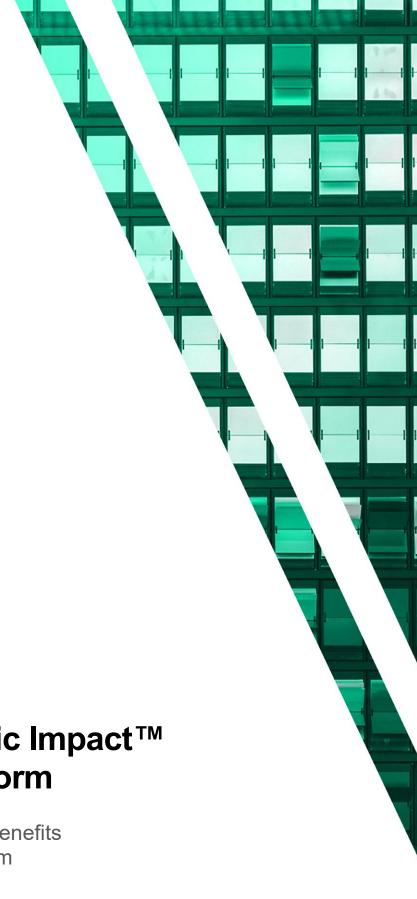
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The Total Economic Impact™
Of The Aiven Platform

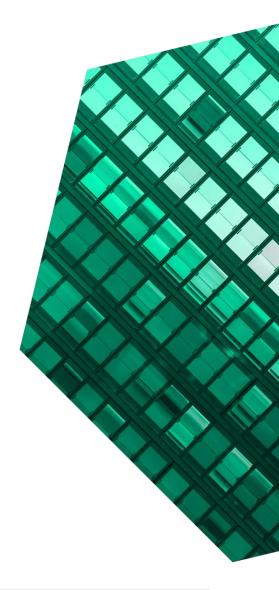
Cost Savings And Business Benefits Enabled By The Aiven Platform

NOVEMBER 2023

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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.

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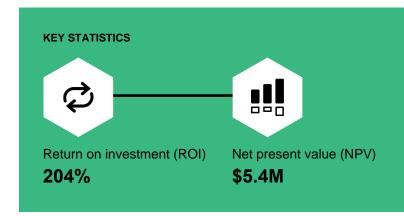
Executive Summary

Managing open-source cloud data technology solutions can be time-consuming and resource-intensive, often causing organizations to engage in mundane tasks while trying to accomplish their strategic goals. The need for greater resiliency and minimizing real financial losses exacerbates this and is far from the automated, scalable, and agile platform organizations want to provide their customers. Partnering with a fully managed open-source data platform offers a quicker way to achieve the desired objective.

Aiven simplifies the setup and management of cloud data technologies (such as databases, data streaming solutions, analytics, observability, and search solutions), offering configure-and-forget solutions that alleviate the challenges associated with open-source cloud data infrastructure. It provides the Aiven Platform, which is a centralized platform built on top of the most used cloud providers and integrated with the necessary tools, enabling the creation of a fully featured, fully managed data infrastructure in under 10 minutes. The Aiven Platform allows users to have control over their data through a broad set of open-source technologies.

Aiven 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 Aiven Platform.¹ The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Aiven Platform on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using the Aiven Platform. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that represents a global enterprise that serves multiple industries, providing technology services and boasting revenue exceeding \$1 billion and more than 1,000 employees.



Prior to using the Aiven Platform, these interviewees noted how their organizations were self-managing their open-source technology stack, either in a hosted environment or with a cloud service provider running on bare metal servers. The biggest struggles were the drain on technical personnel who were being taken away from more compelling work to operate their solutions and challenges around stability and reliability. Given these challenges, they usually considered four alternatives:

- Continue the current way of working and adjust the number of technical personnel as workloads increase.
- Migrate tasks and workloads to services offered by cloud providers but still oversee and manage the services within each unique cloud environment.
- Invest in developing an in-house solution that would increase automation and stability but

would require continuous development and maintenance as use cases and complexity increased, in addition to continuing to operate the solution.

Partner with a fully managed services platform provider.

The first option still had significant business risk. The second option would either restrict organizations to a single vendor or force them to manage multiple services across cloud providers and hire additional technical personnel. Alternative three requires additional investment but could start to provide benefits in terms of stability and increased automation in the mid- to long-term. However, this solution would not allow them to dedicate resources to more strategic activities like developing their core business solutions/offerings.

The fourth possibility was the most attractive for interviewees' organizations because it could reduce the management overhead and increase the stability and reliability organizations were searching for.

After the investment in option four, the Aiven Platform, the interviewees saw an immediate improvement in their biggest struggles.

The interviewees mentioned that the Aiven Platform provided them with the needed transparency and insights of how resources were being used, thus further creating quick-win opportunities for more efficient utilization of infrastructure resources like compute and storage, especially in terms of easily scaling up and down. The Aiven Platform also completely satisfied their security and compliance requirements.

KEY FINDINGS

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

 Investment avoided to reach a comparable functionality. The composite organization wants more stability, and estimated that, prior to the Aiven Platform, it would require between 50% and 100% additional resources to reach a similar level of stability to the one the Aiven Platform provides. A managed service like the Aiven Platform is the only viable alternative for the composite organization to avoid vendor lock-in and being forced to manage its open-source technology stack across clouds. The present value savings over three years amount to \$2.1 million for the composite organization, making it the biggest benefit.

- Increased reliability and resiliency. Severe adverse events are uncommon but nonetheless occur. The composite organization experiences an average impact value of \$300,000 and four adverse events in Year 1, two in Year 2, and one in Year 3. Because of this, the present value savings over three years for the composite organization amount to \$1.6 million.
- Reduced effort to operate and manage the open-source services. The composite organization reduces its the amount of time and number of resources used to operate and manage its open-source services. Because of this, it experiences present value savings of \$1.5 million over three years. This benefit represents the biggest reason why the composite searches for an alternative to a self-management approach.
- Savings on bare metal vs. Aiven managed infrastructure resources. Before moving to the Aiven Platform, the composite self-managed their open-source technology stack using bare metal servers with a large cloud provider. After moving to the Aiven Platform, the composite organization saves specifically on infrastructure. For the composite organization, this represents a present value saving over three years amounting to \$1.4 million.

 Ongoing compute optimization and utilization savings with the Aiven Platform. In its previous environment, the composite organization experienced a lack of transparency and an excessive amount of time needed to manage and scale its infrastructure up or down, which meant it paid for resources not in use or paid for more expensive resources. With the Aiven Platform, the composite experiences flexible up or down scaling according to demand and the visibility to quickly identify incorrectly configured compute, amounting to present value savings of \$1.5 million over three years.

Unquantified benefits. Benefits that provide value for the interviewees' organizations but are not quantified in this study include:

- Increased performance through partnership with Intel. Interviewees noted that Aiven's provided infrastructure performed better than their previous setup. The performance increase is due to the Aiven collaboration with Intel as part of the Disruptor Program, getting early access to high-performance hardware and acceleration services, thereby optimizing performance across the open-source cloud technology stack. Though exact benefits were challenging to quantify because of the availability of interviewee data, they offered an advantage to those interviewees whose organizations had demanding performance requirements by lowering costs.
- Positive business impact due to increased stability. Data from interviewees enabled the quantification of adverse severe event costs, but positive business gains were challenging to calculate due to lack of definitive data. The senior director, client operations and incident response for platforms at a technology services provider highlighted improved stability, facilitating enhanced customer guaranteed service levels. Precise quantification was challenging, but estimates suggested that up to 60% of contracts

- may not have closed without higher service-level agreements (SLAs). The same interviewee mentioned those contract values spanned \$1.5 million to double-digit millions.
- Time savings through Aiven know-how and support. Interviewees noted the importance of Aiven's investment in open source and the expert knowledge it has in open-source data technologies. This investment requires a relatively long learning curve within organizations to get to the same level of expertise and there was strong competition for experts. The quick access to Aiven's expert knowledge saved up to three months of search, configure, and test time on open-source data technologies.
- Aiven's partnership approach. At all interviewees' organizations, Aiven's partnership model consistently stood out, evident from initial proof of concept (POC) through to post-migration support. Interviewees universally characterized their interaction with Aiven as a partnership, praising not only proactive recommendations and configuration assistance, but also Aiven's responsiveness in addressing concerns. This collaborative approach and Aiven Platform's robust service-level agreements provided stability and reliability, offering peace of mind to the interviewees' enterprise-level organizations who were delivering services.

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

Aiven-specific fees. The most significant portion
of the cost for the composite organization is for
the Aiven monthly fee, which includes a service
charge, consumed infrastructure costs, and a
support fee. The total infrastructure costs are
excluded for this use case because they are not
Aiven-specific. Excluding the hardware portion,
the three-year present value costs for Aiven are
\$2.5 million.

- Cost of setup, migration, and onboarding. For
 the composite organization, initial setup and
 migration efforts when implementing the Aiven
 Platform requires a total of three months
 involving internal and Aiven resources. In Year 1,
 the composite needs another three months for
 onboarding-related activities. The initial cost with
 some Year 1 cost equals a present value of
 \$81,000.
- Cost of conducting the proof of concept. With credits, the composite took Aiven for a test run before implementation, verifying the functional requirements, and validating any potential risks.
 This part is the lowest cost in the case study and has a present value of \$68,000. It mainly includes the time of resources involved and a small Aiven resource utilization charge.

The representative interviews and financial analysis found that a composite organization experiences benefits of \$8.05 million over three years versus costs of \$2.64 million, adding up to a net present value (NPV) of \$5.4 million and an ROI of 204%. The calculated payback is less than six months.

KEY DRIVERS FOR THE BUSINESS CASE

The ROI and financial analysis are based on the assumptions associated with the composite organization. However, based on the interviews and the dynamics of the business case, the following drivers could have an additional impact on the outcomes cited:

- The application scope of the Aiven Platform.
 All interviewees were using the Aiven Platform in a single solution or within a single team. A wider scope across more use cases within an organization would increase savings specifically on resiliency and operations.
- The complexity of use cases. Two interviewees benefited from the Aiven Platform's ability to work across regions and clouds. The head of SRE and cloud technology at a B2B electronics retailer

- also stated that their organization would not have used Apache Kafka® if Aiven had not made it easier to set up and manage. Based on interviewee feedback, the Aiven Platform excelled in reducing complexity in challenging use cases and made them easier to manage. Complexity would have increased costs for an enterprise-like organization, which could be prevented through using the Aiven Platform.
- The business impact of severe adverse events. Several of the interviewees reported stability as a key driver for looking for an opensource managed data platform. There was considerable variation in the business impact of severe adverse events, and Forrester assumed average values for this case study. Examples of severe adverse events mentioned by interviewees include site outages (i.e., being unable to conduct business), crashed databases after manual upgrades causing 48 hours of downtime, and losing data due to only doing 24hour backups. After moving to the Aiven Platform, these interviewees' organizations only experience a maximum of 15-minutes of data loss. The bigger impact severe adverse events have, either on conducting business or selling business, the bigger the ROI will become.



Please see Appendix A for definitions of ROI, PV and NPV.

"To get that [Aiven Platform-level] of stability, we would need to double the number of engineers we employ."

— Senior director, client operations and incident response for platforms, technology services provider



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 the Aiven Platform.

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 the Aiven Platform can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Aiven 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 the Aiven Platform.

Aiven 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.

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



DUE DILIGENCE

Interviewed Aiven stakeholders and Forrester analysts to gather data relative to the Aiven Platform.



INTERVIEWS

Interviewed four representatives at organizations using the Aiven Platform to obtain data with respect to costs, benefits, and risks.



COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewees' organizations.



FINANCIAL MODEL FRAMEWORK

Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.



CASE STUDY

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

The Aiven Platform Customer Journey

Drivers leading to the Aiven Platform investment

Interviews			
Role	Industry	Region	Annual Revenue
Senior director, client operations and incident response for platforms	Technology services provider	Global	\$ 2.97 billion
Head of SRE and cloud technology	B2B electronics retailer	Europe	\$ 1.06 billion
CTO and head of engineering	Logistics solutions provider	Southeast Asia and Oceania	\$ 735 million
Principal database engineer	Software-as-a-service (SaaS) solutions provider	Global	\$ 230 million

KEY CHALLENGES

Before implementing the Aiven Platform, interviewees noted they were frequently frustrated due to their inability to get to a point where their organizations could focus on crucial development. Their concerns with the number of people needed for operations and the lack of adequate stability and reliability for their solution forced them to look for an alternative approach.

Interviewees noted how their organizations struggled with common challenges, including:

- Resource allocation. Interviewees expressed concerns about the significant manual efforts required to manage their open-source services. This drain on resources diverted valuable time and resources away from more strategic endeavors. The senior director at a technology services provider organization, (which was the biggest enterprise involved in this study) said: "Engineers were continuously caught in a rinseand-repeat cycle of just maintaining the environment, never maturing it. ... It doesn't allow us to focus on what we need to focus on: design, creation, innovation, engineering, and deployment."
- Stability and reliability. Interviewees shared their challenges with frequent outages and

"The prior environment was labor intensive, managing the full stack did not allow us to focus on innovation, design etc. instead we were stuck in maintaining the environment."

Senior director, client operations and incident response for platforms, technology services provider

production incidents, directly impacting their customers and resulting in adverse business impacts like paying penalties for missing agreed SLAs or an inability to do business. The senior director at a technology services provider specifically mentioned that a consequence of not achieving a four-digit SLA was preventing them from closing multimillion-dollar contracts.

 Knowledge gaps. Skills and knowledge gaps were cited as a hindrance to effective opensource solution management. Finding skilled people or managing the learning curve for people



"Sizing and forking would require at least one full day to carry out, 30 to 40 times per year. With Aiven it takes 5 minutes."

Head of SRE and cloud technology, B2B electronics retailer

not familiar with open source was a challenge. The gaps encompassed issues such as configuring backup and restore processes, effectively handling maintenance and upgrades for open-source services, and overall virtual machine management. This not only led to inefficiencies, but also contributed to the stability and reliability issues mentioned before.

Cost control and scaling limitations.

Challenges in managing costs were a prevalent concern, especially among the interviewees from enterprises. Inadequate oversight over resource usage and lack of transparency around actual utilization meant that teams were acquiring compute and storage resources at maximum levels.

Interviewees also expressed difficulties in scaling their open-source solutions up or down. This was particularly challenging when running on bare metal infrastructures, which meant scaling efforts required extensive preplanning and forecasting, presenting a significant risk and demanding a substantial effort.

SOLUTION REQUIREMENTS/INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that could:

- Avoid vendor lock-in. They did not want a specific vendor-adapted open-source solution; rather, they wanted a service that supported multicloud and multizone environments, with some interviewees expressing interest in the ability to bring their own cloud in the future.
- Be a managed service to free up resources. It also had to be expandible and scalable providing flexibility for future growth and granted the ability to expand to additional solutions within the organization.
- Offer easy setup and use. It also needed to have limited risk for migration and could limit the learning curve for operations.
- Provide service assurance. It could do so by delivering a service-level agreement to ensure consistent performance.
- Have built-in security necessary compliance certification. Not only should the solution be secure, but it should also provide the necessary compliance certification like Service Organization Control Type 2 (SOC 2), GDPR, HIPAA, and Payment Card Industry Data Security Standard (PCI DSS).

There were also some specific technical requirements mentioned like latency or the ability to use the AWS Transit Gateway, but these were case specific, and no common pattern emerged from the interviews.

In all cases, interviewees started the journey to the Aiven Platform with a search to find potential solutions followed by a proof of concept (POC) stage. In all cases, interviewees called out Aiven's expert knowledge in open-source solutions as extremely helpful to plan and get to an optimal setup fast.

After the POC and making the final decision for the Aiven Platform, the interviewees worked closely with Aiven to plan and migrate from their existing solutions to the Aiven Platform.



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 four 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 is a global technology service provider offering mission-critical technology solutions built on open-source services in the cloud. The composite organization has more than 1,000 employees and annual revenue of more than \$1 billion.

Prior to using the Aiven Platform, the composite was self-managing its open-source technology stack, so there was no migration from a previous solution or services from cloud providers.

Deployment characteristics. Through the interviews conducted, and by reviewing Aiven's existing client base, there was no specific industry or geography identified that would benefit more from using the Aiven Platform. Forrester assesses the platform to be industry and geography agnostic within the confines of the supported cloud service providers. The Aiven Platform itself can operate across clouds and regions and thereby supporting flexibility and scaling options for small startups and enterprises alike.

Key Assumptions

- Global enterprise services provider
- 1,000+ employees
- \$1B revenue
- Builds technology solutions using opensource services in the public cloud
- Providing crucial, revenue-generating customer solutions and services
- Uses the Aiven Platform for a single solution with an engineering team size of 10 full-time equivalents (FTEs)

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	Investment avoided to reach limited comparable functionality	\$1,064,000	\$782,040	\$586,530	\$2,432,570	\$2,054,255
Btr	Savings through increased reliability and resiliency	\$1,080,000	\$540,000	\$270,000	\$1,890,000	\$1,630,954
Ctr	Reduction in effort to operate and manage open-source services	\$425,600	\$625,632	\$750,758	\$1,801,990	\$1,468,016
Dtr	Savings on bare metal vs. Aiven-managed infrastructure resources	\$535,500	\$561,000	\$637,500	\$1,734,000	\$1,429,418
Etr	Ongoing compute optimization and utilization savings with the Aiven Platform	\$699,840	\$544,320	\$502,200	\$1,746,360	\$1,463,380
	Total benefits (risk-adjusted)	\$3,804,940	\$3,052,992	\$2,746,988	\$9,604,920	\$8,046,023

INVESTMENT AVOIDED TO REACH LIMITED COMPARABLE FUNCTIONALITY

Evidence and data. All interviewees noted their organizations needed to increase their engineering staff between 50% and 100% to get to a comparable level of automation and stability as delivered by the Aiven Platform. Despite this increase, interviewees noted their environments would still be limited and need further development and maintenance over time.

- The interviewees were also consistent in their estimate of the time needed to develop a comparable level of automation, namely between six to 12 months.
- The difference in the estimate for engineers and the development time was related to the size of the interviewees' organizations, the use cases, and the services used on the Aiven Platform.

Modeling and assumptions. Forrester weighed the data we gathered to reflect enterprise-level teams

"A self-managed setup would be just too expensive. You must invest a lot of time into building all processes like infrastructure automation, blue-green deployment, backup process ... Operating Kafka on your own is really hard."

Head of SRE and cloud technology, B2B electronics retailer

and use cases. For the composite organization, Forrester assumes the following:

 The composite has an existing team of 10 engineers. It doubles the engineers in Year 1 but with 80% time allocated to maintain a conservative estimate.



"To build a viable and stable data platform, it would take us seven people and one year of development."

CTO and head of engineering, logistics solutions provider

- The initial development in Year 1 needs the highest level of resources. The composite then goes into a support and stabilization phase in Year 2 and a continuous improvement phase in Year 3, reflecting the increased maturity of a bespoke solution.
- The fully loaded cost of an FTE is a Forrester standard and includes 5% inflation increases

given the current geopolitical and financial dynamics.

Risks. Potential risks for this calculation are general risks all organizations face when planning and managing bespoke solutions and are not related explicitly to the Aiven Platform. This includes:

- A lack of access to the required skilled resources.
- Financial and geopolitical uncertainty changing priorities and preventing further investments.
- The consistency of the gathered data and the non-Aiven-Platform-related risk, which does not warrant an increased risk reduction for this benefit.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$2.1 million.

Inve	stment Avoided To Reach Limi	ted Comparable	e Functionality		
Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Number of additional engineers needed to build and maintain solution	Composite	10	7	5
A2	Percentage of time investment per FTE	Composite	80%	80%	80%
А3	Fully burdened annual salary for an FTE	TEI standard	\$140,000	\$147,000	\$154,350
At	Investment avoided to reach limited comparable functionality	A1*A2*A3	\$1,120,000	\$823,200	\$617,400
	Risk adjustment	↓5%			
Atr	Investment avoided to reach limited comparable functionality (risk-adjusted)		\$1,064,000	\$782,040	\$586,530
	Three-year total: \$2,432,570		Three-year pr	esent value: \$2,054,25	5

SAVINGS THROUGH INCREASED RELIABILITY AND RESILIENCY

Evidence and data. All interviewees reported severe adverse events as a specific pain their organizations experienced before using the Aiven Platform.

- Enterprise-level feedback provided more granular data, regarding ticket types and the business impact of poor stability. Referring to their data, The senior director at a technology services provider stated a drop of 95% in certain classes of tickets and no more severe adverse events.
- The same interviewee also related the challenges of closing new business contracts with a value exceeding \$1 million because their organization could not provide a high enough SLA.

Tracked ITIL mean times down by

30%



 The CTO and head of engineering at a logistics solutions provider spoke explicitly of a severe adverse event that resulted in a 48-hour window of time where they could not do warehouse planning, track delivery processes, or even fulfill customer requests.

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

 Severe adverse events for enterprises do occur but are uncommon. Since interviewees did not provide a single consistent number for severe adverse events, we use a conservative estimate for the composite. With this in mind, the "We had several outages with [our self-managed legacy system]. ... If our database was down, the whole e-commerce platform was down. So, no ordering, no revenue. ... [With Aiven,] we have no outages."

Head of SRE and cloud technology, B2B electronics retailer

composite experiences four adverse events in Year 1, two in Year 2, and one in Year 3. These values align with the provided data for enterpriselike organizations, but also includes the considerations from Forrester data and the experience of Forrester analysts.

 The cost per severe adverse event is \$300,000 annually. The impact on potential lost business or reduction in specific ticket categories is not quantifiable or measured.

Risks. Severe adverse events and overall application stability will vary between organizations and use cases. Some crucial elements that may influence the business case include:

- The maturity of the provided service or solution at the time of adopting or migrating to the Aiven Platform.
- The maturity of the organization service or solution operations and management, namely, if they have well-established processes and methodologies in place or if the processes and methodologies are only being defined for the first time.

 The specific cost of a severe adverse event for a service or solution.

Considering the overall consistency of the interview data, but also the potential variability, Forrester elects to use the second lowest level of risk adjustment.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$1.6 million.

"[Before] when we needed to do a fail over, it would take us two hours. Whereas with Aiven it's all automatic, we don't even know it happened."

Principal database engineer, SaaS solutions provider

Savii	Savings Through Increased Reliability And Resiliency								
Ref.	Metric	Source	Year 1	Year 2	Year 3				
B1	Number of severe adverse events resulting in significant business impact annually	Composite	4	2	1				
B2	Average cost per event	Composite	\$300,000	\$300,000	\$300,000				
Bt	Savings through increased reliability and resiliency	B1*B2	\$1,200,000	\$600,000	\$300,000				
	Risk adjustment	↓10%							
Btr	Savings through increased reliability and resiliency (risk-adjusted)		\$1,080,000	\$540,000	\$270,000				
	Three-year total: \$1,890,000	Three-year pr	esent value: \$1,630,95	54					

REDUCTION IN EFFORT TO OPERATE AND MANAGE OPEN-SOURCE SERVICES

Evidence and data. Interviewees described this benefit as one of the critical drivers for finding an alternative solution. Prior to Aiven, the interviewees at enterprise organizations noted they used dedicated operations engineers or borrowed engineers from other teams. Interviewees from smaller organizations noted their organizations used the engineers linked to the service or solution to split time between strategic, innovative work and operational tasks. Interviewees reported their frustration of not being able to focus on the core

tasks they were supposed to focus on and being distracted by the level of manual work needed to operate and manage their open-source technology stack.

- The highest number of dedicated engineers was six full-time equivalents (FTEs). The lowest was 1.5 FTEs.
- Interviewees also reported that all, or almost all, the operation engineers' time was saved after moving to the Aiven Platform. This saved time could be reused and invested in other work within the organization.



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

- The composite uses five operation engineers to start with an 80% time allocation to maintain a conservative estimate.
- would not necessarily reduce the need for operational engineers because it would not be able to replicate the Aiven Platform's functionality entirely. The custom-built solution would also need its own operations team. As workloads, different cloud providers, and complexity increase, the operating overhead would remain constant or even become higher.
- Time saved is only beneficial if used for other work. Forrester uses a productivity recapture percentage to indicate the amount of time that could be reused. The Forrester standard is 50% but given the consistency of the interviewee's feedback that it was more than 50%, Forrester chooses to use 80% for this specific benefit.

"We had a team of six platform engineers dedicated to maintaining the environment of solutions. They have all been freed up and are now working on automation [outside our team]."

Senior director, client operations and incident response for platforms, technology services provider

Risks. There are small risks to consider for this benefit, but they have no significant impact on the calculation.

"We had a big limitation on sizing with the old environment. Whenever we had to create new instances, [it was] high effort to duplicate everything. It would take us 30 to 40 days per year. With Aiven, it takes us 2 minutes. We use it heavily these days."

Head of SRE and cloud technology, B2B electronics retailer

- The amount of time to onboard and start using the Aiven Platform. No interviewee expressed concerns in this regard.
- All interviewees did a one-time cutover migration to the Aiven Platform. Deviating from this approach may mean that operations engineers are required for a longer period.

Forrester applied the lowest risk reduction, based on the consistency of the reported migration approach, and data around reallocation of time saved for operations.

Results. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted total PV of \$1.5 million.



Ref.	Metric	Source	Year 1	Year 2	Year 3
C1	Number of operations engineers	Composite	5	7	8
C2	Percentage of time investment per FTE	Composite	80%	80%	80%
C3	Fully burdened annual salary for an FTE	TEI standard	\$140,000	\$147,000	\$154,350
C4	Productivity recapture	Composite	80%	80%	80%
Ct	Reduction in effort to operate and manage the open-source services	C1*C2*C3*C4	\$448,000	\$658,560	\$790,272
	Risk adjustment	↓5%			
Ctr	Reduction in effort to operate and manage the open-source services (riskadjusted)		\$425,600	\$625,632	\$750,758
	Three-year total: \$1,801,990		Three-year p	resent value: \$1,468,01	6

SAVINGS ON BARE METAL VS. AIVEN-MANAGED INFRASTRUCTURE RESOURCES

Evidence and data. All the interviewees self-managed their open-source technology stack before moving to the Aiven Platform. Some used bare metal servers with a large cloud provider, while others used servers in a hosted environment.

Before moving to the Aiven Platform and getting the transparency on usage versus demand, most interviewees reported using configurations that were usually over-dimensioned and more expensive to prevent performance issues.

Average savings on cloud infrastructure

20%



 By using more appropriately sized initial configurations, not including storage or compute optimizations based on demand, the senior director at a technology services provider reported as much as \$50,000 savings per month using the Aiven Platform provided infrastructure versus previous bare metal costs. Other interviewees did not have exact data but anecdotally confirmed having experienced savings.

 Forrester did specific Aiven Platform servicerelated calculations comparing Aiven pricing to publicly available cloud provider calculators and estimated a ratio of 120% to 130% more infrastructure cost versus the Aiven Platform infrastructure cost.

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

 Given that cost and utilization are not transparent regarding demand and the enormous efforts it takes to plan and carry out scaling activities,
 Forrester estimates that monthly costs for bare metal servers are higher than the Aiven Platform infrastructure.

- The composite's pre-Aiven Platform bare metal costs align with the enterprise interview data provided and are conservatively adjusted to fit the composite use case. That means applying the 120% to 130% ratio over the Aiven Platform infrastructure costs.
- The savings are calculated by subtracting the infrastructure cost included in the Aiven Platform fee (see cost table G) from the bare metal cost.
- The calculation is solely on the cost of the bare metal configurations versus the Aiven Platform service configurations. It excludes any potential demand-based compute or storage optimization.

Risks. Several risk considerations for this calculation could have a more significant impact than previous benefit calculations. This includes the following:

- The configuration management before the Aiven Platform could be better than what interviewees used for their bare metal servers. Therefore, the bare metal configurations could be more accurate and aligned to the use case and the related demand.
- Increased maturity of the solution or service could imply better experience with sizing bare metal servers.

"We were hosting some of the solutions on bare metal within dedicated data centers. We're no longer doing that. It was around \$50,000 a month just for testing. If we had gone down the production environment route, that would've increased a lot."

Senior director, client operations and incident response for platforms, technology services provider

 Pricing agreements with cloud providers on the enterprise level may provide discounts that could be less than what interviewees were paying.

Overall, there is higher risk and variance in this benefit. Forrester proposes a mid-level downward risk adjustment.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of \$1.4 million.

Savir	Savings On Bare Metal Vs. Aiven-Managed Infrastructure Resources									
Ref.	Metric	Source	Year 1	Year 2	Year 3					
D1	Monthly cost for bare metal servers	Composite	\$240,000	\$280,000	\$310,000					
D2	Months per year	Composite	12	12	12					
D3	Subtotal: Expected bare metal server costs	D1*D2	\$2,880,000	\$3,360,000	\$3,720,000					
D4	Cost of Aiven provided infrastructure	Composite	\$2,250,000	\$2,700,000	\$2,970,000					
Dt	Savings on bare metal vs. Aiven- managed infrastructure resources	D3-D4	\$630,000	\$660,000	\$750,000					
	Risk adjustment	↓15%								
Dtr	Savings on bare metal vs. Aiven- managed infrastructure resources (risk- adjusted)		\$535,500	\$561,000	\$637,500					
	Three-year total: \$1,734,000		Three-year pr	esent value: \$1,429,4	18					

ONGOING COMPUTE OPTIMIZATION AND UTILIZATION SAVINGS WITH THE AIVEN PLATFORM

Evidence and data. Interviewees did not mention savings in terms of storage, and storage was a relatively small portion of small portion of overall infrastructure costs. This benefit focused on better compute management. When referring to compute savings, interviewees mentioned two categories of savings:

- The first category related to savings created by easily adjusting compute based on demand. For example, reserving less compute on weekends or national holidays. Interviewees mentioned savings between 10% and 20%.
- The second category pertained to the class of compute being used. For example, the senior director at a technology services provider mentioned immediate savings of up to 40%, when it became clear that production-level compute was used for test environments. The higher transparency allowed interviewees to plan and spend budget more effectively.

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

 The Aiven Platform gives the composite's teams immediate insight into resource utilization and demand. The composite's pre-Aiven Platform annual infrastructure cost is the basis for calculating savings.

Savings from better compute management

15%



"Once we moved to Aiven, we immediately saw an improvement in execution performance. The tuning was more proficient and mature than we had obtained, and they had better compute configuration."

Senior director, client operations and incident response for platforms, technology services provider

- Compute cost is conservatively estimated at 60% of all cost for the case study but could be higher depending on specific use cases.
- There is a constant benefit from adjusting compute based on demand, so it is calculated as a constant across all three years for the case study.
- Correcting compute for specific environments is an immediate benefit, so it is highest in Year 1.
 Given the implementation of a bespoke solution as the alternative, savings over time would improve, too, and the benefits will decrease in Year 2 and Year 3.
- The sum of the two benefit categories makes up the total benefit.

Risks. There are minor risks to consider for this calculation:

- The maturity of the operation and management of the service or solution and the experience data that helps forecast future demand.
- The types of reporting and cost management services that are already in place, either third party or services provided by the cloud service provider.

Forrester uses the second lowest downward risk adjustment based on the consistency of the feedback, but not the lowest, because there is variability in the types of use cases that the Aiven Platform will work in.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of \$1.5 million.

"We tried to avoid doing upgrades because we were afraid of upgrading the database ... It would take us 4 hours per month. With Aiven, it takes us 1 hour per month, sometimes zero. For day-to-day operations ... it would take us 10 hours per month. With Aiven, it takes us 0 hours per month."

Head of SRE and cloud technology, B2B electronics retailer

Ongo	Ongoing Compute Optimization And Utilization Savings With The Aiven Platform							
Ref.	Metric	Source	Year 1	Year 2	Year 3			
E1	Annual cost for bare metal servers (Dev/Test/Prod)	Composite	\$2,880,000	\$3,360,000	\$3,720,000			
E2	Percentage compute	Composite	60%	60%	60%			
E3	Subtotal: Compute utilization costs	E1*E2	\$1,728,000	\$2,016,000	\$2,232,000			
E4	Compute utilization savings	Composite	15%	15%	15%			
E5	Subtotal: Saving on compute utilization	E3*E4	\$259,200	\$302,400	\$334,800			
E6	Correcting compute allocations	Composite	30%	15%	10%			
E7	Subtotal: Saving on compute allocation	E3*E6	\$518,400	\$302,400	\$223,200			
Et	Ongoing compute optimization and utilization savings with the Aiven Platform	E5+E7	\$777,600	\$604,800	\$558,000			
	Risk adjustment	↓10%						
Etr	Ongoing compute optimization and utilization savings with the Aiven Platform (risk-adjusted)		\$699,840	\$544,320	\$502,200			
Three-year total: \$1,746,360 Three-year present value: \$1,463,380					63,380			

UNQUANTIFIED BENEFITS

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

- Increased performance through partnership with Intel. Aiven's partnership with Intel through the Disruptor Program gave interviewee organizations access to high-performance hardware and acceleration services for opensource cloud technologies. Aiven assessed each interviewee's organization's infrastructure requirements and prioritized performance where needed. Interviewees were not explicitly aware that they were using Intel hardware and acceleration services but reported better performance after migrating to the Aiven Platform. Quantifying the exact benefit of the Intel hardware and acceleration services was impossible due to missing interviewee data. Still, combined with overall infrastructure cost savings. they represented a benefit for interviewees with high-performance requirements.
- Positive business impact due to increased stability. The data extracted from the interviews made quantifying the costs of adverse severe events possible, but positive business benefits were not easy to measure. However, the senior director, client operations and incident response for platforms at a technology services provider specifically mentioned that the increased stability made it possible to provide a higher service level to customers. It was impossible to quantify the benefit precisely, but interviewees estimated that up to 60% of contracts may not have been closed if the SLA was not high enough. The contract value ranged between \$1.5 million and double-digit millions of dollars.
- Time savings through Aiven know-how and support. All interviewees highlighted Aiven's committed investments in open-source technologies and their proficiency in this domain.

"[The Aiven solutions architects] saved us a month of research to understand the [Apache] Kafka best practices and configurations."

CTO and head of engineering, logistics solution provider

This recognition stemmed from the fact that mastering open-source data technologies within organizations typically entailed a protracted learning curve and fierce competition for subject matter experts. Immediate access to Aiven's expert knowledge translated into real-time savings, reducing the exhaustive process of searching, configuring, and testing open-source data technologies by as much as three months.

• Aiven's partnership approach. From the POC to the service and support after migration, all interviewees referred to the relationship with Aiven as a partnership. Besides the proactive recommendations and configuration support, they also commented on the responsiveness of Aiven when dealing with issues or potential issues. Combined with the Aiven Platform service-level agreements, interviewees at enterprise-like organizations reported that the platform's stability and the relationship enabled them to deliver services with more peace of mind.

FLEXIBILITY

The value of flexibility is unique to each customer.

There are multiple scenarios in which a customer might implement the Aiven Platform and later realize additional uses and business opportunities, including:

- Multiservice or solution support. One of the features many interviewees liked was the ability to manage multiple services or solutions within one Aiven Platform. Having a single source of truth and a single point to manage their solutions and services would make expanding and scaling to the broader organization easier.
- Multicloud operations. The global use cases of the solutions and services meant that there may not be a single cloud region or even a single cloud provider to rely on. The Aiven Platform's flexibility to manage open-source services across clouds (multicloud) and cloud regions simplified the overall management footprint. It set a high hurdle for any bespoke solution organizations may consider building themselves.
- Easily adjusting to the enterprise's life cycle.
 The time savings for scaling are quantified in the benefits, but interviewees emphasized the ease of scaling and adjusting their solutions and services to the seasonality of the services they provide. For example, Black Friday for retail, Christmas for supply chain planning and delivery, and launch times for gaming.

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A). "We aimed to modernize and believed that Aiven's opensource solutions would offer us greater flexibility."

Principle database engineer, SaaS solutions provider

Analysis Of Costs

Quantified cost data as applied to the composite

Total	l Costs						
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Gtr	Aiven-specific fees	\$0	\$862,500	\$1,035,000	\$1,138,500	\$3,036,000	\$2,494,835
Htr	Cost of setup, migration, and onboarding	\$60,900	\$22,050	\$0	\$0	\$82,950	\$80,945
ltr	Cost of conducting the proof of concept	\$68,250	\$0	\$0	\$0	\$68,250	\$68,250
	Total costs (risk- adjusted)	\$129,150	\$884,550	\$1,035,000	\$1,138,500	\$3,187,200	\$2,644,030

AIVEN-SPECIFIC FEES

Evidence and data. Interviewees noted that the primary cost associated with the Aiven Platform was the monthly subscription fee. This was a blended fee inclusive of costs associated with service, support, and infrastructure. However, the infrastructure costs component was not specific to Aiven, and was a cost that the interviewees' organizations bear with or without the Aiven Platform. Therefore, it was excluded to calculate costs specific only to the Aiven Platform.

"We met with other companies to potentially support us with the migration, but Aiven was able to bring the solution architects to the table, so we did not need other support as Aiven provided everything already."

Senior director, client operations and incident response platforms, technology services provider

Modeling and assumptions. Forrester assumes the composite's compute costs are more than its storage costs, so 75% is excluded from this modeled cost.

Risks. There are use case specific risks to consider for this calculation, including the following:

- The actual infrastructure cost could vary between different use cases based on complexity and performance requirements. For example, use cases that have lower compute requirements may have a percentage less than 75%.
- The overall subscription costs may vary among organizations based on the region, use case requirements, infrastructure configuration, level of support offered, and configuration changes over time
- Changes in the Aiven fee and the way it is charged to clients may change over time.

Given the potential changes that affect this cost calculation, Forrester elects to apply a mid-level upward risk adjustment.

Results. To account for these risks, Forrester adjusted this cost upward by 15%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of \$2.5 million.



Aive	n-Specific Fees					
Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
G1	Monthly client fee including infrastructure	Composite		\$250,000	\$300,000	\$330,000
G2	Months per year	Composite		12	12	12
G3	Subtotal: Annual fee	G1*G2		\$3,000,000	\$3,600,000	\$3,960,000
G4	Percentage of cost removed for infrastructure	Composite		75%	75%	75%
G5	Subtotal: Estimated infrastructure part of fee	G3*G4		\$2,250,000	\$2,700,000	\$2,970,000
Gt	Aiven-specific fees	G3-G5	\$0	\$750,000	\$900,000	\$990,000
	Risk adjustment	↑15%				
Gtr	Aiven-specific fees (risk-adjusted)		\$0	\$862,500	\$1,035,000	\$1,138,500
	Three-year total: \$3,036,000	Thr	ee-year present v	value: \$2,494,835		

COST OF SETUP, MIGRATION, AND ONBOARDING

Evidence and data. Interviewees noted that Aiven offered documentation, tools, APIs, and expert services to help their organizations plan, set up, and migrate to the Aiven Platform. Interviewees highlighted that the level of support Aiven offered during the migration lifecycle helped their organizations save significant hours of internal planning and research. This has not only helped the interviewees' organizations start the transformation journey quicker, but also provided clarity and a roadmap to begin their journey.

The interviewees highlighted that the Aiven's solution architects offered initial consulting support to plan and start their transformation journey, saving them up to \$150,000 in external consulting costs. Aiven also offered a self-service portal to make integrations easy with the interviewees' organizations' existing software stacks. With the support and services Aiven offered, most of the interviewees completed their end-to-end migration journey within six months.

"Because of the good support from Aiven, we haven't needed any external help or support from anybody else."

CTO and head of engineering, logistics solutions provider

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

- Initial setup and migration efforts require a total of three months involving internal resources and Aiven resources.
- Setup, migration, and onboarding involves three engineers working at 50% capacity initially, and one manager working at 10% capacity over the three-month period.
- In Year 1, the composite organization requires another three months for onboarding-related activities.

 In Year 1, setup, migration, and onboarding requires one engineer working at 25% capacity and one manager working at 10% capacity.

Risks. All feedback received indicated low risk in the setup, migration, and onboarding cost; however, the set-up and migration costs may vary among organizations based on:

 The prior environment, availability, and skill set of internal resources to support migration. The migration approach, which may influence the duration and resource requirements.

Given the consistency of the interview data, Forrester proposes the lowest upward risk adjustment.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of \$81,000.

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
H1	Duration of setup, migration, and onboarding expressed as a percentage of year	Composite	25%	25%		
H2	Engineers involved	Composite	3	2		
НЗ	Percentage of time	Composite	50%	25%		
H4	Subtotal: Engineer efforts for setup and migration	H2*H3	1.5	0.5		
H5	Managers involved to review	Composite	1	1		
H6	Percentage of time	Composite	10%	10%		
H7	Subtotal: Manager efforts for setup and migration	H5*H6	0.10	0.10		
H8	Total setup and migration people expressed as FTE	H4+H7	1.6	0.6		
H9	Fully burdened annual salary for an FTE	TEI standard	\$140,000	\$140,000		
H10	Subtotal: People costs associated with setup and migration	H1*H8*H9	\$56,000	\$21,000		
H11	Average Aiven resource utilization costs (excluding Aiven credits)	Composite	\$2,000	0		
Ht	Cost of setup, migration, and onboarding	H10+H11	\$58,000	\$21,000	\$0	\$0
	Risk adjustment	↑5%				
Htr	Cost of setup, migration, and onboarding (risk-adjusted)		\$60,900	\$22,050	\$0	\$0
	Three-year total: \$82,950		Thr	ee-year present v	ralue: \$80,945	

COST OF CONDUCTING THE PROOF OF CONCEPT

Evidence and data. Interviewees noted that Aiven offered expert services, support, and discounts to help their organizations throughout the proof of concept (POC) stage. Interviewees' organizations were able to try out Aiven services, check integrations, viability, and quality of the services before investing into the Aiven Platform. The interviewees highlighted that the continuous support Aiven offered through credits helped them prove and validate specific use cases they wanted to implement, which in turn gave them the confidence to invest in the Aiven Platform.

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

- The POC phase requires a total of three months, involving internal resources and support from Aiven.
- This involves three engineers working at 50% capacity and two managers working at 15% capacity over the three-month period.

Risks. The cost and effort associated with the PoC may vary among organizations, based on the prior environment, use cases, availability, and skill set of internal resources.

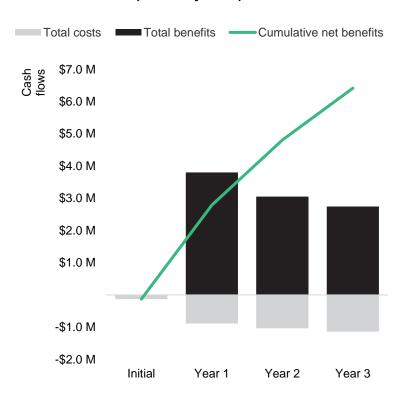
Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV of \$68,000.

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
l1	Duration of POC expressed as a percentage of year	Composite	25%			
12	Engineers involved	Composite	3			
13	Percentage of time	Composite	50%			
14	Subtotal: Engineer efforts for POC	12*13	1.5			
15	Managers involved to review	Composite	2			
16	Percentage of time	Composite	15%			
17	Subtotal: Manager efforts for POC	15*16	0.30			
18	Total POC people expressed as FTE	14+17	1.8			
19	Cost per FTE	TEI standard	\$140,000			
l10	Subtotal: People costs associated with PoC	l1*l8*l9	\$63,000			
l11	Average Aiven resource utilization costs (excluding Aiven credits)	Composite	\$2,000			
lt	Cost of conducting the proof of concept	l10+l11	\$65,000	\$0	\$0	\$0
	Risk adjustment	↑5%				
ltr	Cost of conducting the proof of concept (risk-adjusted)		\$68,250	\$0	\$0	\$0
	Three-year total: \$68,250		Thre	ee-year present v	alue: \$68,250	

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.

Please see Appendix A for definitions of ROI, PV and NPV.

Cash Flow Analysis (Risk-Adjusted Estimates)						
	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(\$129,150)	(\$884,550)	(\$1,035,000)	(\$1,138,500)	(\$3,187,200)	(\$2,644,030)
Total benefits	\$0	\$3,804,940	\$3,052,992	\$2,746,988	\$9,604,920	\$8,046,023
Net benefits	(\$129,150)	\$2,920,390	\$2,017,992	\$1,608,488	\$6,417,720	\$5,401,993
ROI						204%
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."

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



PRESENT VALUE (PV)

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



NET PRESENT VALUE (NPV)

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



RETURN ON INVESTMENT (ROI)

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



DISCOUNT RATE

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



PAYBACK PERIOD

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

Appendix B: Endnotes

¹ 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.

