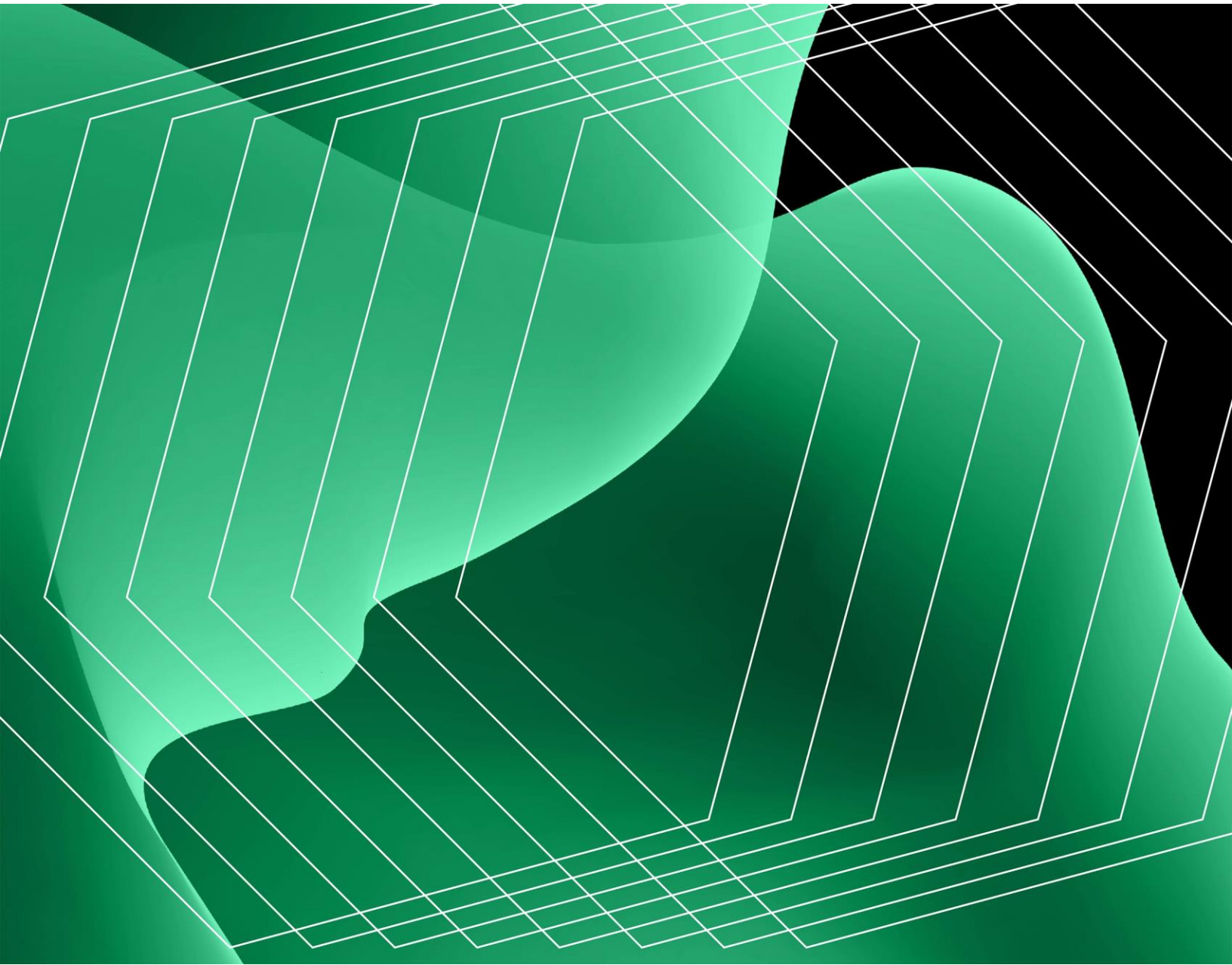
FORRESTER®

The Total Economic Impact™ Of IBM Integration

Cost Savings And Business Benefits Enabled By IBM webMethods

A Forrester Total Economic Impact™ Study
Commissioned By IBM, November 2024



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ABOUT FORRESTER CONSULTING

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

Executive Summary

As business processes become more complex, organizations face a growing need for seamless integration between different systems and applications. IBM Integration, powered by webMethods, unifies multiple integration capabilities, including application integration, B2B, managed file transfer, and events, into a single, comprehensive platform. By addressing these integration challenges, webMethods helps businesses optimize their processes, eliminate data siloes, and improve productivity.

Powered by webMethods, IBM Integration addresses the challenges of connecting and integrating diverse systems and applications. With its comprehensive set of tools and capabilities, webMethods simplifies integration projects and provides a scalable solution for managing complex business workflows.

Forrester research highlights how organizations with a mix of modern and legacy operational systems can leverage integration platforms to revitalize their tech stack: "Legacy operational systems struggle to keep up with modern business needs, but rip-and-replace is often too costly. A proper integration architecture centered on business interfaces provides a way forward. Middleware such as APIs, event brokers, and integration platform as a service (iPaaS) are key tools in building an architecture that creates efficient ways to modernize legacy systems."[1]

IBM commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying webMethods.[2] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of webMethods on their organizations.

Return on investment (ROI)

176%

Net present value (NPV)

$2.43M

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed five representatives with experience using webMethods. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is an organization with $8 billion in annual revenue and 15,000 employees.

Some interviewees reported that before adopting webMethods, they had disparate integration tools that had limited functionalities and were not the comprehensive integration solutions that they needed. The interviewees said that prior to implementing webMethods, their organizations had data siloed across platforms, making it difficult to complete or automate everyday business processes. Building integrations was a slow and error-prone process, and many of the integrations that they did develop were custom-built and difficult to scale. The interviewees' organizations also lacked a centralized view into their integrations, leaving them unable to identify production issues and vulnerable to application performance degradation.

The interviewees' organizations adopted multiple webMethods integration capabilities, including application integration, API management, B2B integration, and managed file transfer. After the investment, the interviewees' organizations were able to leverage webMethods' user-friendly interface, reusable templates, and vast library of prebuilt connectors to significantly reduce the amount of time required to complete integration projects. The interviewees also reported that the visibility, testing capabilities, and automatic updates provided by webMethods enabled their organizations to improve application reliability. By moving to webMethods, the interviewees' organizations were also able to consolidate technologies and vendors, leading to substantial cost savings.

KEY FINDINGS

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

- **Time savings of 33% to 67% on integration projects.** webMethods reduces the time required for complex integration projects from three months to two months for the composite organization. The time required for simple integration projects, which may involve little manipulation of data or applications that are already connected, goes from three days in the prior state to one day with

webMethods. Over three years and a cumulative total of 135 projects, the shorter development cycle is worth a risk-adjusted $1.2 million to the composite organization.

- **Forty percent reduction in application downtime.** By consolidating onto a single software-as-a-service-based (SaaS-based) integration platform and improving the quality of integrations, the composite reduces application downtime by 40%. Over three years, the improved reliability saves the composite organization a risk-adjusted $1.3 million in downtime costs.
- **Technology and vendor consolidation cost savings of $600,000 per year.** After adopting webMethods, the composite organization retires some of its previous tools, including a limited integration tool, a file transfer tool, and API management products. Over the course of the three-year analysis, the technology and vendor consolidation cost savings are worth a risk-adjusted $1.3 million.

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

- **Ease of use and reduced training costs.** webMethods' user-friendly interface makes it easy for the composite to train new users, reducing the learning curve for integration projects. With a single integration platform, the composite focuses its training process on a single tool, simplifying the onboarding process for its teams.
- **Improved visibility and security posture.** webMethods provides robust security features and centralized control to enhance the composite organization's security posture. With webMethods, the composite also avoids exposing applications unnecessarily to the public internet and instead handles security concerns at the integration level, minimizing the risk of breaches and unauthorized access.

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

- **Licensing costs.** The composite organization incurs licensing costs from IBM for using webMethods. Over three years, the licensing costs amount to a risk-adjusted $1.3 million.

- **Implementation effort.** The composite also incurs employee labor costs for the deployment of webMethods, which takes the organization three months. In total, implementation costs amount to $48,000.

The representative interviews and financial analysis found that a composite organization experiences benefits of $3.81 million over three years versus costs of $1.38 million, adding up to a net present value (NPV) of $2.43 million and an ROI of 176%.

Reduction in time to complete a complex integration project

33%

"webMethods gives us a standardized integration platform. We've never found an integration problem we couldn't solve with the toolset."

HEAD OF APPLICATION INTEGRATION, TELECOMMUNICATIONS

"We now have fewer technologies to support and fewer teams to support development and production. It's certainly streamlined our operations."

HEAD OF APPLICATION INTEGRATION, TELECOMMUNICATIONS

> “Learning webMethods was very easy for the team because of the ease of use. It’s all drag-and-drop, [so] learning this tool was very quick for them.”
>
> ENTERPRISE INTEGRATION LEAD, NETWORKING TECHNOLOGY

Return on investment (ROI)

176%

Benefits PV

$3.81M

Net present value (NPV)

$2.43M

Payback

<6 months

Benefits (Three-Year)

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in webMethods.

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 webMethods can have on an organization.

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 study to determine the appropriateness of an investment in webMethods. For the interactive functionality using Configure Data/Custom Data, the intent is for the questions to solicit inputs specific to a prospect's business. Forrester believes that this analysis is representative of what companies may achieve with webMethods based on the inputs provided and any assumptions made. Forrester does not endorse IBM or its offerings. Although great care has been taken to ensure the accuracy and completeness of this model, IBM and Forrester Research are unable to accept any legal responsibility for any actions taken on the basis of the information contained herein. The interactive tool is provided 'AS IS,' and Forrester and IBM make no warranties of any kind.

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.

Due Diligence
Interviewed IBM stakeholders and Forrester analysts to gather data relative to webMethods.

Interviews
Interviewed five representatives from four organizations using webMethods to obtain data about 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 IBM Integration Customer Journey

Drivers leading to the webMethods investment

Interviews			
Role	**Industry**	**Geography**	**Annual Revenue**
Enterprise integration lead	Networking technology	Global	$5 billion
• Head of application integration • Integration architect	Telecommunications	Global	>$20 billion
Business analyst	Logistics	US	$100 million
Integration architect	Industrial manufacturing	EMEA	$1 billion

KEY CHALLENGES

Most of the interviewees said their organizations had previously used integration tools, but they reported that the incumbent tools had limited functionalities and did not have comprehensive tooling to meet all their integration requirements. The interviewees noted how their organizations struggled with common challenges, including:

- **Complex and siloed IT landscape.** The interviewees reported that their organizations struggled with a complex and fragmented IT ecosystem, where different systems and applications were from different vendors and operated in isolation. Integrations that were built were typically created individually, leading to a complex and inflexible network of point-to-point integrations. The head of application integration at a telecommunications organization stated, “Historically, we had a nightmare spaghetti architecture where everything was point-to-point, nobody understood the landscape, and it was difficult to work on any major programs that impacted integration.”
- **Slow and error-prone integration process.** Interviewees shared that their traditional integration methods, such as manual coding or point-to-point

connections, were time-consuming to create and error-prone. These processes required extensive custom development, lacked scalability, and were difficult to maintain. The enterprise integration lead at a networking technology organization shared, “When we were in [our previous solution], the list of adapters that were there were very limited, so we had to write our own custom solutions and custom Java programs to fill that gap.”

- **Lack of visibility into and control of integration processes.** Without proper integration monitoring and management capabilities, the interviewees’ organizations struggled to track the flow of data, identify bottlenecks, and ensure the reliability of integrations. The lack of real-time insights resulted in decreased efficiency and increased risk of data inconsistencies.

INVESTMENT OBJECTIVES

The interviewees’ organizations searched for a solution that could:

- **Enable them to quickly build integrations.** The interviewees’ organizations sought to leverage webMethods’ drag-and-drop interface, library of prebuilt connectors, and reusable assets to accelerate the creation and deployment of integrations.
- **Consolidate integration platforms.** The interviewees’ organizations had disparate tools for integrating systems, leading to complexity and inefficiency. They sought to consolidate onto a single, comprehensive integration tool to simplify maintenance efforts.
- **Enable business growth without growing the IT team.** Interviewees noted their organizations aimed to scale their operations and expand their business without significantly increasing their full-time or contractor IT staff.

> “We introduced webMethods to enable us to easily reuse a set of APIs for all projects. Instead of creating ad hoc integrations for each project, we can create reusable assets. The other goal was to have a modern solution that allows us to build integrations way faster and way more easily.”
>
> INTEGRATION ARCHITECT, INDUSTRIAL MANUFACTURING

> “There were a few factors we were evaluating [when choosing a vendor]. First was definitely the cost and then second was how easy it was to migrate. When we compared services, we decided to go with webMethods.”
>
> BUSINESS ANALYST, LOGISTICS

COMPOSITE ORGANIZATION

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

Description of composite. The composite organization is a global firm with $8 billion in annual revenue and 15,000 employees. The composite begins using webMethods in

Year 1, following a three-month implementation period. In Year 1, it performs 40 integration projects on webMethods. The organization conducts 45 and 50 integration projects in Years 2 and 3, respectively.

Key Assumptions

$8 billion in annual revenue

15,000 employees

40 to 50 integration projects annually

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	Integration time savings	$431,308	$485,221	$539,135	$1,455,663	$1,198,167
Btr	Reduced downtime	$512,000	$512,000	$512,000	$1,536,000	$1,273,268
Ctr	Technology and vendor consolidation cost savings	$540,000	$540,000	$540,000	$1,620,000	$1,342,900
	Total benefits (risk-adjusted)	$1,483,308	$1,537,221	$1,591,135	$4,611,663	$3,814,335

INTEGRATION TIME SAVINGS

Evidence and data. Interviewees shared that using webMethods helped their organizations develop integrations faster than they were able to previously.

- Interviewees shared that webMethods' visual interface and lists of templates and adapters made it easier for employees to build integrations. The enterprise integration lead at a networking technology firm stated: "There is a vast list of adapters and recipes that are available right now. Anyone who has a little knowledge can go and look at the recipes and start building out the interfaces." The interviewee went on to say: "We don't have to spend time writing our custom codes, as we just use the adapters that are out there and quickly build end-to-end interfaces to help the business. Basically, our rate of return to the business has drastically improved."
- The integration architect at a telecommunications firm agreed that webMethods streamlined the integration process: "It abstracts the complexity of integration for our business. [We now have] very rapid integration development. … From a business perspective, this is the main benefit."
- Interviewees reported that the adoption of webMethods brought about significant improvements in testing processes, allowing the interviewees' organizations to

expedite internal testing cycles. The enterprise integration lead at a networking technology firm reported, “We are able to complete the end-to-end testing much faster so that the internal testing cycles can be done much earlier than the anticipated timeline.”

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization completes 40 integration projects with webMethods in Year 1 after deploying the solution. The organization completes 45 and 50 projects in Years 2 and 3, respectively.
- Three employees work on each integration project.
- Twenty percent of the projects completed are complex, which often involve higher manipulation of data and a wider range of data sources. Eighty percent of the projects are simple, which are generally templated and require little data manipulation.
- With webMethods, the composite organization reduces the amount of time required to develop a complex integration from three months to two months.
- The time required to complete a simple integration project goes from three days to one day.
- The average fully burdened annual salary for an application integration specialist is $175,000.

Risks. The integration time savings will vary depending on:

- The number and complexity of integration projects that an organization pursues.
- The amount of time integration projects took in the legacy state.
- The fully burdened annual salary of application integration employees.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.2 million.

67%

Reduction in time required for simple integration projects

"[webMethods] provides a good, high-level, drag-and-drop environment where we can do rapid development and rapid prototyping."

ENTERPRISE INTEGRATION LEAD, NETWORKING TECHNOLOGY

Integration Time Savings					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Total number of integration projects annually	Composite	40	45	50
A2	Share of integration projects that are complex	Composite	20%	20%	20%
A3	Number of complex integration projects per year	A1*A2	8	9	10
A4	Time to complete a complex integration project prior to adopting webMethods (months)	Interviews	3	3	3
A5	Reduction in time to complete a complex integration with webMethods	Interviews	33%	33%	33%
A6	Number of developers required per integration project	Interviews	3	3	3
A7	Fully burdened annual salary for an application integration specialist	Composite	$175,000	$175,000	$175,000
A8	**Subtotal: Annual time savings on complex integration projects**	**A3*A4*A5*A6*(A7/12 months)**	**$350,000**	**$393,750**	**$437,500**
A9	Number of simple integration projects per year	A1-A3	32	36	40
A10	Time to complete a simple integration project prior to adopting webMethods (days)	Interviews	3	3	3
A11	Reduction in time to complete a simple integration project with webMethods	Interviews	67%	67%	67%
A12	**Subtotal: Time savings on simple integration projects**	**A9*A10*A11*A6*(A7/ 260 days)**	**$129,231**	**$145,385**	**$161,538**
At	Integration time savings	A8+A12	$479,231	$539,135	$599,038
	Risk adjustment	↓10%			
Atr	Integration time savings (risk-adjusted)		$431,308	$485,221	$539,135
	Three-year total: $1,455,663			**Three-year present value: $1,198,167**	

REDUCED DOWNTIME

Evidence and data. Interviewees shared that webMethods helped their organizations improve application reliability, preventing them from incurring downtime costs.

- Interviewees noted that because webMethods is SaaS-based, they no longer experience application outages related to upgrades and updates. The enterprise integration lead at a networking technology firm stated: “We used to have quarterly outages, and we used to spend numerous hours to upgrade our systems and make sure that patching is done properly, and all the systems are working as expected. Now, it’s all seamless because it’s in SaaS; they upgrade

and it's a rolling update. … The business is happy because we don't have many outages."

- The same interviewee also stated that webMethods' integration testing capabilities helped them prepare for and avoid potential data flow disruptions, increasing reliability: "We are able to get more scenarios done during our initial unit testing so that by the time we go to end-to-end solution testing, we know what scenarios we have tested and how they behave. If there were any bugs out there, we already have fixed them."
- Some interviewees also noted that by consolidating onto a single integration platform, they were able to minimize potential points of failure, reducing the likelihood of downtime. The integration architect at a telecommunications firm shared: "Over the last few years, the number of critical incidents have reduced considerably, and I think that is driven by our consolidation strategy. We have seen very good improvement and very good feedback from senior leadership; they don't worry about getting tickets in webMethods."

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization has 40 hours of annual application downtime before adopting webMethods.
- Ten percent of the composite's applications are business critical, which means that any downtime or disruption to these applications can have a significant impact on the organization's operations or revenue.
- Each hour of downtime for a business-critical application costs the composite organization $400,000, inclusive of direct revenue loss, employee labor towards remediation, and productivity impacts.
- With webMethods, the composite organization reduces downtime by 40%.

Risks. The application downtime reduction will vary depending on:

- Application downtime in the legacy state.
- Share of applications that are business critical.
- Hourly cost of downtime for a business-critical application.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.3 million.

40%

Downtime reduction

Reduced Downtime					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Annual application downtime before webMethods (hours)	Composite	40	40	40
B2	Percentage of applications that are business-critical	Composite	10%	10%	10%
B3	Average hourly cost of downtime	Assumption	$400,000	$400,000	$400,000
B4	Downtime reduction with webMethods	Interviews	40%	40%	40%
Bt	Reduced downtime	B1*B2*B3*B4	$640,000	$640,000	$640,000
	Risk adjustment	↓20%			
Btr	Reduced downtime (risk-adjusted)		$512,000	$512,000	$512,000
	Three-year total: $1,536,000			**Three-year present value: $1,273,268**	

TECHNOLOGY AND VENDOR CONSOLIDATION COST SAVINGS

Evidence and data. Interviewees reported that they were able to consolidate around webMethods and eliminate various tools from other vendors.

- Interviewees shared that moving to webMethods enabled them to retire several tools, including legacy integration products, file transfer tools, and API management products. The interviewees also reported that their licensing costs with webMethods were cheaper than what they would have paid for their previous integration tools.

- Interviewees that used IBM's transaction-based licensing model also reported that they were able to scale their webMethods usage up and down to adjust to changing business demands. The flexible pricing structure promoted efficient resource utilization and helped the interviewees' organizations optimize their spend. The enterprise integration lead at the networking technology firm noted: "I can clearly pinpoint which integrations or which interfaces are taking up the licensing costs. If there is any surge, I can go back and check what exactly happened at that point of time. [This information] drives cost savings."
- The head of application integration at a telecommunications firm described how consolidating onto a single integration tool improved their overall organization: "We now have fewer technologies to support and fewer teams to support development and production. It's certainly streamlined our operations."

Modeling and assumptions. Based on the interviews, Forrester assumes that the composite organization eliminates its incumbent integration tools, resulting in a savings of $600,000 annually.

Risks. The system consolidation cost savings will vary depending on:

- The cost of incumbent integration tools.
- The speed at which an organization eliminates these tools.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.3 million.

> "We are saving 10% to 15% on licensing [compared to our previous tools]."
>
> ENTERPRISE INTEGRATION LEAD, NETWORKING TECHNOLOGY

Technology And Vendor Consolidation Cost Savings					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Total legacy costs eliminated with webMethods	Interviews	$600,000	$600,000	$600,000
Ct	Technology and vendor consolidation cost savings	C1	$600,000	$600,000	$600,000
	Risk adjustment	↓10%			
Ctr	Legacy cost savings (risk-adjusted)		$540,000	$540,000	$540,000
	Three-year total: $1,620,000		**Three-year present value: $1,342,900**		

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Ease of use and reduced training.** Interviewees shared that webMethods' visual, drag-and-drop interface makes it easy for new employees to learn the platform. Additionally, because some of the interviewees had multiple integration tools before consolidating onto webMethods, they no longer had to conduct multiple trainings for separate toolsets after webMethods was implemented. The head of application integration at a telecommunications organization stated: "Pre-webMethods, every application was using its own technology and nobody knew how to manage them all. … Standardizing onto webMethods has allowed a much smaller team to support a much larger enterprise."
- **Improved visibility and security posture.** Interviewees praised webMethods' security features and the visibility that it provided into their integrations. Interviewees also reported that webMethods prevented their organization from exposing sensitive information to the public internet. The head of application integration at the telecommunications organization shared: "We don't have applications that are exposing themselves needlessly to the public internet and instead, we're able to expose cleaner interfaces again to get through a standardized solution. The fact that these applications don't have to solve these security problems themselves is a huge jump."

> “I’ve heard no complaints from the business about the webMethods platform. It’s very good news, because everything works. No pain, no issues, nothing at all.”
>
> INTEGRATION ARCHITECT, INDUSTRIAL MANUFACTURING

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Dtr	Licensing	$0	$535,500	$535,500	$535,500	$1,606,500	$1,331,709
Etr	Implementation effort	$48,125	$0	$0	$0	$48,125	$48,125
	Total costs (risk-adjusted)	$48,125	$535,500	$535,500	$535,500	$1,654,625	$1,379,834

LICENSING

Evidence and data. Interviewees' organizations incurred licensing costs for using webMethods with most of their costs varying based on the number of transactions. With the transaction-based pricing, interviewees' organizations paid only for what they consumed, enabling them to scale their integration solutions to meet specific business demands without incurring unnecessary expenses. The integration architect at an industrial manufacturer praised the pricing structure: "The transaction-based license is more effective for us because we can start very low at the beginning and then we can grow as we do more. It's easier to manage and measure."

Modeling and assumptions. The composite organization incurs transaction-based licensing costs of $510,000 per year.

Risks. Licensing costs will vary depending on an organization's size and usage. Contact IBM for a more detailed pricing estimate.

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 $1.3 million.

> “We prefer the transaction pricing model because it’s easier to use, especially at the start. In the first phase [of using webMethods], you want to be confident with the platform and understand how it works, so we really appreciate this model.”
>
> INTEGRATION ARCHITECT, INDUSTRIAL MANUFACTURING

Licensing						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
D1	Annual licensing costs	Interviews	$0	$510,000	$510,000	$510,000
Dt	Licensing	D1	$0	$510,000	$510,000	$510,000
	Risk adjustment	↑5%				
Dtr	Licensing (risk-adjusted)		$0	$535,500	$535,500	$535,500
	Three-year total: $1,606,500			**Three-year present value: $1,331,709**		

IMPLEMENTATION EFFORT

Evidence and data. Interviewees reported that their organizations incurred internal labor costs for implementing webMethods.

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

- The implementation process takes three months.
- Two employees are involved in the implementation effort with each employee devoting 50% of their time to the deployment of webMethods.

- The average fully burdened annual salary for an FTE is $175,000.

Risks. The implementation effort costs will vary depending on:

- The number of internal employees involved in the implementation.
- The length of the implementation period.
- The fully burdened salaries of the employees involved in the implementation.

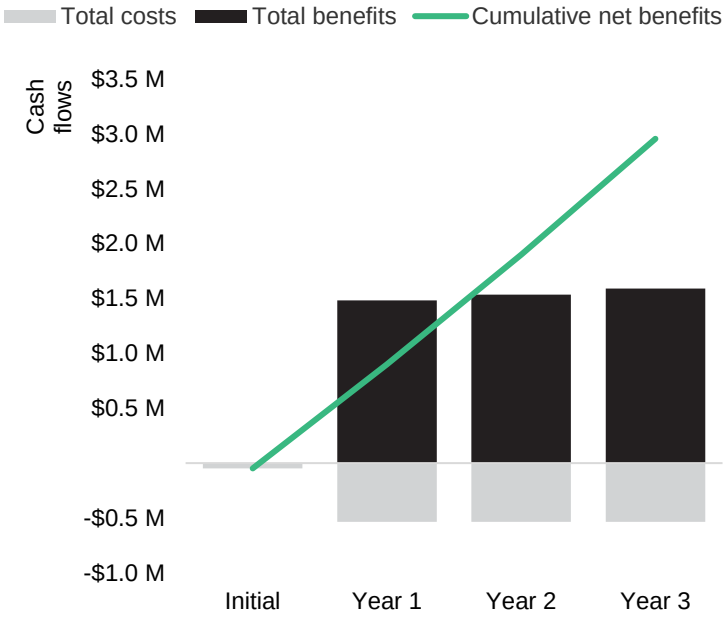
Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $48,000.

Implementation Effort						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Length of implementation (months)	Composite	3			
E2	FTEs required for implementation	Composite	2			
E3	Percentage of time spent on implementation	Composite	50%			
E4	Fully burdened annual salary for an FTE	Composite	$175,000			
Et	Implementation effort	(E1/12 months)*E2*E3*E4	$43,750	$0	$0	$0
	Risk adjustment	↑10%				
Etr	Implementation effort (risk-adjusted)		$48,125	$0	$0	$0
	Three-year total: $48,125			**Three-year present value: $48,125**		

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	($48,125)	($535,500)	($535,500)	($535,500)	($1,654,625)	($1,379,834)
Total benefits	$0	$1,483,308	$1,537,221	$1,591,135	$4,611,663	$3,814,335
Net benefits	($48,125)	$947,808	$1,001,721	$1,055,635	$2,957,038	$2,434,501
ROI						176%
Payback						<6 months

APPENDIX A: TOTAL ECONOMIC IMPACT

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

Total Economic Impact Approach

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

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

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

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

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.

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.

APPENDIX B: SUPPLEMENTAL MATERIAL

Related Forrester Research

Breathe New Life Into Legacy Operational Systems With Integration Best Practices, Forrester Research, Inc., November 16, 2023.

APPENDIX C: ENDNOTES

[1] Source: Breathe New Life Into Legacy Operational Systems With Integration Best Practices, Forrester Research, Inc., November 16, 2023.

[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.

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