

A Forrester Total Economic Impact™
Study Commissioned By Hedvig
December 2017

The Total Economic Impact™ Of Hedvig

Cost Savings And Business Benefits
Enabled By The Hedvig Distributed
Storage Platform

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Executive Summary

Hedvig provides a distributed storage platform that helps its customers increase flexibility and reduce costs associated with their storage environment.

Hedvig 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 Hedvig Distributed Storage Platform. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Hedvig on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester conducted online interviews of three customers with years of experience using Hedvig.

Prior to using Hedvig, the customers deployed proprietary storage platforms, which include the physical server hardware, proprietary software running and managing the storage, connectivity in data set, etc. However, this approach was becoming increasingly expensive, was more difficult to manage, and was inflexible and made it difficult to scale storage. This led the interviewed organizations to decide to deploy the Hedvig Distributed Storage Platform.

Forrester developed a composite organization based on data gathered from the interviewed customers to reflect the total economic impact that Hedvig could have on an organization. The composite organization is representative of the organizations that Forrester interviewed and is used to present the aggregate financial analysis in this study. All values are reported in risk-adjusted three-year present value (PV) unless otherwise indicated.

Key Findings

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

- › **Storage platform cost savings of over \$904,000.** Interviewed organizations realized cost savings associated with Hedvig. Hedvig enabled easy storage scaling and allowed for the purchase of commodity servers as opposed to proprietary storage platforms, which include the physical server hardware, proprietary software running and managing the storage, connectivity in data set, etc.
- › **Reallocation of storage administrators resulting in a \$424,000 impact.** Organizations noted that Hedvig increased the amount of storage an administrator could manage due to its ease of use. This enabled the organizations to reallocate storage admin full-time employees (FTEs) to higher-value tasks, as storage admins could now manage four times as much storage.
- › **Reduced effort in provisioning storage in response to business requests totaling nearly \$97,000.** Organizations reported that Hedvig allowed them to provision storage from business requests much faster than with their legacy platforms. With Hedvig, organizations were able to decrease time spent in provisioning storage by 75%.

Key Benefits



Storage platform cost savings:
\$904,000



Storage admins able to manage **4x as much** storage



Reduced effort in provisioning storage:
75% reduction



ROI
128%



Benefits PV
\$1.4 million



NPV
\$801,000



Payback
< 6 months

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

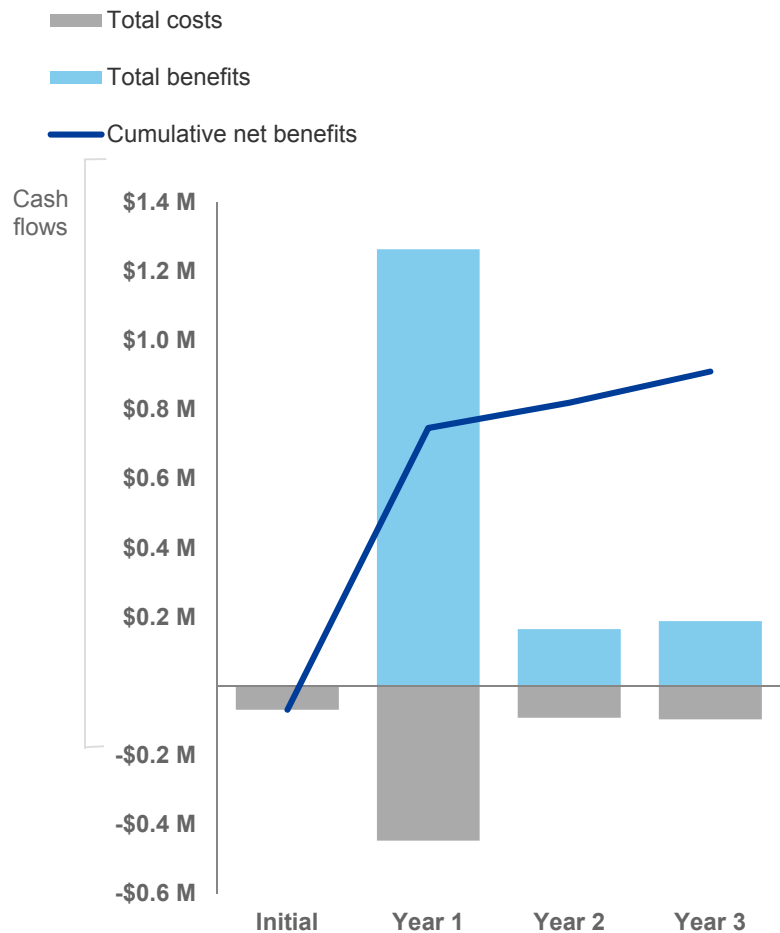
› **Software and maintenance costs totaling nearly \$556,000.**

Interviewed organizations reported software and maintenance costs associated with Hedvig, including license fees, support from Hedvig, and internal maintenance support. Note that license fees and Hedvig support can vary depending on the licensing model and support level desired.

› **Planning and implementation costs totaling nearly \$69,000.**

Planning and deployment required two FTEs for three months for the composite organization. Planning and implementation time includes acquiring and installing the required servers and architecture; actual implementation of Hedvig itself is quick and simple.

Forrester's interviews with three existing customers and subsequent financial analysis found that an organization based on these interviewed customers experienced benefits of over \$1.4 million over three years versus costs of over \$624,000, adding up to a **net present value (NPV) of nearly \$801,000 and an ROI of 128%**.



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

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 Hedvig.

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 Hedvig can have on an organization:



DUE DILIGENCE

Interviewed Hedvig stakeholders and Forrester analysts to gather data relative to Hedvig.



CUSTOMER INTERVIEWS

Conducted online interviews of three organizations using Hedvig 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 Hedvig's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

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

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

Hedvig 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.

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

The Hedvig Customer Journey

BEFORE AND AFTER THE HEDVIG INVESTMENT

Interviewed Organizations

For this study, Forrester conducted a interviews of three Hedvig customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	ANNUAL REVENUE
Construction	Headquartered in North America	Chief technology officer (CTO)	> \$1 million
Financial services	Headquartered in Europe	Platform engineer	> \$5 billion
Mining	Headquartered in Europe	IT architect	> \$1 billion

Key Challenges

Interviewed organizations listed several key challenges and drivers ultimately leading to their investment in Hedvig:

- › Traditional storage and backup costs were too high.
- › There were too many special purpose environments.
- › Organizations had concerns and faced risks associated with downtime and availability.
- › Traditional storage provisioning took too long.
- › New applications and business initiatives required new storage and were difficult to plan for.

Interviewed organizations had the following workloads and applications connected to shared storage before Hedvig:

- › General purpose server virtualization.
- › Online transaction processing (OLTP) databases or data warehouse applications.
- › Industry-specific applications, such as computer-aided design/computer-aided manufacturing (CAD/CAM).
- › Internet of things.
- › Tier 2 or 3 (e.g., backup, replication, etc.).
- › Test/dev or other nonproduction environments.

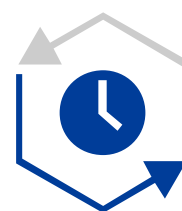
Key Results

The interviews revealed that customers valued several aspects and functionalities from Hedvig, including:

- › Multiprotocol support (block, file, and object storage).
- › Thin provisioning.
- › Zero-impact snapshots and clones.



High costs for traditional storage and backup



Long time to provision traditional storage

- › Multisite replication.
- › Inline, global deduplication.
- › Inline compression.
- › Virtualization integration.
- › Data resiliency integration.

Key quantified results from the Hedvig investment include:

- › **Storage platform cost savings.**
- › **Reallocation of storage admin FTEs to higher-value tasks.**
- › **Reduced effort in provisioning storage in response to business requests.**

These quantifiable benefits are discussed in more detail in the Financial Analysis section. The interviews also revealed several potential future use cases, which are detailed in the Flexibility section.

Composite Organization

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

Description of composite and deployment characteristics. The composite organization is a large enterprise with 5,000 employees. It has a total storage capacity of 400 TB in Year 1, and capacity grows 20% each year; total storage requirements include all virtualization considerations.



Key assumptions

Large enterprise

5,000 employees

400 TB storage in Year 1

20% annual storage growth

Financial Analysis

QUANTIFIED BENEFIT AND COST DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Storage platform cost savings	\$1,082,160	(\$44,928)	(\$56,376)	\$980,856	\$904,295
Btr	Reallocation of storage admin FTEs	\$142,272	\$170,726	\$204,872	\$517,870	\$424,358
Ctr	Reduced effort in provisioning storage in response to business requests	\$38,880	\$38,880	\$38,880	\$116,640	\$96,689
Total benefits (risk-adjusted)		\$1,263,312	\$164,678	\$187,376	\$1,615,366	\$1,425,341

Benefit 1: Storage Platform Cost Savings

Interviewed organizations revealed the following benefits related to storage platform cost savings realized by implementing Hedvig:

- › Implementing Hedvig allowed organizations to scale storage easily and only purchase the amount of physical storage required at a time, instead of needing to estimate the storage requirement needs for the entire refresh cycle and purchasing all storage upfront.
- › Additionally, organizations saw cost savings in being able to purchase commodity storage servers when using Hedvig, as opposed to previously, when they needed to purchase proprietary storage platforms, which include the physical server hardware, proprietary software running and managing the storage, connectivity in data set, etc.

Based on the interviews, Forrester estimates for the composite organization:

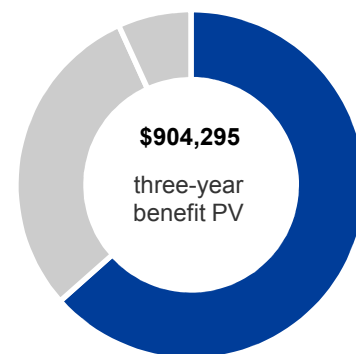
- › Four hundred TB of storage is required in Year 1, and storage requirements grow 20% each year.
- › Ten percent of the storage is business critical and needs to be readily accessible (Tier 1 solid state drive [SSD] storage), and the rest can be treated as various tiers of backup data (Tiers 2 and 3 hard disk drive [HDD] storage).
- › To meet its storage requirement needs, the composite organization would have previously needed to purchase 17 proprietary storage platforms/physical servers in Year 1. With Hedvig, the composite organization can purchase 10 commodity servers in Year 1, two commodity servers in Year 2, and three commodity servers in Year 3.
- › The cost for equivalent levels of storage reduces by 15% each year.

Note that the storage platform cost savings quantified below does not include additional potential savings from software no longer needed with Hedvig (e.g., replication, hypervisor, encryption, etc.).

Storage platform cost savings can vary due to uncertainty related to:

- › Estimated required storage needs.

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 more than \$1.4 million.



Storage platform cost savings: 63% of total benefits

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.

› Costs for proprietary storage platforms and commodity servers.

To account for these risks, Forrester adjusted this benefit downward by 10%. This yields a \$1.1 million benefit in Year 1, net costs of \$50,000 and \$63,000 in Years 2 and 3, and a three-year risk-adjusted total PV of over \$904,000.

Benefit 1: Storage Platform Cost Savings Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Total incremental storage requirement (TB)	Composite organization	400	80	96
A2	Amount of Tier 1 incremental storage (TB)	A1*10%	40	8	10
A3	Amount of Tier 2 and Tier 3 incremental storage (TB)	A1*90%	360	72	86
A4	Number of proprietary storage platforms/physical servers	Composite organization	17		
A5	Cost per storage platform	Composite organization	\$88,000		
A6	Proprietary storage platform cost	A4*A5	\$1,496,000		
A7	Number of commodity storage servers (hardware) required	Composite organization	10	2	3
A8	Cost per commodity storage server (hardware)	Composite organization	\$29,360	\$24,960	\$20,880
A9	Hedvig storage platform (hardware) cost	A7*A8	\$293,600	\$49,920	\$62,640
At	Storage platform cost savings	A6 - A9	\$1,202,400	(\$49,920)	(\$62,640)
	Risk adjustment	↓10%			
Atr	Storage platform cost savings (risk-adjusted)		\$1,082,160	(\$44,928)	(\$56,376)

Benefit 2: Reallocation Of Storage Admin FTEs

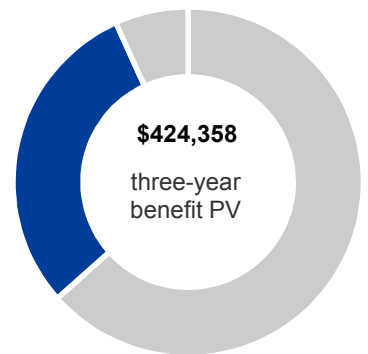
Interviewed organizations reported that Hedvig increased the amount of storage an admin could manage due to its ease of use, which allowed them to reallocate storage admin FTEs to higher-value tasks.

Based on the interviews, Forrester estimates for the composite organization:

- › Total storage requirement is 400 TB in Year 1 and grows 20% each year.
- › Before Hedvig, storage admins could manage 250 TB of storage.
- › With Hedvig, storage admins can manage 1,000 TB of storage.
- › Fully burdened annual IT salary of \$124,800.

Reallocation benefits can vary due to uncertainty related to:

- › Total storage requirements.
- › Storage management capacity per storage admin.



Reallocation of storage admin FTEs: **30%** of total benefits

› Fully burdened annual salary for storage admins.

To account for these risks, Forrester adjusted this benefit downward by 5%. This yields an annual benefit ranging from \$142,000 to \$205,000, and a three-year risk-adjusted total PV of \$424,000.

Benefit 2: Reallocation Of Storage Admin FTEs Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Size of storage environment in TB	Composite organization	400	480	576
B2	Storage management, prior solution, FTEs	B1/250	1.6	1.9	2.3
B3	Storage management, Hedvig, FTEs	B1/1000	0.4	0.5	0.6
B4	Average fully burdened annual IT salary	Composite organization	\$124,800	\$124,800	\$124,800
Bt	Reallocation of storage admin FTEs	(B2-B3)*B43	\$149,760	\$179,712	\$215,654
	Risk adjustment	↓5%			
Btr	Reallocation of storage admin FTEs (risk-adjusted)		\$142,272	\$170,726	\$204,872

Benefit 3: Reduced Effort In Provisioning Storage In Response To Business Requests

Interviewed organizations reported that Hedvig allowed them to provision storage from business requests much faster than with their legacy platform.

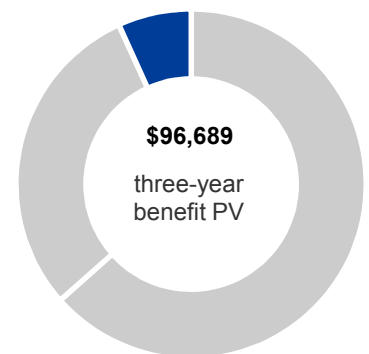
Based on the interviews, Forrester estimates for the composite organization:

- › Sixty business requests annually requiring storage provisioning.
- › Sixteen hours required to provision storage with the previous solution.
- › A 75% reduction in storage provisioning effort with Hedvig.
- › Fully burdened hourly rate for IT of \$60.

Reduced effort in provisioning storage can vary due to uncertainty related to:

- › Total number of business requests requiring storage provisioning.
- › Amount of effort required to provision storage.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding an annual benefit of nearly \$39,000 and a three-year risk-adjusted total PV of nearly \$97,000.



Reduced effort in provisioning storage: **7% of total benefits**

Benefit 3: Reduced Effort In Provisioning Storage In Response To Business Requests Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Number of annual provisioning requests	Composite organization	60	60	60
C2	Hours to provision storage per request	Composite organization	16	16	16
C3	Reduction in time to provision storage with Hedvig	Composite organization	75%	75%	75%
C4	Fully burdened hourly IT salary	Composite organization	\$60	\$60	\$60
Ct	Reduced effort in provisioning storage in response to business requests	$C1 * C2 * C3 * C4$	\$43,200	\$43,200	\$43,200
	Risk adjustment	↓10%			
Ctr	Reduced effort in provisioning storage in response to business requests (risk-adjusted)		\$38,880	\$38,880	\$38,880

Flexibility

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

- › The ability to roll out new services faster.
- › The ability to complete IT projects faster.
- › Future savings from implementing Hedvig across more data centers.
- › Running Hedvig in a public cloud for hybrid or multicloud IT.
- › Deploying Hedvig for additional primary and secondary storage.

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

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

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Dtr	Software and maintenance costs	\$0	\$447,888	\$91,812	\$96,818	\$636,518	\$555,790
Etr	Planning and implementation costs	\$68,640	\$0	\$0	\$0	\$68,640	\$68,640
	Total costs (risk-adjusted)	\$68,640	\$447,888	\$91,812	\$96,818	\$705,158	\$624,430

Cost 1: Software And Maintenance Costs

Interviewed organizations reported software and maintenance costs associated with Hedvig, including license fees, support from Hedvig, and internal maintenance support.

Note that license fees and Hedvig support can vary depending on the licensing model and support level desired. Forrester estimates for the composite organization:

- › A perpetual license fee for incremental storage provisioned each year.
- › Gold-level support from Hedvig.
- › Internal maintenance effort at 3 hours per week, or 156 hours per year.

Software and maintenance costs can vary due to uncertainty related to annual maintenance requirements and IT salary. To account for these risks, Forrester adjusted total cost upward by 5%. This yields a Year 1 cost of nearly \$448,000, \$92,000 in Year 2, \$97,000 in Year 3, and a three-year risk-adjusted total PV of nearly \$556,000.

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to have a PV of more than \$624,000.

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: Software And Maintenance Costs Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
D1	License fees	Composite organization		\$300,000	\$60,000	\$72,000
D2	Hedvig support	Composite organization		\$117,200	\$18,080	\$10,848
D3	Annual maintenance hours	Composite organization		156	156	156
D4	Fully burdened hourly IT salary	Composite organization		\$60	\$60	\$60
Dt	Software and maintenance costs	$D1+D2+(D3*D4)$	\$0	\$426,560	\$87,440	\$92,208
	Risk adjustment	↑5%				
Dtr	Software and maintenance costs (risk-adjusted)		\$0	\$447,888	\$91,812	\$96,818

Cost 2: Planning And Implementation Costs

Based on the interviewed organizations, Forrester estimates for the composite organization a total implementation time requiring two FTEs for three months. Note that planning and deployment includes acquiring and installing the required servers and architecture; actual implementation of Hedvig itself is quick and simple.

Implementation effort can vary due to uncertainty related to both FTEs and time required. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a total PV of nearly \$69,000.



Three months
Total implementation
and deployment time

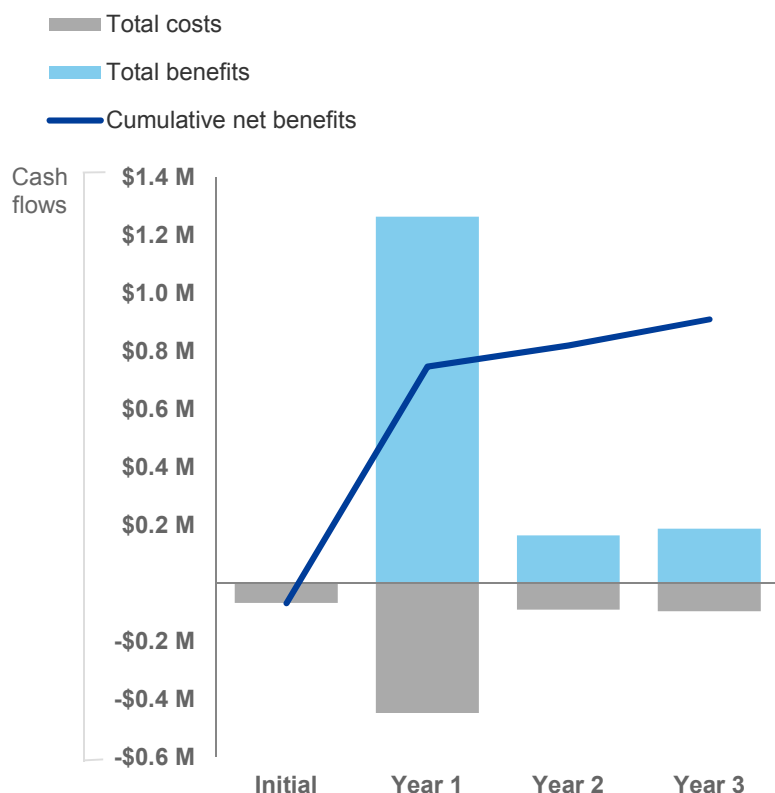
Cost 2: Planning And Implementation Costs Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Months to deploy	Composite organization	3			
E2	FTEs to deploy	Composite organization	2			
E3	Fully burdened annual IT salary	Composite organization	\$124,800			
Et	Planning and implementation costs	$E1/12 * E2 * E3$	\$62,400	\$0	\$0	\$0
	Risk adjustment	↑10%				
Etr	Planning and implementation costs (risk-adjusted)		\$68,640	\$0	\$0	\$0

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



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



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

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	(\$68,640)	(\$447,888)	(\$91,812)	(\$96,818)	(\$705,158)	(\$624,430)
Total benefits	\$0	\$1,263,312	\$164,678	\$187,376	\$1,615,366	\$1,425,341
Net benefits	(\$68,640)	\$815,424	\$72,866	\$90,557	\$910,208	\$800,912
ROI						128%
Payback period						< 6 months

Appendix A: Total Economic Impact

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

Total Economic Impact Approach



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



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



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



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

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



PRESENT VALUE (PV)

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



NET PRESENT VALUE (NPV)

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



RETURN ON INVESTMENT (ROI)

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



DISCOUNT RATE

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



PAYBACK PERIOD

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