and policies for each of the supported operating systems within the organization: Apple iOS and macOS, Google Android, and Windows operating systems (7 and 10). Each FTE focused on one specific operating system. The preplanning phase occurred over two months. Afterward, the four FTEs spent an average of 8 hours per month maintaining and updating the configurations.

Based on the customer interviews, Forrester assumes that:

- Four FTEs are tasked with creating the configurations for each device type supported in the composite organization.
- Initially, the four FTEs spend 80 hours over two months creating the configurations for each device type. For the following years of analysis, they spent 96 hours per year maintaining MaaS360.
- The composite organization spends a total of $60,000 in professional services on creating an IAM solution and enabling SSO.

The time spent on the preplanning and ongoing maintenance will vary based on:

- The number of different operating systems managed by an organization.
- The average salary of the FTEs dedicated to the planning and implementation.
- The third-party professional services leveraged by the composite to assist the four FTEs and implement an IAM solution to provide its end users with SSO capabilities.
- The number of FTEs dedicated to the planning, implementation, and maintenance of MaaS360.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $114,255.

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

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Planning, Implementation, And Ongoing Maintenance: Calculation Table						
REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	FTEs dedicated to MaaS360 management	1 per device category	4	4	4	4
G2	Hours required per FTE for preplanning and implementation of MaaS360		80	$0	$0	$0
G3	Annual hours spent maintaining MaaS360 per FTE		$0	96	96	96
G4	Average fully loaded FTE salary		$39	$39	$39	$39
G5	Professional services expenses		$50,000	$10,000	$0	$0
Gt	Planning, implementation, and ongoing maintenance costs	(((G1*G2) +(G1*G3))*G4) +G5	$62,480	$24,976	$14,976	$14,976
	Risk adjustment	↑5%				
Gtr	Planning, implementation, and ongoing maintenance costs (risk-adjusted)		$65,604	$26,225	$15,725	$15,725

Licensing Costs

The composite organization incurs monthly fees per device.

Based on the customer interviews, Forrester assumes that:

- The composite organization pays monthly fees of $9 per month per endpoint.
- The composite organization has 3,698 endpoints in Year 1, 6,165 in Year 2, and 12,329 in Year 3.

Licensing fees will vary from organization to organization based on:

- The licensing agreement an organization chooses.
- The number of devices enrolled.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $2,009,392.

Licensing Costs: Calculation Table						
REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
H1	MaaS360 licensing costs	Assumes $9/ endpoint/month		$399,384	$665,771	$1,331,542
Ht	Licensing costs	H1		$399,384	$665,771	$1,331,542
	Risk adjustment	↑5%				
Htr	Licensing costs (risk-adjusted)		$0	$419,353	$699,059	$1,398,119

Training Costs

The composite organization incurs costs associated with the training of its IT staff. For the initial training, the four FTEs dedicated to each OS type (Apple macOS, Apple iOS, Google Android, and Microsoft Windows operating systems) spent 80 hours over two months learning how to use MaaS360. Afterward, the four dedicated FTEs spent an average of 20 hours per year staying up to date with the new features and functionalities on MaaS360.

Based on the customer interviews, Forrester assumes that:

- The four FTEs spent 80 hours over two months learning how to use MaaS360.
- The four FTEs spent 20 hours per year staying up to date with the new features and functionalities on MaaS360.
- The fully loaded hourly IT administrator salary is calculated at $39.

Organizations will face varying training costs depending on:

- The number and duration of training sessions.
- The number of FTEs trained on MaaS360.
- The hourly salary of IT administrators.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $22,263.

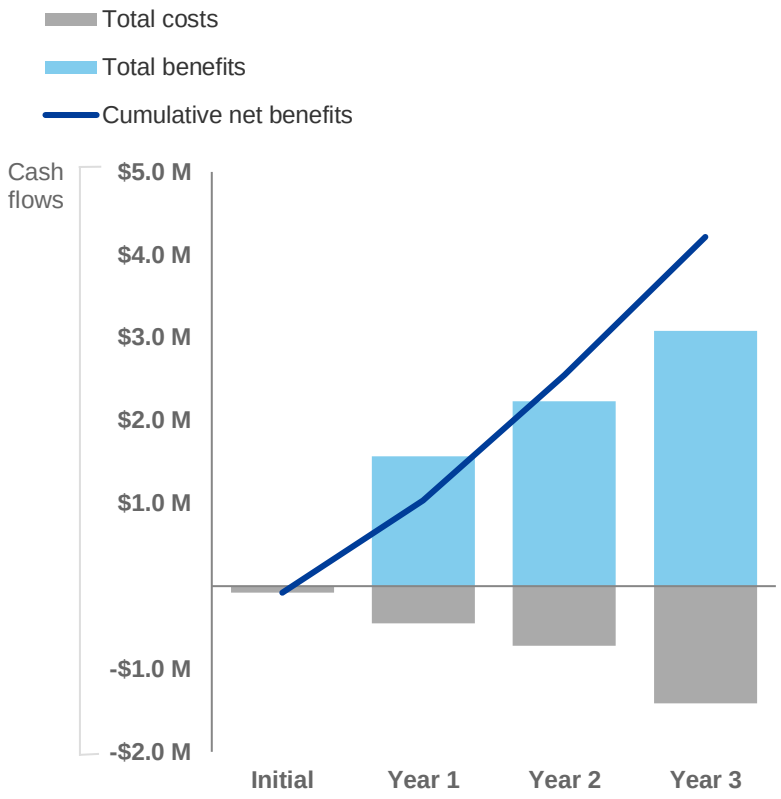
Training Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
I1	FTEs working on MaaS360		4	4	4	4
I2	Hours spent on training		80	20	20	20
I3	Total hours spent on training and learning MaaS360		320	80	80	80
I4	Fully loaded hourly IT administrator salary		$39	$39	$39	$39
It	Training costs	I3*I4	$12,480	$3,120	$3,120	$3,120
	Risk adjustment	↑10%				
Itr	Training costs (risk-adjusted)		$13,728	$3,432	$3,432	$3,432

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 Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($79,332)	($449,010)	($718,268)	($1,417,265)	($2,663,875)	($2,145,946)
Total benefits	$0	$1,565,968	$2,231,225	$3,081,634	$6,878,827	$5,582,873
Net benefits	($79,332)	$1,116,958	$1,512,957	$1,664,369	$4,214,952	$3,436,927
ROI						160%
Payback period						<3 months

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IBM MaaS360 With Watson: Overview

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

Enable and secure your mobile workforce with the power of AI

IBM MaaS360 with Watson unified endpoint management transforms the way that organizations support users, apps, content, and data across every type of device. Its open, cloud-based platform integrates with preferred security and productivity tools, allowing modern business leaders to derive immediate value.

Backed by IBM's industry-leading security ecosystem

MaaS360 is a collection of AI-infused UEM offerings that help IT and security leaders consistently manage and secure apps, content, and data for users across all endpoint types.

What makes MaaS360 a perennial UEM market leader?

Wide-ranging AI capabilities The only UEM platform that leverages AI to deliver contextually relevant security insights **for administrators and end users — enabling them to be more productive across the entire enterprise.**	**Best-in-class software-as-a-service (SaaS)** Speed up time-to-value with the industry-leading cloud-based approach to UEM. Its open platform **enables extensive integrations with your existing infrastructure and apps from leading technology vendors.**
Risk detection and response Going by the stats, at least one of your devices is currently infected or compromised. MaaS360's enterprise-grade threat defense can detect and automate remediation **on your network and across all your apps and devices.**	**Digital trust across all devices** Knowing how employees are using their devices and apps is a direct path to business transformation. Deliver a frictionless pathway to user productivity, and **keep their devices, data, and apps secure with built-in identity and access management (IAM).**

What clients are saying about MaaS360

". . . our initial setup was simple and pain free, and our continual conversation has been easy and friendly. We went from a painful, bureaucratic, overwhelmed system to an easy, customizable, responsive solution. Our rollout has been seamless . . . we gained instantaneous situational awareness on the status of all of our devices."

- **Chief technology officer, US Federal Government, Executive Branch agency**

The MaaS360 perspective on UEM

- Endpoint management is moving away from siloed systems, processes, and technology.
- *A unified approach* has been evolving for a number of years and is now playing out in a meaningful way.
- By embracing open standards and taking a collaborative approach, organizations can achieve homogeneity in a heterogeneous world.

Full production access to industry-leading UEM

Enable and secure your endpoints, end users, and everything in between. Begin your 30-day free trial of IBM MaaS360 with Watson today.

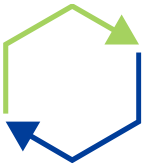
Appendix A: Total Economic Impact

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: Net Promoter and NPS are registered service marks, and Net Promoter Score is a service mark, of Bain & Company, Inc., Satmetrix Systems, Inc., and Fred Reichheld.

[2] Source: “2018 Cost of a Data Breach Study: Global Overview,” Ponemon Institute report, July 2018.