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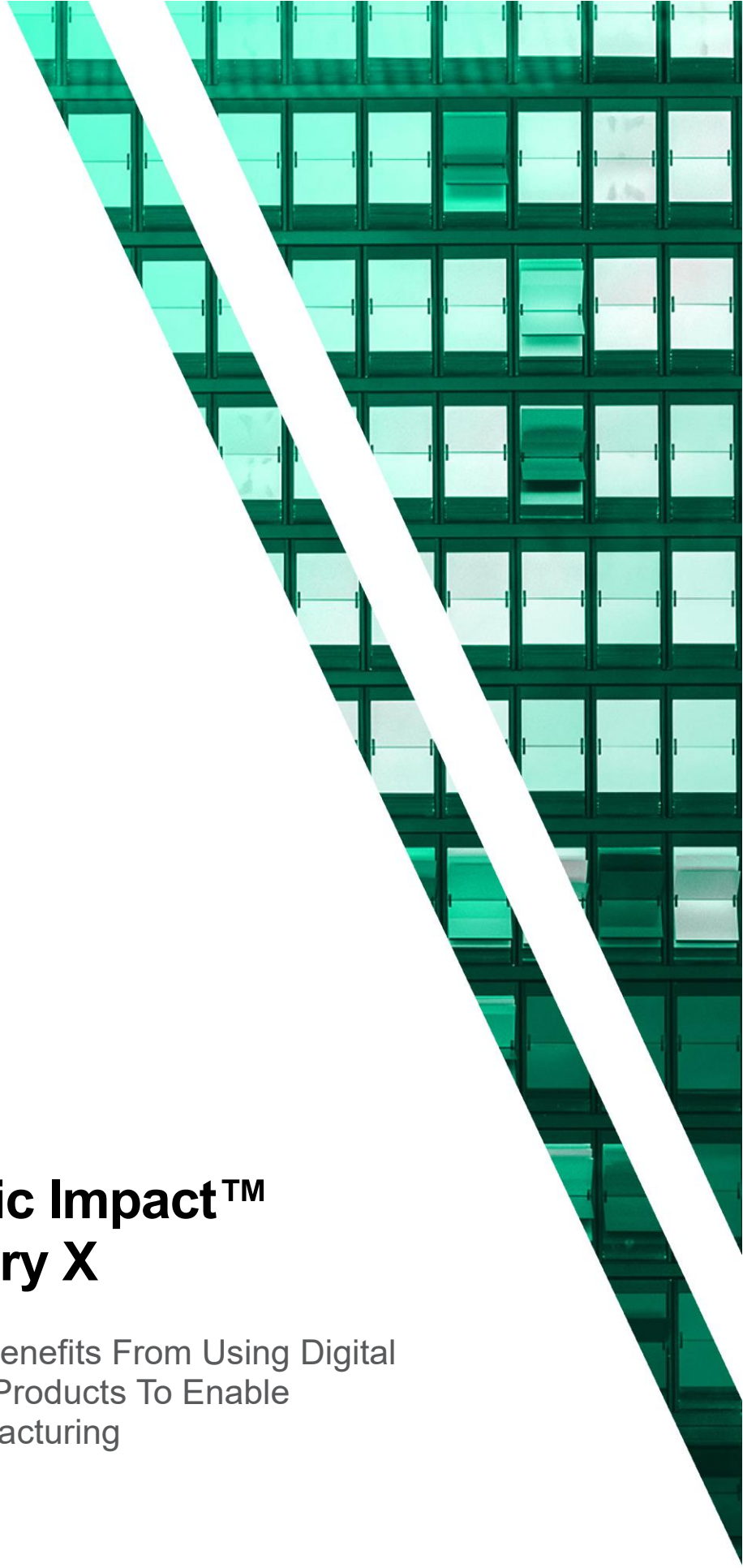

The Total Economic Impact™ Of Avanade Industry X

Cost Savings And Business Benefits From Using Digital Twins And Smart Connected Products To Enable Advanced Data-Driven Manufacturing

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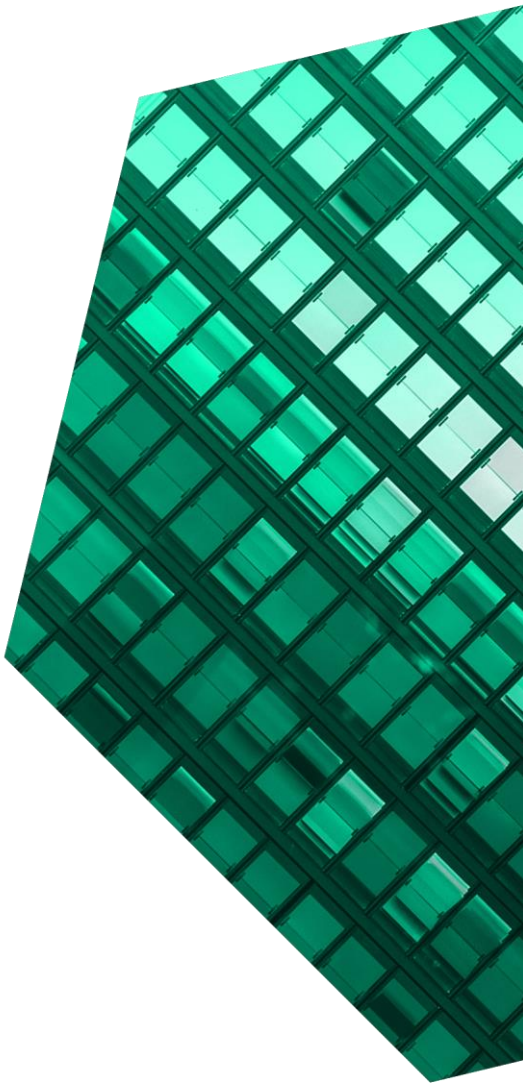
Consulting Team: Pooja Patel
Elia Gollini



ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key transformation outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute on their priorities using a unique engagement model that tailors to diverse needs and ensures lasting impact. For more information, visit forrester.com/consulting.

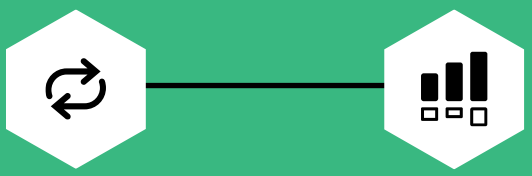
Executive Summary

Manufacturing firms are demanding advanced digitalization to drive innovation, sustainability, and competitive advantage. The need for smart connected products, digital twins, and real-time data insights to improve customer experience and foster agile responses to market changes is increasing. The Microsoft suite and management solutions play a key role in transformation efforts — but firms often struggle to extract the maximum value from their digital platforms.

Navigating the diverse features and capabilities of the Microsoft suite while ensuring widespread adoption and utilization across an organization is a tough task. Siloes between business and IT teams, complex implementation processes, a lack of specialized training for employees, and resistance to change can all hinder meaningful progress for a company. Firms often customize how their platforms are configured and integrate existing applications into the technology stack to align with their unique manufacturing processes whilst maintaining high levels of cybersecurity.

Avanade, a joint venture between Accenture and Microsoft, helps firms overcome these challenges and supports the implementation of digital solutions that improve a business's operations, products, and customer experience.[1] Avanade commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying the Avanade Industry X advisory and consulting services.[2]

KEY STATISTICS



Return on investment (ROI)
204%

Profits
$6.86M

Increase in new business product application and functionality releases with Industry X expertise

200%

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed six representatives from five companies with experience of using the Industry X service. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is a large, global manufacturing organization that had already begun a companywide digital transformation powered by Microsoft's products before engaging with Avanade and has 15,000 employees and revenue of $5 billion per year.[3]

Prior to adopting the Industry X services, these interviewees noted that their organizations faced business challenges and inefficiencies due to departmental siloes and managing different software applications and technologies that teams had to

manage. These limitations led to poor customer experiences and satisfaction levels and meant the organizations struggled to meet sustainability goals.

After the investment in Industry X, the interviewees confidently progressed towards their digital transformation goals. The key benefits were an incremental increase in their organizations' digital-related revenues, efficiency savings, more streamlined processes, and better collaboration between business and IT teams.

KEY FINDINGS

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

- **Incremental increase in digital-related profit of $7.5 million.** Avanade Industry X helps the composite organization implement digital platforms and tools that it can leverage to improve its product and service offerings, resulting in an incremental increase in revenue and profit margins associated with the digital-enabled improvements.[4]
- **Efficiency savings from streamlining and digital automation worth $114,500.** Avanade Industry X provides the composite organization with the expertise and resources to build further automated elements of the digital transformation solution that help it scale and support its operations better.[5] The composite organization saves costs by being more efficient in its use of employees' time and having more streamlined systems.
- **Efficiency savings from reduced operational risk worth $2.6 million.** Avanade Industry X provides the composite organization with the expertise to improve their processes, which reduces operational risk. This enables the composite organization to save the time required for testing and releasing new functionality and applications. This results in the composite organization working more productively and enables it to allocate fewer dedicated employees.

Unquantified benefits. Benefits that provide value for the composite organization but not quantified in this study include:

- **Improved business collaboration.** The Avanade Industry X team improves collaboration between business and IT teams and reduces silos in the composite organization. This enables the various business departments at the composite organization to work more effectively and offers a more productive environment for its workforce. Through their comprehensive questioning, Avanade's Industry X teams challenge the composite organization to think more holistically about its business decisions.
- **Improved sustainability.** By being more efficient in the use of its systems and processes, the composite organization can work to meet its own trajectory of net-zero carbon emissions goals.
- **Improved customer experience and retention.** The efficiencies achieved by the composite organization are passed onto its end consumers and society. It sees a 5% to 15% improvement in customer retention. By leveraging data insights from smart connected products and IoT devices, the composite organization can make further efficiency improvements and provide better experiences for its customers.
- **Increased DevOps efficiencies**. The Microsoft Azure DevOps platforms implemented with the help of Avanade's teams enables the composite organization to be more strategic in its application development efforts. By providing integrated tools for data collection, monitoring, and analysis, teams can gain insights into application performance, user behavior, and system health. This data-driven approach allows teams to make informed decisions, optimize opportunities, and prioritize development efforts.

- **Improved security operations**. The composite organization also sees savings by leveraging Avanade's expertise and avoiding additional costs of investing in multiple security solutions and potentially incur data breach costs. Avanade helps the composite organization improve its security operations model, test processes, and product offerings. Avanade also helps segment its end-customers to better service and secure them.

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

- **Avanade project costs of up to $2.5 million.** The Avanade Industry X transformation program for the composite organization has various phases and cost structures. The composite organization starts by providing advisory and implementation services to help it establish the appropriate digital foundations and then moves on to provide transformational support services (Phase one: setting up the digital platform). In phase two of a project, the composite organization uses this foundational digital platform and follows the same project phase structure at a reduced overhead.
- **Internal project planning costs of $473,000.** Staff from the composite organization work with the Avanade Industry X team on different stages of the project phases. Each stage of the project requires different amounts of time from members of staff. The composite organization calculates the cost of these employees needed for the planning and knowledge transfer at each stage and phase of their transformation program.
- **Ongoing internal project management costs of $399,000.** A proportion of the composite organization's employees are required for the ongoing management of the projects and transformation program from an administrative and managerial point of view.

The interviews and financial analysis found that the composite organization experiences benefits of $10.23 million over three years versus costs of $3.37 million. This adds up to a net present value (NPV) of $6.86 million and an ROI of 204%.

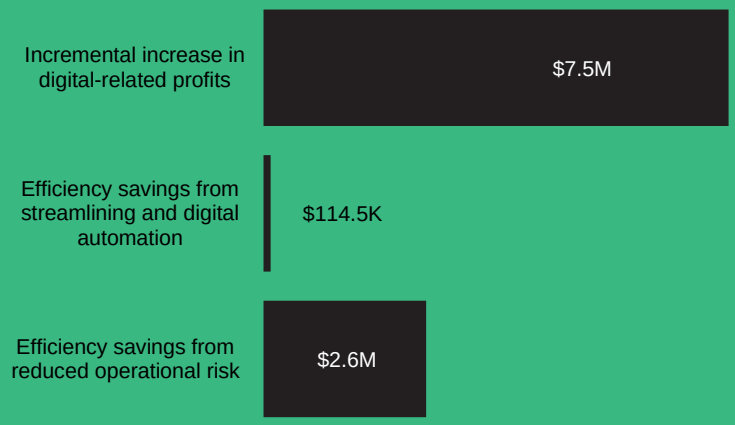
ROI
204%

BENEFITS PV
$10.23M

NPV
$6.86M

PAYBACK
12 months

Benefits (Three-Year)



The biggest benefit the composite organization experiences from Avanade Industry X comes from the impact on the organization's revenue from the digital platform and associated products that Avanade helps the composite implement.

"Avanade's industry expertise provides our business and board with confidence to be more agile and evolve as a business in a more efficient way."

— Manager, appliance engineering, heating technology manufacturer

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 Avanade Industry X.

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 Avanade Industry X can have on an organization.

DUE DILIGENCE

Interviewed Avanade stakeholders and Forrester analysts to gather data relative to Industry X.

INTERVIEWS

Interviewed six representatives at five organizations using Industry X services 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.

The Avanade Industry X Customer Journey

Drivers leading to the Industry X investment

Interviews

Role	Industry	Region	Revenue
VP, commercial digital solutions	Water and hygiene solutions	Headquartered in the US	$14 billion
Manager, appliance engineering	Heating technology manufacturer	Headquartered in Europe	$2.5 billion
• VP enterprise functions, digital and technology • Senior director, digital manufacturing solution	Aerospace and defense manufacturer	Headquartered in the US	$4 billion
Product owner, IoT	Automotive	Headquartered in Europe	$120 billion
Vice president, IT	Railcar manufacturer	Headquartered in the US	$3 billion

KEY CHALLENGES

Prior to engaging with Avanade, the interviewees explained how their teams worked in silos with multiple misaligned business strategies, processes, and IT systems. These inconsistencies made the expansion of their digital transformation and extended processes very difficult to achieve.

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

- **Inefficiencies due to lack of a shared business strategy.** Team members had to juggle many ad hoc projects using a mixture of in-house and external IT systems and work with a diversity of vendors in part due to company acquisitions and rapid organic expansion over time.
- **Inability to expand and optimize their transformation migration.** With the need to remain competitive and deliver increasing value to their customers, the interviewees' firms lacked the internal expertise and confidence to optimally progress with their digital transformation migration.

> **"Avanade works with us as a true partner and helps us challenge the thinking behind our business decisions."**
>
> *Manager, appliance engineering, heating technology manufacturer*

INVESTMENT OBJECTIVES

To address these challenges, the firms searched for a partner service provider to:

- Support the progression of their digital transformation, which developed and applied secure, cloud-based Microsoft technologies to allow them to scale.
- Enable them to leverage data insights to improve their own services and productivity.
- Provide them with a streamlined approach to reduce organizational inefficiencies.

“With their analysis and market knowledge, Avanade helped us build the most effective digital and data platform, which makes us work better. Response and resolution times have improved.”

VP, commercial digital solutions, water and hygiene solutions

The firms evaluated multiple vendors and chose Avanade Industry X due to its:

- Microsoft cloud transformation and security expertise.[6]
- Alignment and vision on sustainability and the environment.
- Proactive approach in supporting its clients’ business strategies and endeavors.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite organization, and an ROI analysis to assess the financial impact of a typical digital program delivered by Avanade Industry X. The composite organization is representative of the interviewees’ organizations, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

- The global, multibillion-dollar manufacturing organization provides customer service and support for its consumer products and services.
- $5 billion in annual revenue.
- 15,000 employees across all its business units in addition to field services operations.

Deployment characteristics The composite organization engages Avanade Industry X to build and enhance its existing Microsoft technology stack to achieve its digital transformation goals using an incremental approach (two project phases every two years).[7]

It taps into the broad set of capabilities of Industry X to unlock new revenue streams, enable new business models, increase margins, keep people safe, and help ensure responsible manufacturing and an environmentally sustainable future.

It begins with the deployment of the Avanade Industry X services to optimize and accelerate the implementation of its digitally enabled dashboard platform, connecting its IoT device products to its consumers and adding follow-on projects to support its customer contact centers, sales teams, field services, and other business units.

Key Assumptions

- **$5 billion annual revenue**
- **Manufacturing industry**
- **15,000 employees**
- **Deploys two projects in an incremental, phased approach with two follow-on projects every two years**
- **Engages Avanade Industry X to accelerate its existing Microsoft-related transformation migration**

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	Incremental increase in digital-related profit	$910,714	$4,098,214	$4,371,429	$9,380,357	$7,499,195
Btr	Efficiency savings from streamlining and digital automation	$45,183	$46,086	$47,008	$138,277	$114,481
Ctr	Efficiency savings from reduced operational risk	$1,034,208	$1,054,892	$1,075,990	$3,165,090	$2,620,408
	Total benefits (risk-adjusted)	$1,990,105	$5,198,289	$5,492,601	$12,680,996	$10,231,966

INCREMENTAL INCREASE IN DIGITAL-RELATED PROFITS

Evidence and data. The VP of commercial digital solutions for a water and hygiene solutions firm explained how Avanade's Industry X team helped their organization migrate its digital and data platform and tools to a new cloud-based environment to improve its product and service offerings.

This interviewee explained: "Avanade's Industry X services effectively helped our organization complete the implementation of our new digital platform. This consequently improved some of our organization's product offerings and services that were connected and linked to this platform and provided our organization's sales teams with improved digital tools and data. These improvements not only increased the product offering revenue, but also our organization's profit margin relating to the digital platform by 40%".

The technical guidance and industry expertise provided by Avanade enabled this interviewee's firm to expedite and complete the implementation of the digital platform. They explained how Avanade's Industry X contribution was as much responsible for the implementation of the platform and the revenue subsequently generated. The VP of commercial digital solutions attributed 50% of the benefit to Avanade Industry X in Year 1, which then decreased in subsequent years as the platform implementation project was completed.

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

- The composite organization implements a digital and data platform as part of its transformation program.
- Generates new digitally enabled revenue from the smart products that are connected to the newly enabled digital platform implemented with the help of Avanade's Industry X services. An example would be a digital device like an IoT device, probe, sensor or controller that is connected to a master controller or into the digital platform that feeds data into a management dashboard. These data insights enable the firm to deliver new revenue-generating services to their end customers.
- Recognizes 20% of the revenue growth in Year 1 due to the complexity of projects and time needed to scale up. The growth in digitally enabled sales is realized in Years 2 (which is 100% of the revenue growth) and 3 (120% of the revenue growth).

- Sees an incremental 40% increase in baseline profit margin from 20% (as a manufacturing industry average), each year.
- Achieves a 30% profit margin post-implementation for this type of revenue uplift.
- Attributes 50% of this profit uplift to Avanade Industry X, which decreases in the following years due to the transfer of knowledge and project deployment from Avanade to its in-house teams.

Risks. Benefits can be impacted by:

- The contribution and growth of revenue streams from each of the digitally enabled products and services.
- An organization's strategy and speed of deployment of its digital platform and digitally enabled products and services and operational tools.
- An organization's operating profit margins

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 $7.5 million.

Incremental Increase In Digital-Related Profits

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Growth in digitally enabled sales revenue	Interviews	$7,142,857	$35,714,286	$42,857,143
A2	Baseline operating profit	TEI standard	20%	20%	20%
A3	Incremental increase in profit margin	Interviews	40%	40%	40%
A4	Operating profit (post platform implementation)	Interviews	30%	30%	30%
A5	Attribution to Avanade	Interviews	50%	45%	40%
At	Incremental increase in digital-related profits	A1*A4*A5	$1,071,429	$4,821,429	$5,142,857
	Risk adjustment	↓15%			
Atr	Increase in digital-related profits (risk-adjusted)		$910,714	$4,098,214	$4,371,429
	Three-year total: $9,380,357		**Three-year present value: $7,499,195**		

EFFICIENCY SAVINGS FROM STREAMLINING AND DIGITAL AUTOMATION

Evidence and data. Interviewees described the efficiency savings they experienced from automating their IT management processes.[8] The manager of appliance engineering at a heating technology manufacturing company explained the savings their organization saw from the automation of the manual scaling of their cloud server and storage capacity to support connecting over 200,000 devices in consumers' homes in the field to their digital platform to meet consumer demand during peak times. The interviewee noted: "This process has been totally automated thanks to Avanade Industry X. The process of manually scaling our cloud server and storage capacity originally required five employees working for three weeks twice a year. These people can now focus on other value-added activities as the process has been fully automated."

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

- The composite organization needs to scale its server and storage capacity supporting its smart products and IoT devices twice a year every year.
- Requires five full-time employees (FTEs) to work on the manual tasks of scaling cloud resources for three weeks.
- Employs these FTEs at a fully burdened base salary of $90,000 across 48 working weeks. This includes the base salary and compensation package of an employee, such as associated taxes, healthcare, and retirement benefits, paid time off, bonuses and incentives, workplace amenities, and training.
- Achieves a 70% productivity recapture rate as not all of the time savings realized by these knowledge workers are necessarily fully reinvested back into driving productivity

Risks. Benefits can be impacted by:

- Variations in the number of employees required, their roles, and the proportion of time they spend on cloud- and IT-scaling tasks.
- The complexity and pace of deployment of business applications and processes automating the manual cloud scaling processes.
- Differences between a company's strategy and the degree to which processes need to be automated and scaled.
- Variations in employee salaries.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of $114,500.

Efficiency Savings From Streamlining And Digital Automation

Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	Number of times a year scaling was required	Interviews	2	2	2
B2	Resources required to manually scale support for connected devices	Interviews	5	5	5
B3	Total time required for scaling process (weeks)	Interviews	3	3	3
B4	Ave weekly cost of FTEs required for scaling process	TEI standard	$2,531	$2,582	$2,634
B5	Cost avoidance of resource efforts to manually scale at peak times	B1*B2*B3*B4	$75,938	$77,456	$79,005
B6	Productivity recapture rate	TEI standard	70%	70%	70%
Bt	Efficiency savings from streamlining and digital automation	B5*B6	$53,156	$54,219	$55,304
	Risk adjustment	↓15%			
Btr	Efficiency savings from streamlining and digital automation (risk-adjusted)		$45,183	$46,086	$47,008
	Three-year total: $138,277			**Three-year present value: $114,481**	

EFFICIENCY SAVINGS FROM REDUCED OPERATIONAL RISK

Evidence and data. The interviewees' organizations saw further efficiency savings due to their improved ability to release new software applications and additional functionality or features in existing applications. Avanade's Industry X services and expertise provided significant improvements in the testing space for these organizations, especially for new releases.

Before leveraging Avanade's Industry X services, the interviewees stated that the time their employees needed to test new releases would be much longer. Since working with Avanade, interviewees experienced a three-times-faster application testing capability.

- The manager of appliance engineering at the heating technology manufacturer stated that they trebled the number of application updates and releases completed each year with the help of Avanade Industry X consulting team. They also saw a reduction in the time developers spent working on and testing each release. They only spent around 4% of their total time on each release after engaging with Avanade compared to approximately 12% of their time before Avanade.
- This resulted in major efficiency savings and improved their organization's agility to get new, innovative product features to market faster. As a result, the firm was much more competitive and resilient and experienced improved customer experience.

Reduction in employees time required to test and release new functionality

67%

Customer Market Context

Digital innovation was vital to the heating technology manufacturer, which develops smart connected products and services that save energy. The firm was at the forefront of the energy transition in the move from gas-fueled heating to heat pumps, direct electric heating, hydrogen heating, and heating-as-as-a-service capabilities.

Smart, high-quality, innovative, and efficient indoor climate solutions allowed the end consumers to reduce their carbon footprints while enjoying comfort in their homes, workplaces, and leisure facilities. Digital solutions (e.g., IoT, mobile application, cloud data analytics) improved the customer experience along the value chain from a climate control, field maintenance, energy usage, and affordability perspective.

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

- The proportion of an employee's time dedicated to testing releases over 48 working weeks is reduced from six weeks to two weeks (12.5% to 4.17%).
- The number of developers working on new software releases and testing is reduced from 14 to six FTEs.
- The maximum number of software releases that could go live in a year increase from 16 to 48 a year.

- A developer working on these tasks has a fully burdened salary starting at $102,600 per annum.
- It achieves a 70% productivity recapture rate as not all of the knowledge worker time savings are necessarily fully reinvested back into company productivity.

Risks. This benefit can be impacted by:

- Employee salaries, capacities, and their skills in testing and releasing new software functionality.
- An organization's business strategy and release schedule of new software functionality and developments.
- The complexities of an organization's processes.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $2.6 million.

"Avanade has helped us achieve better collaboration between employees and departments and initiate a more proactive business development mindset among the workforce."

Manager, appliance engineering, heating technology manufacturer

Efficiency Savings From Reduced Operational Risk

Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Release frequency (number of yearly releases before Avanade)	Interviews	16	16	16
C2	Average weeks required to release new functionalities (before Avanade)	Interviews	6	6	6
C3	FTEs dedicated to testing new functionalities	Interviews	14	14	14
C4	Release frequency (number of yearly releases after Avanade)	Interviews	48	48	48
C5	Average weeks required to release new functionalities (after Avanade)	interviews	2	2	2
C6	FTEs dedicated to testing and releasing new functionalities	Interviews	6	6	6
C7	Average fully loaded weekly cost per developer FTE	TEI standard	$2,138	$2,180	$2,224
C8	Productivity recaptured	TEI standard	70%	70%	70%
Ct	Efficiency savings from reduced operational risk	C8*((C1*C2*C3*C7) -(C4*C5*C6*C7))	$1,149,120	$1,172,102	$1,195,544
	Risk adjustment	↓10%			
Ctr	Efficiency savings from reduced operational risk (risk-adjusted)		$1,034,208	$1,054,892	$1,075,990
	Three-year total: $3,165,090			**Three-year present value: $2,620,408**	

UNQUANTIFIED BENEFITS

Interviewees mentioned additional benefits that their organizations experienced but were not able to quantify, including:

- **Improved business collaboration.** The manager of appliance engineering at the heating technology manufacturer described how the Avanade Industry X team improved cooperation between its business and IT teams, enabling them to work more as a partnership and reducing departmental silos. By challenging their business to think more proactively and collaboratively, Avanade supported the various business departments to work more holistically. This interviewee stated how this created a more productive environment for them and their teams.[9]
- **Improved sustainability.** The automation enabled by the new Microsoft Azure IoT and DevOps cloud platforms that Avanade implemented increased efficiency in the use of IT staff, systems, and servers, as well as data storage and management.[10] The manager of appliance engineering noted that this helped the heating manufacturer operate its IT systems in a more sustainable way, contributing to the target of achieving net-zero carbon emissions and offering more sustainable products and services to its end consumers.

  The product owner of the IoT platform at the automotive company described how the digital platform implemented by Avanade, would help them to reduce scrap and wastage on their production lines and allow them to see trends and their plants in real time, enabling them to react very quickly to and adjust resources, supply, and the machinery used.

  The VP of IT at the railcar manufacturer company also added, “The Avanade Industry X team helped implement a platform that would provide insights into how we manufacture specific products by region to minimize costs and waste caused by supply chain and logistics issues.”
- **Improved customer experience and retention.** By leveraging the data analytics from the digital platforms implemented by Avanade, interviewees made further efficiency improvements and provided a better experience to their end customers.[11]

  The manager of appliance engineering at the heating technology manufacturer explained: “The efficiency savings and streamlining meant our organization had less delays and errors so [we] released [software] functionality on time or quicker, therefore offering a better customer experience and [enabling us to] be more competitive. This positively impacted our organization’s revenue”.

Avanade Provides Innovative Foundation

Avanade Industry X will allow the heating technology manufacturer to provide heating as a service. Instead of purchasing heating equipment outright, customers will pay a subscription or usage fee for access to heating services, including the equipment itself, installation, maintenance, and ongoing support. The right data and AI foundations that Avanade helped to implement, are critical to drive success in these new areas.

This interviewee added: “Our organization will use the newly implemented platforms to develop in areas that will prevent and predict issues like outages and errors. This will allow us to provide a more robust and reliable service to our customers which will impact our [customer satisfaction] (CSAT) scores and retention”.

The VP of commercial digital solutions at the water and hygiene solutions organization saw a 5% to 15% improvement in their customer retention from leveraging the new data insights.

- **Increased DevOps efficiencies**. The VP of commercial digital solutions at the water and hygiene solutions company also saw operational efficiencies across their DevOps teams. Avanade helped build and implement a digital platform that allowed them to analyze data and make more strategic decisions. Before they were performing on an ad hoc, reactive basis depending on customer demand. Engaging with Avanade enabled their organization to be more strategic and anticipate and plan development efforts ahead of time.
- **Improved security operations.** Interviewees noted that, as an example, Avanade Industry X created distinct customer segments with tailored access privileges, so security measures were more effectively applied to limit unauthorized access to sensitive data or controls. A personalized service delivery could also be optimized; each interviewee’s organization received relevant updates, features, and support aligned with their specific needs and preferences.

  By leveraging the cybersecurity expertise of Avanade, the VP of commercial digital solutions at a water and hygiene solutions company noted they avoided the additional costs of investing in multiple security solutions yet still reduced the risk of a breach. The interviewee attributed 40% of these savings to Avanade.

  This interviewee also believed that data protection recommendations and education on global best practices by Avanade reduced their organization’s exposure to the risk of breaches and related compliance costs by up to 70%, noting, “By improving the security processes, detecting vulnerabilities earlier and organizing our customers into segments, Avanade helped our organization serve and secure our customers better.”

  Another interviewee, the VP of IT at the railcar manufacturer, spoke about how safety and security was very important to them and how the standardization provided by Avanade’s Industry X experts helped them indirectly solve certain safety issues.

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might leverage Industry X services and later realize additional use cases and business opportunities, including:

- **Ability to scale.** Avanade’s industry experience enabled their Industry X teams within specific manufacturing subsectors to work as a true partner with the interviewees and their organizations. Avanade offered continuous support and improvements for processes and (cost) inefficiencies as the firms evolved and scaled. The interviewees worked with the Avanade Industry X team for their organizations’ future endeavors and saw them as a partner for their ongoing digital transformation journey as their organizations evolved.
- **Efficient utilization of staff.** Avanade continues to provide expertise to improve processes and streamline other areas of the business, such as customer contact center support, so that staff can be more optimally utilized.

The data insights from the IoT platform implemented by Avanade helped interviewees manage their workforce more efficiently. They found that reallocating employees into more valuable areas became more lucrative for the business and improved customer experience (CX) and satisfaction levels, too.

The manager of appliance engineering at a heating technology manufacturer noted that their organization will be able to optimize their organization's field service workforce utilization more efficiently. They explained, "The reallocation of people's time from other efficiency savings were put into more value-added tasks, such as monitoring, analyzing, and supporting the IoT analytics platform." This will improve their firm's portfolio of services and increase their support in key strategic growth and business expansion areas (e.g., allocating staff to the implementation of the additional [smart connected products] analytics platform with the help of Avanade would help develop and improve their business as it evolved further).

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

"The Avanade team offers us proactive rather than reactive support."

VP, commercial digital solutions, water and hygiene solutions

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Dtr	Avanade project costs	$1,071,000	$357,008	$1,106,708	$249,908	$2,784,625	$2,497,948
Etr	Internal project planning costs	$255,150	$95,681	$97,595	$66,365	$514,791	$472,651
Ftr	Ongoing internal project management costs	$0	$120,285	$122,691	$250,289	$493,265	$398,793
	Total costs (risk-adjusted)	$1,326,150	$572,975	$1,326,994	$566,562	$3,792,681	$3,369,392

AVANADE PROJECT COSTS

Evidence and data. The interviewees noted that Avanade Industry X advisory and run-rate costs for their organizations were assessed on a project-by-project basis and generally had a multiphase approach. The initial foundational phase of the project consisted of expert advisory, implementation, rollout, run, and transfer services. This was followed by phase two of the project, which focused on realizing the additional value from the platform (by expanding into new business areas and developing capabilities within client teams).[12]

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

- It implements two initial platform projects with another two follow-on platform projects once the initial platforms are deployed.
- Avanade provides advisory, implementation, and rollout support for each of the platform projects for the year at a cost of $42,500 per month.
- Avanade also provides the initial running and transfer support to the composite's team for a year once the digital platforms have been deployed at a cost of $14,167 per month.
- Follow-on, phase-two projects are built on top of the core foundational platform, requiring less financial commitment in subsequent years. They are charged at a 70% reduced rate at each stage.
- This pricing may vary depending on business goals. Contact the Avanade Industry X team for additional details.

Risks. Costs can be impacted by:

- The type and complexity of the projects.
- The number of projects undertaken by an organization.
- An organization's digital transformation strategy and degree of Avanade Industry X expertise and support required.
- The existing internal staffing capabilities and IT systems landscape of an organization.

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 $2.5 million.

Avanade Project Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
D1	Phase-one projects	Composite	2	2	2	
D2	Phase one: Avanade advisory, implementation, and rollout costs (monthly)	Interviews	$42,500			
D3	Phase one: Avanade-specific costs — project run rate (monthly)	Interviews		$14,167	$14,167	
D4	Phase-two projects	Composite			2	2
D5	Phase two: Avanade advisory, implementation, and rollout costs (monthly)	Interviews			$29,750	
D6	Phase two: Avanade-specific costs — project run rate (monthly)	Interviews				$9,917
Dt	Avanade project costs	((D1*D2*12)+(D1*D3*12))+ ((D4*D5*12)+(D4*D6*12))	$1,020,000	$340,008	$1,054,008	$238,008
	Risk adjustment	↑5%				
Dtr	Avanade project costs (risk-adjusted)		$1,071,000	$357,008	$1,106,708	$249,908
	Three-year total: $2,784,625		**Three-year present value: $2,497,948**			

INTERNAL PROJECT PLANNING COSTS

Evidence and data. The interviewees noted their organizations were also required to spend time and effort planning and preparing digital platform projects with expert teams from Avanade.

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

- Four various internal people are dedicated to each stage of phase one of the Avanade-related project (planning and preparation activities).
- One internal person less was required for the second stage of the phase-one project to manage knowledge transfer, information provisioning, and handover tasks to/from Avanade.
- Subsequent phase-two follow-on projects are built on top of the core foundational projects in Year 1. Phase-two planning begins in Year 2 and transfer to Avanade occurs once deployed in Year 3.

> **"By automating a lot of processes, saving employees' time and being more efficient we could focus our time in being more proactive and develop in areas that would prevent and predict issues and outages."**
>
> *Manager, appliance engineering, heating technology manufacturer*

- Three FTEs are required for both stages of the four phase-two follow-on projects.
- Employees dedicate 50% of their time for each stage of a project phase.

Risks. Costs can be impacted by:

- The variation in the skill set and capacity of internal employees required for each project.

- The complexity of the projects and strategy of an organization implementing the digital platforms.
- The salaries of employees involved in the projects.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of $473,000.

Internal Project Planning Costs

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
E1	Phase one: Number of internal staff for implementation (per project)	Interview	4	3		
E2	Phase one : Proportion of internal staff time required per project planning	Interview	50%	50%		
E3	Total duration FTEs spend on Phase 1 projects (months)	Interview	6	3		
E4	Phase two: Number of internal staff for implementation (per project)	Interview			3	3
E5	Phase two: Proportion of internal staff time required per project planning	Interview			50%	50%
E6	Total duration FTEs spend on Phase 2 projects (months)	Interview			3	2
E7	Projects	Composite	2	2	2	2
E8	Average business user FTE fully loaded salary (monthly)	TEI standard	$10,125	$10,125	$10,328	$10,534
Et	Internal project planning costs	(E1*E2*E3*E7*E8)+ (E4*E5*E6*E7*E8)	$243,000	$91,125	$92,948	$63,204
	Risk adjustment	↑5%				
Etr	Internal project planning costs (resources) (risk-adjusted)		$255,150	$95,681	$97,595	$66,365
	Three-year total: $514,791			**Three-year present value: $472,651**		

ONGOING INTERNAL PROJECT MANAGEMENT COSTS

Evidence and data. Following the successful implementation of their digital platforms with Avanade, the interviewees continued to work with the Avanade team on ongoing management activities. This was represented by the interviewees as the time internal employees spent with Avanade on an ongoing basis with weekly or monthly meetings.

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

- Approximately three employees are required for the ongoing engagement with the Avanade Industry X team.
- A maximum proportion of 15% of the required employees' time would be spent engaging with the Avanade team per implemented project.
- Implemented two initial projects to deploy the platform with another two follow-on platform projects after Year 2.

Risks. Costs can be impacted by:

- The variations in employee numbers and roles required for the ongoing engagement with Avanade.
- The salaries of the employees required.
- The proportion of time and complexity of strategy an organization has.

Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $399,000.

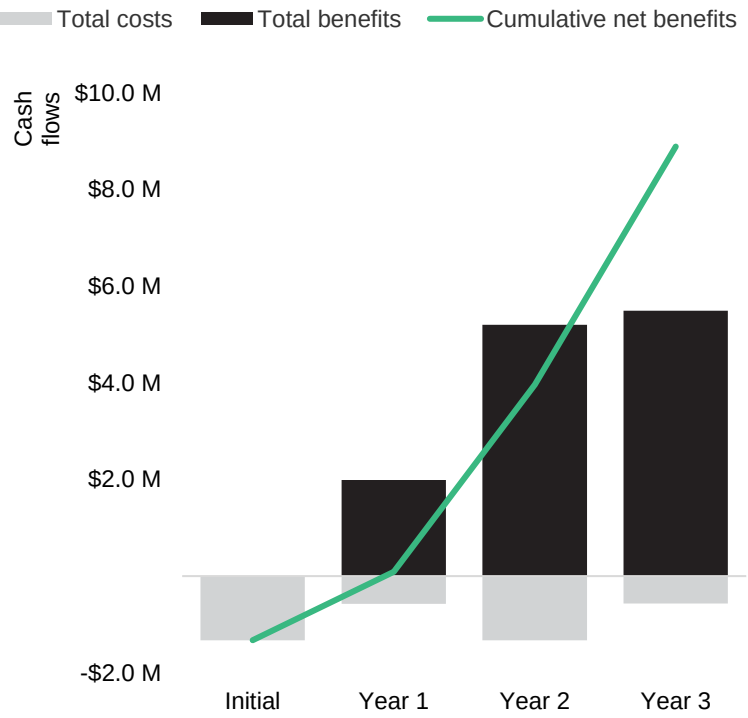
Ongoing Internal Project Management Costs

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
F1	Number of internal staff for ongoing management (per project)	Assumption		3	3	3
F2	Proportion of internal staff time	Assumption		15%	15%	15%
F3	Ongoing projects to manage	Composite		2	2	4
F4	Average IT manager FTE fully loaded salary	TEI standard		$121,500	$123,930	$126,409
Ft	Ongoing internal project management costs	F1*F2*F3*F4		$109,350	$111,537	$227,535
	Risk adjustment	↑10%				
Ftr	Ongoing internal project management costs (risk-adjusted)		$0	$120,285	$122,691	$250,289
	Three-year total: $493,265			**Three-year present value: $398,793**		

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



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

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each benefit and cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($1,326,150)	($572,975)	($1,326,994)	($566,562)	($3,792,681)	($3,369,392)
Total benefits	$0	$1,990,105	$5,199,193	$5,494,427	$12,683,725	$10,234,084
Net benefits	($1,326,150)	$1,417,130	$3,872,199	$4,927,865	$8,891,044	$6,864,692
ROI						204%
Payback						12 months

About Avanade Industry X

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

Avanade is the leading provider of digital, cloud and advisory services, industry solutions and design-led experiences across the Microsoft ecosystem. Every day, its 60,000 professionals in 26 countries impact their clients, their employees and their customers. Avanade Industry X provides advisory services to help manufacturers plan and evaluate their digital transformation journey to improve their products operations and customer experiences. This includes industry, strategic and technical expertise in five areas: smart connected manufacturing, smart connected operations and assets; intelligent supply chains and intelligent frontline worker.

Majority owned by Accenture, Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation. Learn more at www.avanade.com.

Avanade notes that is a founding member of the Green Software Foundation and abides by practices for:

Energy Efficiency: Striving to develop software that consumes minimal computational resources and energy, optimizing code execution and reducing carbon footprint.

Resource Optimization: Prioritizing efficient use of hardware resources, memory, and storage to minimize waste and environmental impact.

In addition to this, firms can focus on areas like:

Workload Management: Enabling cloud workloads to operate at locations and times of the day when the energy is produced from the lowest carbon sources.

Monitoring and Optimization: Implementing tools and practices to monitor software performance, energy usage, and environmental impact, and making iterative improvements.

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: "Twenty Technology Support Manufacturers As They Embrace Digital And Shift From Grease To Code," Forrester Research, Inc., April 22, 2020.

[2] 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.

[3] Source: "Now Tech: Microsoft Business Applications Services, Q3 2020," Forrrester Research, Inc., August 28, 2020.

[4] Source: "The Market For Microsoft Business Applications Services Will Hit $10.3 Billion In 2025," Forrester Research, Inc., December 17, 2020.

[5] Ibid.

[6] Source: "The Forrester Wave™: Microsoft Business Application Services, Q4 2021," Forrester Research, Inc., October 18, 2021.

[7] Source: "What Technology Service Providers' Q3 2022 Earnings Mean For Technology Executives," Forrester Research, Inc., December 16, 2022.

[8] Source: "The Market For Microsoft Business Applications Services Will Hit $10.3 Billion In 2025," Forrester Research, Inc., December 17, 2020.

[9] Source: "The Forrester Wave™: Global Digital Experience Services, Q2 2022," Forrester Research, Inc., June 16, 2022; "From Grease To Code: Industrial Giants Must Bet Their Futures On Software," Forrester Research, Inc., October 19, 2021.

[10] Source: "The Future Of Manufacturing," Forrester Research, Inc., September 9, 2022.

[11] Source: "From Grease To Code: Industrial Giants Must Bet Their Futures On Software," Forrester Research, Inc., October 19, 2021.

[12] Source: "What Technology Service Providers' Q3 2022 Earnings Mean For Technology Executives," Forrester Research, Inc., December 16, 2022.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