A Forrester Total Economic Impact™
Study Commissioned By IBM
October 2020

The Total Economic Impact™ Of IBM OpenPages With Watson

Cost Savings And Business Benefits Enabled By OpenPages, An Integrated GRC Platform

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Key Benefits

Regulatory fine or penalty avoidance:

$1.7 million

Reduced risk management effort:

$1.7 million

Avoided legacy solution:

$1.8 million

Executive Summary

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 IBM OpenPages with Watson. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of OpenPages on their organizations.

IBM provides an integrated governance, risk, and compliance (GRC) platform that helps its customers identify risk, anticipate uncertainty, and proactively respond to changes in market conditions and inside their organization. To better understand the benefits, costs, and challenges associated with this investment, Forrester interviewed five customers with experience using OpenPages.

Prior to using OpenPages, the interviewed organizations managed risk via internally developed systems, disparate solutions, and spreadsheets. However, organizations reported that their previous solution led to risk management siloes, reactive decision-making, and increased effort required to satisfy auditors and regulators.

The interviewed organizations selected IBM OpenPages to: 1) provide a scalable, integrated GRC platform; 2) deliver a holistic view of risk and compliance; and 3) make GRC accessible to business users across the enterprise (and not just risk management teams). This resulted in significant benefits, as detailed in this case study. With IBM OpenPages, organizations: reduced risk management effort; improved their agility in reacting to changing risk environments; and avoided both regulatory penalties and legacy solution costs.

Forrester developed a composite organization based on data gathered from the customer interviews to reflect the total economic impact that OpenPages could have for an organization. The composite organization is representative of the organizations that Forrester interviewed, and it is used to present the aggregate financial analysis in this study. The composite organization is a global financial services company, and it deployed IBM OpenPages version 8.1 with 750 user accounts.

All values are reported in risk-adjusted, three-year present value (PV) unless otherwise indicated.

Key Financial Findings

Quantified benefits. The following benefits reflect the financial analysis associated with the composite organization.

- **Regulatory fine or penalty avoidance, totaling $1.7 million in bottom-line impact.** OpenPages allowed companies to focus on risk management and analysis instead of on risk documentation, along with giving companies the agility to react to changing risk environments. This improved collaboration led to better risk-informed decision-making, creating a more unified risk-aware culture. All of these factors combine to reduce the likelihood that companies are subject to regulatory or financial penalties.

ROI
218%

Benefits PV
$5.1 million

NPV
$3.5 million

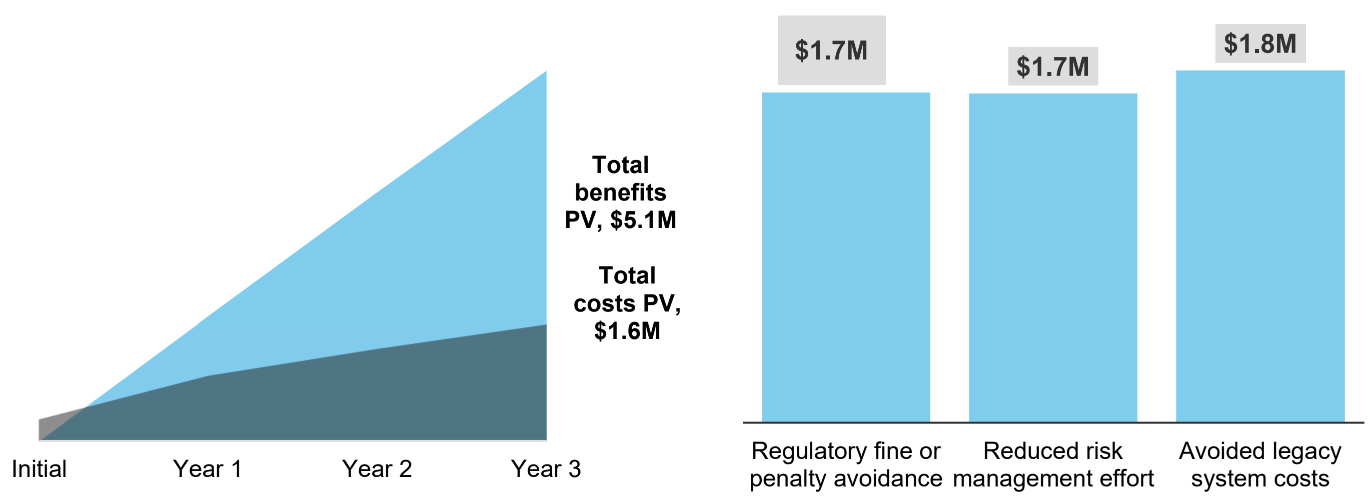
- **Reduced risk management effort, totaling $1.7 million.** Interviewed organizations noted that OpenPages was easy for employees to use. It provided them with an integrated database and solution, and it allowed them to standardize processes across their GRC areas. This led to reductions in effort updating risks, reporting risks, testing internal controls, and supporting internal and external audits.
- **Avoided legacy solution costs, totaling $1.8 million.** Interviewed organizations noted that they were able to sunset some legacy GRC tools after moving to IBM OpenPages' integrated platform. This also includes savings related to training and maintenance with the previous tools.

Costs. The following costs reflect the financial analysis associated with the composite organization.

- **License and support costs totaling $424,008.** Interviewed organizations noted licensing and support costs for their software-as-a-service deployment of OpenPages.
- **Implementation and ongoing costs totaling $1.2 million.** These include implementation, internal labor for implementation and ongoing support, and training for first-, second-, and third-line professionals.

Forrester's interviews with five existing customers and subsequent financial analysis found that a composite organization experienced benefits of $5.1 million over three years versus costs of $1.6 million, adding up to a net present value (NPV) of $3.5 million and an ROI of 218%.

Financial Summary **(Three-Year)**



TEI Framework And Methodology

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

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 IBM OpenPages can have on an organization:

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

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

CUSTOMER INTERVIEWS
Interviewed five organizations using OpenPages to obtain data with respect to costs, benefits, and risks.

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

CASE STUDY
Employed four fundamental elements of TEI in modeling IBM OpenPages'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.

The IBM OpenPages With Watson Customer Journey

BEFORE AND AFTER THE IBM OPENPAGES INVESTMENT

Interviewed Organizations

For this study, Forrester conducted five interviews with IBM OpenPages customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	NUMBER OF EMPLOYEES
Financial services	North America	Director	5,000
Financial services	Global	Operational risk coordinator	20,000+
Financial services	Global	Vice president (VP)	20,000+
Financial services	Global	Head of risk	15,000
Financial services	Global	Senior manager	5,000

Key Challenges Before IBM OpenPages With Watson

Before the investment in OpenPages, interviewees described the following challenges with their previous solution:

- **Risk management tools and silos.** Before OpenPages, companies were using multiple, disparate GRC tools across their organization. This led to siloed processes and workflows, reporting of their GRC management efforts, and complex navigation for casual and business users within these systems.
- **Reactive decision-making.** Because of the siloed nature of GRC management and the use of disparate tools, there was isolated tracking and reporting of risks, which led to duplication of effort, misalignment of priorities, and latent risks that went unnoticed until they bubbled up to the surface. This meant senior management needed to make decisions with incomplete or potentially misleading information.
- **Increased effort required to satisfy auditors and regulators.** Companies noted that the existing management they had for GRC issues led to increased scrutiny from regulators. This was due to the fact that companies did not have a holistic understanding of their own risk; regulators were inclined to believe their operations were riskier than they realized.

"Every department was documenting and managing risks in their own spreadsheets and folders; there was no way for us to have a consolidated and accurate view of organizational risks. We could only solve this problem using OpenPages."

Operational risk coordinator, financial services industry

Why IBM OpenPages With Watson?

Interviewed organizations stated the following reasons on why they chose IBM OpenPages to address their challenges:

- **Single, integrated platform.** IBM OpenPages provided companies with a single, integrated platform that can manage their GRC activities across the organization. Companies were also given the capability to build or customize their own risk management processes within the platform if needed.
- **Improved user experience.** Starting with OpenPages version 8.1, interviewees noted that the user experience had been vastly improved. The new interface made the platform more accessible for even infrequent business users.

Key Results With IBM OpenPages With Watson

The interviews revealed that the investment in OpenPages addressed the challenges interviewees were facing, and it provided additional benefits as well:

- **Reduced risk management effort.** Interviewed organizations noted that OpenPages was easy for employees to use: It provided them with an integrated database and solution, and it allowed them to standardize processes across their GRC areas. This led to reductions in effort updating risks, reporting risks, and supporting internal and external audits. Additionally, the interviewed organizations realized an increased trust in both their data and their ability to proactively act.
- **Regulatory penalty and fines avoidance.** OpenPages allowed companies to focus on risk management and analysis instead of on risk documentation, along with giving companies the agility to react to changing risk environments. This improved collaboration across the organization led to better risk-informed decision-making, creating a more unified risk-aware culture. All of these factors combine to reduce the likelihood that companies are subject to regulatory or financial penalties.
- **Avoided legacy solution costs.** Companies were able to sunset some legacy GRC tools after moving to IBM OpenPages' integrated platform.

"OpenPages has absolutely improved the effectiveness of our GRC management decision-making. We can now look at data across various groups and measure KPIs. I don't care if it's a financial risk or operational risk or internal audit risk; I want to know what the risk is and how it impacts the whole firm, and OpenPages gives that to us."

Vice president, financial services industry

"Now we can manage risks, instead of just documenting them."

Senior manager, financial services industry

Composite Organization

Forrester constructed a TEI framework, a composite company, and an associated ROI analysis to evaluate the Total Economic Impact of OpenPages. The composite organization is representative of the five interviewed OpenPages customer companies, and it is used to present the aggregate financial analysis. Details of the composite organization include:

- Global financial services organization with $10 billion in annual revenue and 10,000 employees.
- Eight departments responsible for GRC, which previously used disparate GRC solutions and spreadsheets to track organizational risk.
- Deployed IBM OpenPages with Watson version 8.1 SaaS with Operational Risk Management, IT Governance, Policy Management, Internal Audit Management, and Regulatory Compliance Management modules. The composite organization plans to implement Financial Controls Management and Third-Party Management modules in the future.
- Seven hundred and fifty OpenPages user accounts.
  - 600 first-line users; 500 managers and 100 business unit risk professionals.
  - 100 second-line users (enterprise risk professionals).
  - 50 third-line users (internal audit professionals).

Key assumptions

- Global financial services
- IBM OpenPages 8.1
- 750 user accounts

Analysis Of Benefits

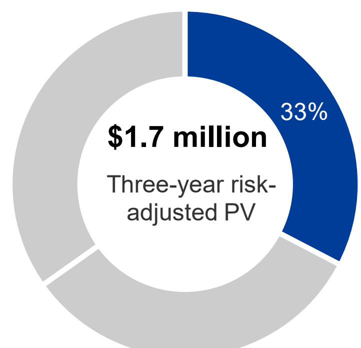
QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Regulatory fine or penalty avoidance	$540,000	$675,000	$810,000	$2,025,000	$1,657,325
Btr	Reduced risk management effort	$633,460	$666,900	$700,340	$2,000,700	$1,653,206
Ctr	Avoided legacy system costs	$711,000	$711,000	$711,000	$2,133,000	$1,768,152
	Total benefits (risk-adjusted)	**$1,884,460**	**$2,052,900**	**$2,221,340**	**$6,158,700**	**$5,078,683**

Benefit 1: Regulatory Fine Or Penalty Avoidance

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 have a PV of $5.1 million.



Regulatory fine or penalty avoidance: 33% of total benefits

Interviewed organizations described the following intangible benefits resulting from IBM OpenPages' integrated GRC platform:

- **Improved risk-aware culture.** This is due to the ease-of-use and accessibility of risk and compliance across the organization. Every employee in each company is impacted by GRC, and OpenPages makes it easier for individuals to take ownership of their risk areas.
- **Improved collaboration.** Employees across the organization are able collaborate on GRC now that they can implement similar processes and workflow structures, while having access to the same data within OpenPages.
- **Improved accuracy of data.** When everyone is working on the same platform and sharing the data and findings, they get better at identifying and predicting emerging potential risks. This allows for proactive mitigation in order to protect reputation and to decrease the likelihood of fines, penalties, or other losses.
- **Risk management and analysis instead of risk documentation.** Because OpenPages makes it easier to document and report risks, employees can now spend more of their time managing and analyzing risks (see Benefit 2: Reduced Risk Management Effort).
- **Agility to adapt to changing risk environments.** The ease-of-use of the OpenPages platform coupled with an improved risk-aware culture allows companies to quickly react to changing risk environments.
- **Better decision-making.** The above benefits associated with OpenPages' integrated GRC platform enable senior leaders to make better, risk-informed decisions for their company.

These intangible benefits combine to result in the single tangible benefit of reducing the likelihood of financial penalties. For the composite organization, Forrester models the avoidance of a regulatory fine or penalty levied on the organization. Note that this doesn't include costs associated with additional regulatory scrutiny following a regulatory penalty, and it also doesn't include costs resulting from nonfinancial penalties such as a forced restructure of the compliance group. While customers were not able to quantify these impacts, they could lead to potentially a significant cost avoidance benefit beyond the quantified regulatory fine avoidance.

Based on the customer interviews, Forrester modeled the financial impact for the composite organization with the following estimates:

- Before OpenPages, there is a 10% annual chance that the composite organization will be subject to a $30 million regulatory penalty or fine.
- With OpenPages, the likelihood of a penalty is reduced by 20% in Year 1. This increases to 25% and 30% in Years 2 and 3 as the organization improves its overall risk management strategy, processes, collaboration, and decision-making.

This benefit can vary due to uncertainty related to:

- Penalty size and likelihood.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding an annual benefit that ranges from $540,000 to $810,000 and a three-year, risk-adjusted total PV of $1.7 million.

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.

Benefit 1: Regulatory Fine Or Penalty Avoidance: Calculation Table

REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
A1	Potential regulatory fines or penalties	Composite organization	$30,000,000	$30,000,000	$30,000,000
A2	Likelihood of penalties without OpenPages	Composite organization	10%	10%	10%
A3	Reduction of likelihood with OpenPages	Composite organization	20%	25%	30%
At	Regulatory fine or penalty avoidance	A1*A2*A3	$600,000	$750,000	$900,000
	Risk adjustment	↓10%			
Atr	**Regulatory fine or penalty avoidance (risk-adjusted)**		**$540,000**	**$675,000**	**$810,000**

Benefit 2: Reduced Risk Management Effort

Interviewed organizations noted that IBM OpenPages was easy for employees to use. It both provided an integrated database and solution for them to use and allowed them to standardize processes across their GRC areas. This results in a reduction of risk management effort:

- Reduced effort when updating risks.
- Reduced effort when developing reports.
  - Better coordination of risk mitigation efforts across all risk areas — not just speed and accuracy but better prioritization to address the most important risks.
  - Integration with IBM Cognos Analytics 11 additionally reduces time for report generation.
- Reduced effort supporting internal audits. Additionally, employees saw fewer ad hoc questions from external auditors as they have access to their OpenPages environment as well.

This led to increased trust in their data, and the ability to act proactively.

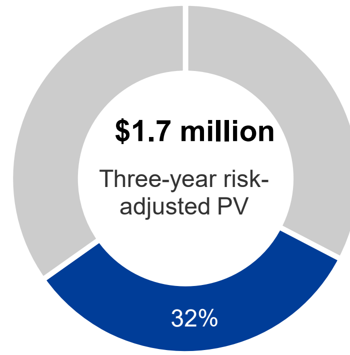
Based on the customer interviews, Forrester modeled the financial impact for the composite organization with the following estimates:

- Eight different departments across the company are responsible for managing risks.
- Each department previously spent 20 days per month updating risks, and OpenPages reduced this effort by 40% in Year 1, which increases year-over-year (YOY) to 50% by Year 3.
- Each department previously spent 15 days per month developing risk reports, and OpenPages reduced this effort by 40% in Year 1, which increases YOY to 50% by Year 3.
- Each department supports one internal audit per quarter, and it previously spent 5 days on support for each audit. With OpenPages, they reduced this effort by 25% in Year 1, which increases YOY to 35% by Year 3.

This benefit can vary due to uncertainty related to:

- Reduction in effort updating risks, developing risk reports, and supporting audits.
- Fully burdened salary.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding an annual benefit that ranges from $633,460 to $700,340 and a three-year, risk-adjusted total PV of $1.7 million.



Reduced risk management effort: 32% of total benefits

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Benefit 2: Reduced Risk Management Effort: Calculation Table					
REF.	**METRIC**	**CALCULATION**	**YEAR 1**	**YEAR 2**	**YEAR 3**
B1	Number of different departments managing risk	Composite organization	8	8	8
B2	Days spent updating risks per month, per department, before OpenPages	Composite organization	20	20	20
B3	Reduction in effort with OpenPages	Composite organization	40%	45%	50%
B4	***Subtotal: Hours saved per year updating risks***	***B1*B2*B3*(12 months/year)*(8 hours/day)***	***6,144***	***6,912***	***7,680***
B5	Days spent updating reports per month, per department, before OpenPages	Composite organization	15	15	15
B6	Reduction in effort with OpenPages	Composite organization	40%	45%	50%
B7	***Subtotal: Hours saved per year updating reports***	***B1*B5*B6*(12 months/year)*(8 hours/day)***	***4,608***	***5,184***	***5,760***
B8	Number of internal audits per year, per department	Composite organization	4	4	4
B9	Days spent supporting an internal audit, per department, before OpenPages	Composite organization	5	5	5
B10	Reduction in effort with OpenPages	Composite organization	25%	30%	35%
B11	***Subtotal: Hours saved per year supporting internal audits***	***B1*B8*B9*B10*(8 hours/day)***	***320***	***384***	***448***
B12	Internal audit team headcount	Composite organization	50	50	50
B13	Efficiencies for internal audit team	Composite organization	15%	15%	15%
B14	***Subtotal: Internal audit team hours saved***	***B12*B13*2,080***	***15,600***	***15,600***	***15,600***
B15	Average fully burdened salary (hourly)	Composite organization	$50.00	$50.00	$50.00
B16	Productivity capture	Composite organization	50%	50%	50%
Bt	Reduced risk management effort	(B4+B7+B11+B14)*B15*B16	$666,800	$702,000	$737,200
	Risk adjustment	↓5%			
Btr	**Reduced risk management effort (risk-adjusted)**		**$633,460**	**$666,900**	**$700,340**

Benefit 3: Avoided Legacy System Costs

Interviewed organizations noted that they were able to sunset some legacy GRC tools after moving to IBM OpenPages' integrated GRC platform. This also includes savings related to training and maintenance with the previous tools.

Based on the customer interviews, Forrester modeled a $20,000 per month avoided cost for the composite organization, along with an annual management savings of $100,000 for the legacy tools and 12 hours of training per year per user.

As this benefit can vary due to uncertainty of avoided legacy tool costs, Forrester adjusted this benefit downward by 10%, yielding an annual benefit of $711,000 and a three-year, risk-adjusted total PV of $1.8 million.

Avoided legacy system costs: 35% of total benefits

Benefit 3: Avoided Legacy System Costs: Calculation Table

REF.	METRIC	CALCULATION	YEAR 1	YEAR 2	YEAR 3
C1	Legacy systems monthly license costs	Composite organization	$20,000	$20,000	$20,000
C2	Legacy systems management costs	Composite organization	$100,000	$100,000	$100,000
C3	Number of first-, second-, and third-line professionals	Composite organization	750	750	750
C4	Legacy systems annual training hours	Composite organization	12	12	12
C5	Average fully burdened salary (hourly)	B15	$50.00	$50.00	$50.00
Ct	Avoided legacy system costs	(C1*12+C2)+(C3*C4*C5)	$790,000	$790,000	$790,000
	Risk adjustment	↓10%			
Ctr	**Avoided legacy system costs (risk-adjusted)**		**$711,000**	**$711,000**	**$711,000**

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	License and maintenance costs	$0	$170,500	$170,500	$170,500	$511,500	$424,008
Etr	Implementation and ongoing costs	$299,000	$483,000	$276,000	$276,000	$1,334,000	$1,173,553
	Total costs (risk-adjusted)	**$299,000**	**$653,500**	**$446,500**	**$446,500**	**$1,845,500**	**$1,597,561**

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 have a PV of $1.6 million.

Cost 1: License And Support Costs

Interviewed organizations noted the licensing and support costs for their SaaS deployment of OpenPages. Based on the customer interviews, Forrester estimates for the composite organization:

- An annual SaaS license cost of $140,000.
- An ongoing support contract of $15,000 per year.

To account for risk and uncertainty, Forrester adjusted this cost upward by 10%, yielding an annual cost of $170,500 and a three-year, risk-adjusted total PV of $424,008.

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.

Cost 1: License And Maintenance Costs: Calculation Table						
REF.	**METRIC**	**CALCULATION**	**INITIAL**	**YEAR 1**	**YEAR 2**	**YEAR 3**
D1	License cost	Composite organization		$140,000	$140,000	$140,000
D2	Ongoing support contract	Composite organization		$15,000	$15,000	$15,000
Dt	License and maintenance costs	D1+D2	$0	$155,000	$155,000	$155,000
	Risk adjustment	↑10%				
Dtr	**License and maintenance costs (risk-adjusted)**		**$0**	**$170,500**	**$170,500**	**$170,500**

Cost 2: Implementation And Ongoing Costs

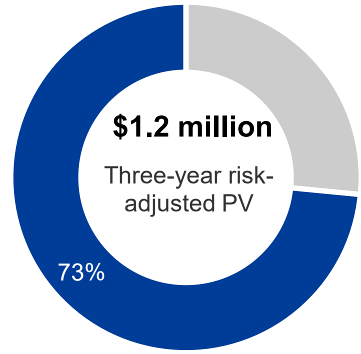
Based on the customer interviews, Forrester estimates the following implementation and ongoing costs for the composite organization's OpenPages deployment:

- Professional services costs of $200,000.
- One internal FTE supporting a six-month planning and implementation effort.
- One internal FTE for ongoing support.
- Seven hundred and fifty first-, second-, and third-line professionals who all require an initial 8 hours of training, with first-line professionals receiving 4 hours of refresher training annually.

This cost can vary due to uncertainty related to:

- Professional services costs.
- Required internal support.
- Required training.
- Fully burdened salary.

To account for these risks, Forrester adjusted this cost upward by 15%, yielding an annual cost that ranges from $299,000 to $483,000, with a three-year risk-adjusted total PV of $1.2 million.



Implementation and ongoing costs: 73% of total costs

6 months
Total implementation and deployment time

Cost 2: Implementation And Ongoing Costs: Calculation Table						
REF.	METRIC	CALCULATION	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Implementation professional services	Composite organization	$200,000			
E2	Number of months for implementation	Composite organization	6			
E3	Internal implementation FTEs	Composite organization	1			
E4	Internal ongoing support FTEs	Composite organization		1	1	1
E5	Number of first-, second-, and third-line professionals	Composite organization		750	600	600
E6	Initial training and refresher training	Composite organization		8	4	4
E7	Average fully burdened IT FTE salary (annual)	Composite organization	$120,000	$120,000	$120,000	$120,000
E8	Average fully burdened salary (hourly)	B15		$50.00	$50.00	$50.00
Et	Implementation and ongoing costs	E1+([E2]/12*E3*E7)+(E4*E7)+(E5*E6*E8)	$260,000	$420,000	$240,000	$240,000
	Risk adjustment	↑15%				
Etr	**Implementation and ongoing costs (risk-adjusted)**		**$299,000**	**$483,000**	**$276,000**	**$276,000**

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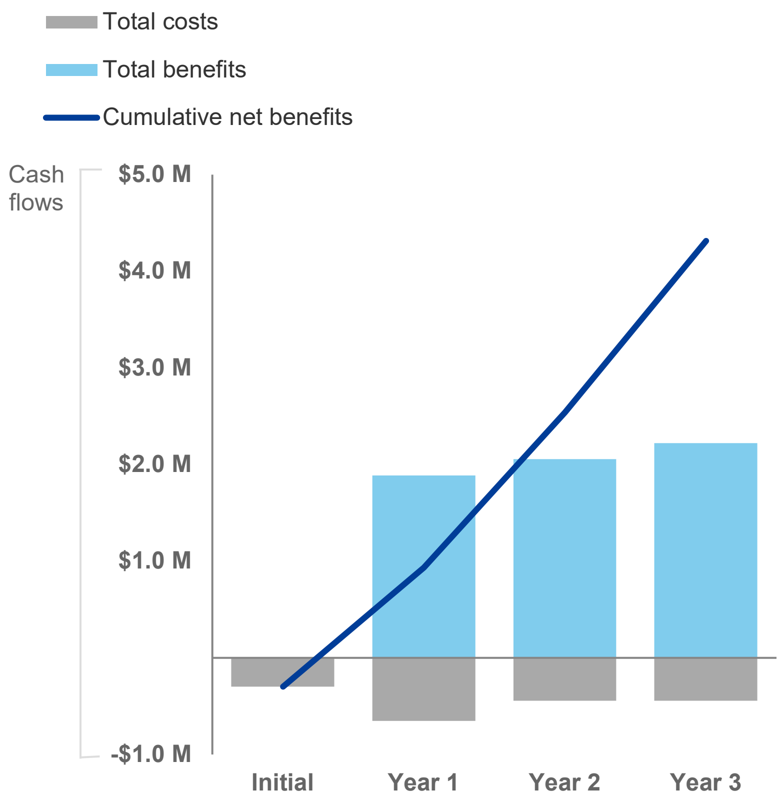
Financial Summary

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 and NPV are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($299,000)	($653,500)	($446,500)	($446,500)	($1,845,500)	($1,597,561)
Total benefits	$0	$1,884,460	$2,052,900	$2,221,340	$6,158,700	$5,078,683
Net benefits	($299,000)	$1,230,960	$1,606,400	$1,774,840	$4,313,200	$3,481,122
ROI						218%
Payback period						<6 months

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IBM OpenPages: Overview

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

IBM OpenPages with Watson is a secure, SaaS-based, AI-powered, fully integrated governance, risk and compliance (GRC) platform that helps organizations achieve their business objectives in a world of dynamic risk. Designed to create a unified, holistic view of risk across domains for all users, IBM OpenPages supports organizations in their effort to manage risk and regulatory compliance challenges, while enhancing trust, confidence and transparency across the enterprise. IBM OpenPages delivers on the clear and present need in the marketplace for an integrated end-to-end risk management solution that enables organizations to connect internal GRC policies and practices to the external regulatory environment, driving a more risk-aware culture where GRC is everyone's business.

The newly enhanced task-focused UI enables effective user participation without any training. The zero-training approach and a highly intuitive, user-centric UI, fuels higher productivity and faster time-to-value. IBM OpenPages empowers users with information transparency and the ability to identify, manage, monitor, and report on risk and compliance initiatives throughout the enterprise.

IBM OpenPages provides a set of nine solutions that span risk and compliance domains and can be used independently or together, which include:

- **Operational Risk Management** enables businesses to integrate risk data within a single environment as well as automate identifying, measuring, monitoring, analyzing and managing operational risk processes.
- **Business Continuity Management** helps organizations in their effort to develop and manage business continuity and IT resiliency by strengthening their preparedness to respond to future unforeseen events with visibility across risks.
- **Regulatory Compliance Management** reduces the time and costs of understanding regulatory requirements. Reduce risks, such as sanctions and fines, due to non-compliance. Catalog regulations and create actionable tasks.
- **IT Governance** reduces complexity of IT risk management by aligning IT operations management with business initiatives, strategy and regulatory requirements.
- **Policy Management** simplifies compliance with numerous industries, ethics, privacy and government regulations. Identifies similarities between regulations to reduce duplicated efforts.
- **Internal Audit Management** provides internal auditors with a uniquely configured, cross-departmental view into organizational GRC. Automates and standardizes auditing procedures.
- **Model Risk Governance** combines a flexible data model for key stakeholders with document risk management, workflow and business intelligence.
- **Third-Party Risk Management** enables customers to understand their third-party risk exposures. Customers have access to the Santa Fe Group's shared assessments SIG questionnaires to support the process.
- **Financial Controls Management** reduces costs and simplifies compliance with Sarbanes-Oxley Act and similar global reporting regulations.

Learn more at ibm.com/OpenPages.

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.