A Forrester Total Economic Impact™
Study Commissioned By Aria Systems
September 2019

The Total Economic Impact™ Of Aria Systems

Supporting New Business Models And Growth

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ABOUT FORRESTER CONSULTING

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Executive Summary

Aria provides a cloud-based billing and monetization platform that helps its customers address multiple challenges, including transitioning to new business models such as recurring revenue subscriptions, handling a potentially large increase in invoices as part of new business models and product launches, revenue leakage, and ineffective dunning processes. Aria commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying their billing and monetization solution. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Aria on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four customers using Aria. They use Aria to bring new business models and products to market faster, streamline and automate various billing functions, and protect revenue through less leakage and improved dunning processes. Aria also provides them with greater flexibility and process automation across a wide range of billing activities.

Key Benefits

Total revenue uplift:
19%

Improvement in dunning revenue recovery:
70%

Reduction in revenue leakage:
90%

Key Findings

Quantified benefits. The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed and applied to a composite organization with $100,000,000 in revenue under management in Aria and growing 25% per year:

- **Business transformation of product offerings and pricing increased revenues and delivers other benefits.** There is a widespread movement across industries to repackage existing offerings as recurring, subscription-based services. This, along with the ability to bring new products and pricing models to market faster, improves strategic direction, customer relationships, and revenue growth. It can also improve customer satisfaction. For the financial model, Forrester attributed 5% of revenue growth to being able to test, roll out, and manage new pricing/business models in Aria. Forrester applied a gross margin of 25% to the increased revenues, and this resulted in a $497,000 increase in income over three years. Companies with higher gross margins will realize increased benefits.
- **Improved revenue leakage and dunning preserved revenue.** Revenue leakage was 1% of total revenues, and this decreased by 90% after moving to Aria. The composite previously lost 5% of revenues in the dunning process, and this decreased by 70%. With the 25% gross margin applied, the result was $3.3 million in income preservation.
- **Billing processes became more efficient, which reduced headcount growth.** Aria streamlines and automates many of the billing processes that were previously more manual. The result for the composite was a 20% increase in the billing team's efficiency; by Year 3 of the study, the organization could avoid adding five headcount. The total savings over three years was $421,000.
- **Elimination of other billing solutions helped offset Aria solution costs.** Aria can replace a variety of solutions, including other vendor billing platforms, homegrown solutions, and ERP features. For the financial analysis, Aria replaced other vendor billing solutions. This

ROI
118%

Benefits PV
$5.2 million

NPV
$2.8 million

Payback
11 months

eliminated $1 million in cost over three years. Companies that are considering extensive customization of other payment or ERP solutions rather than using Aria's configuration engine can realize additional savings.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

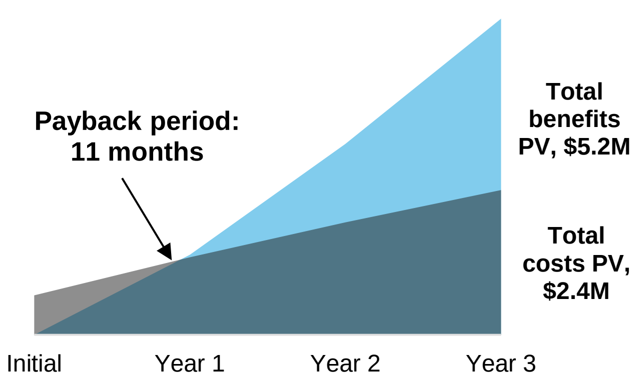
- **Better security, compliance, and performance.** Because Aria's solution is cloud-based, it can easily scale to meet a company's needs. It also provides excellent security because the solution is always up to date and hosted in a secure environment. Aria can also store all Payment Card Industry (PCI) and personally identifiable information (PII) data, which greatly simplifies and improves compliance.

Costs. The interviewed organizations experienced the following risk-adjusted PV costs, modeled by the composite organization:

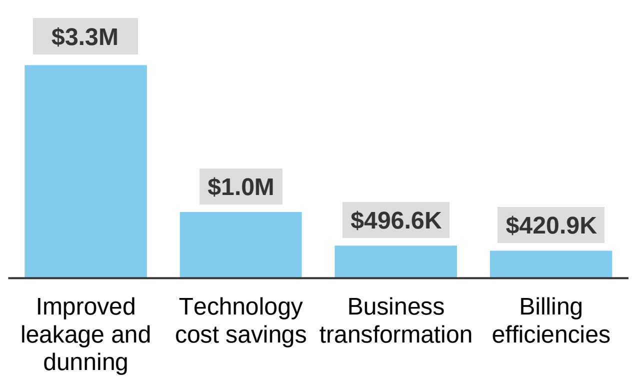
- **Internal effort to deploy and three-year management of Aria cost $768,000.** The deployment of Aria and moving initial product families into the new pricing platform took four FTEs 10 months. One FTE was responsible for managing the solution and assisting in setting up new products in Aria and helping with A/B price testing activities.
- **Aria fees and professional services cost $1.6 million.** Aria solution fees are based on the total revenue under management and included a silver support contract. There were professional services during implementation and on an ongoing basis; these services mainly assisted with integrations into other systems.

Forrester's interviews with four existing customers and subsequent financial analysis found that an organization based on these interviewed organizations experienced benefits of $5.2 million over three years versus costs of $2.4 million, adding up to a net present value (NPV) of $2.8 million and an ROI of 118%.

Financial Summary



Benefits (Three-Year)



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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 Aria.

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 Aria can have on an organization:

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

DUE DILIGENCE
Interviewed Aria stakeholders and Forrester analysts to gather data relative to the billing and monetization platform.

CUSTOMER INTERVIEWS
Interviewed four organizations using Aria 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 Aria'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 Aria 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 Aria.

Aria 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.

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

The Aria Customer Journey

BEFORE AND AFTER THE ARIA INVESTMENT

Interviewed Organizations

For this study, Forrester conducted four interviews with Aria customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	REVENUE UNDER MANAGEMENT
Roadside assistance	Europe	CIO	$250 - $500 million
Digital communication solutions	North America	CFO Finance manager	$750 million - $1 billion
Automotive	North America	CIO	< $250 million
Electronics	US headquarters, global sales	Director of applications	< $250 million

Key Challenges

- **Previous billing systems did not support business and product transformation initiatives.** Companies were changing their go-to-market approaches in terms of transitioning existing products and services to a recurring model and launching new services to increase ongoing customer engagement. Their previous billing solutions did not support these new business models and were holding the businesses back. One interviewee said, “We launch new products every year, and the disparate processes and systems we had in place did not support this.”
- **Previous billing systems were expensive and time-consuming to maintain.** Interviewed companies had a mix of homegrown and other vendor solutions. In both cases, they said that these solutions cost too much to improve upon and to maintain. Additionally, there were performance problems with them. One company had “a 30-year-old mainframe-based system, which was difficult to update and maintain. It was not supporting the business very well anymore.”
- **PCI Data Security Standard (DSS) and PII compliance were difficult.** Prior solutions could include insecure components such as spreadsheets, and in most cases, the companies were holding information subject to payment card industry data security standards as well as personally identifiable information. This created much risk for a breach, which could lead to revenue loss, lawsuits, and brand damage. “As part of our move to a new payment mechanism, we wanted to scrub out credit card information we were holding and tokenize it for PCI compliance,” said one interviewee. “Now we don’t store any sensitive information ourselves.”

“We were adding recurring services to our products for the first time ever. We needed a billing system that could support the launch of new solutions and business models.”

Director of applications, electronics

Key Results

The interviews revealed that key results from the Aria systems investment include the following:

- **Payment flexibility supports new offerings and future-proofs an organization.** Adopting Aria gave companies the flexibility they needed to launch new offerings and better support the existing business. This led to increased revenues and business agility. “Aria helped lay the foundation for growing new offerings. The system flexibility caters to a lot of different use cases.”
- **Improved performance supports scale and revenue assurance.** Aria solutions support (near-)real-time invoicing and other business processes. Additionally, because the system is in the cloud, it can support rapid growth and transactional spikes while delivering excellent performance. Improved scale and performance help with many billing-related processes that can affect revenues in terms of attracting new customers, reducing revenue leakage, and improving revenue collection in the dunning process. “For one of our products, which is transactional, the rapid delivery of invoices is a big deal,” remarked an interviewee. “In the political season, customers want their invoices in 1 hour. We can now deliver that, and because of it, we are getting more business.”
- **Organizations develop billing best practices and structures.** As part of deployments, companies usually reenvisioned how billing should happen. This was based on best practices and processes built into Aria. The result was a more effective and efficient billing organization. “As part of the implementation, we learned more about what Aria could do. We discovered things that we had been doing wrong. We optimized our billing processes based on Aria.”

> “Moving to Aria has made everything easier. It’s easier to manage the product catalog, managing the financials is easier, and managing only one system is simpler. Our product teams can also be more creative in what they bring to market.”
>
> *CFO, digital communication solutions*

Composite Organization

Based on the 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 four companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section.

The composite organization is a US-based company with global sales and operations. The organization was attempting to move from a more traditional product-based business model to one that included add-on services and recurring offerings to be stickier and more relevant to customers and to increase and even out revenues.

As part of this effort, it was determined that it needed a new billing system that could support a wider variety of pricing models and could drive various billing-related business processes. The composite implemented Aria for the parts of the organization that were moving to these new models with an eye to expanding to other parts in the future. The total revenue flowing through Aria systems was $100 million in Year 1 of the study, and this grew at 25% per year through a combination of moving additional parts of the business onto Aria and organic growth. The overall gross margin on products and services was 25%.

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	Business transformation	$0	$281,250	$351,563	$632,813	$496,572
Btr	Improved revenue leakage and dunning	$1,045,000	$1,306,250	$1,632,813	$3,984,063	$3,256,302
Ctr	Billing efficiencies	$0	$202,500	$337,500	$540,000	$420,924
Dtr	Technology cost savings	$399,000	$406,600	$414,200	$1,219,800	$1,009,955
	Total benefits (risk-adjusted)	$1,444,000	$2,196,600	$2,736,075	$6,376,675	$5,183,753

Business Transformation

As part of Forrester Analytics' Technographics® research, 2,348 purchase influencers were asked: "What are your firm's key actions to achieve its objective to change business model?"[1] The results are shown in the table below. Adopting a modern billing and monetization solution such as Aria could help achieve four of the five top responses (reorganization being the exception).

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 be a PV of nearly $5.2 million.

WHAT ARE YOUR FIRM'S KEY ACTIONS TO ACHIEVE ITS OBJECTIVE TO CHANGE BUSINESS MODEL?

Action	Response rate
Update processes to complement the business model	39%
Adopt new technology to enable our business model change (e.g., eCommerce, customer experience technology, payment gateways, digital self-service)	39%
Change the organizational structure of our company	38%
Adopt a recurring revenue-based business model (e.g., subscription, usage or consumption-based, or a hybrid of these)	35%
Launch a new, distinct digital business	34%

Base: 2,348 purchase influencers (past 12 months/next 12 months) who indicate that changing their business model is a priority for their company.

Source: Forrester Analytics Business Technographics Global Priorities & Journey Survey, 2019

The most important benefit shared by interviewees was that implementing a modern billing and monetization solution assisted in business transformation initiatives, which is consistent with the survey findings above. This can deliver many benefits, including new and increased revenue sources, better agility and competitive differentiation, increased customer satisfaction, and positioning for future growth and unforeseen industry changes. Aria provided the flexibility that the interviewed organizations needed to support their new business models and to experiment with and launch new pricing models. It also provided a single master source of billing data, which improved cross-organization cooperation and communication.

Interviewees shared the following examples, which touch all of the above benefit areas:

- "The ability to invoice very quickly has helped us generate additional revenue. We used to do batch invoicing twice per week. Now we can do it hourly."
- "Moving to a recurring business model and going direct to customers gives us better insights. We can then launch new products and pricing strategies using Aria."
- "Aria helps us try different promotions and hardware/software bundles. We use it for deploying A/B testing, which has resulted in a bunch of new customers."
- "When conversion rates fall, we test different pricing models using Aria. We can then get our conversion rates back up to our goal."
- "We can launch other product lines faster and easier. Everyone in the business who needs to can see the current pricing, which has helped gain organizational alignment."
- "Having a single-truth repository for everything pricing and billing related helps our sales reps and account managers. They can more easily sell and see what has already been billed. In the past, they would have to call us up to get basic information."
- "Customers don't have to reenter their credit card information, which reduces friction and converts more customers. This is very important on the mobile side."
- "Billing-related processes are now more reliable and timelier, which has increased customer satisfaction. We can also consolidate everything they are buying across different parts of the business into one invoice, which they like."
- "Aria helps us be better at billing and monetizing our products. Their customer success team is very engaged to understand our needs and make sure we are using their solutions in the best ways possible."

"Changing our business model and using Aria for billing has improved stickiness and brand loyalty. Invoices go out as scheduled, and the system can send reminders and trigger other processes."

Director of applications, electronics

For the financial model, Forrester assumed:

- Of the many ways business transformation aids an organization, only increased revenue was included.
- Five percent of the year-on-year revenue under management growth was attributed to having Aria as the billing and monetization solution. There were several contributing factors, including being able to bring new business models and offerings to market faster, A/B testing to identify the best pricing models and possible bundling, and increased customer satisfaction leading to cross-sell opportunities. To be conservative, only the annual growth after going live was included since many factors can affect a new business transformation initiative.
- The average gross margin across all products and services was 25%. Applying a gross margin factor isolates Aria's contribution to an organization's bottom line. Companies with higher gross margins should realize higher benefits.

The benefits realized from business transformation will vary widely. This can include the size and scope of new products and services managed in Aria and the complexity of pricing models. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $496,572. Forrester believes that this is a conservative example of just one piece of the total value of business transformation that Aria supports.

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.

Business Transformation: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Total revenue under management	Growing at 25% p.a.	$100,000,000	$125,000,000	$156,250,000
A2	Growth attributed to Aria	A1 [current year - previous year]*5%		$1,250,000	$1,562,500
A3	Gross margin		25%	25%	25%
At	Business transformation	A2*A3	$0	$312,500	$390,625
	Risk adjustment	↓10%			
Atr	Business transformation (risk-adjusted)		$0	$281,250	$351,563

Improved Revenue Leakage And Dunning

Aria includes tools, workflows, and best practices to reduce revenue leakage and to improve dunning revenue recovery rates. Furthermore, proactive process triggering and messaging can prompt customers to address issues such as expiring credit cards and pricing changes before they become an actual problem that can affect revenues.

Interviewees shared the following examples:

- "There were products we launched years ago and moving them into Aria revealed workflows that weren't correct. That fixed revenue leakage."
- "It is easier to manage collections after migrating off of the old systems to Aria."
- "We have seen improved AR reports for the product lines we have moved into Aria."
- "The product teams are saving a lot of time servicing customers. Managing dunning and collections is also much more efficient."
- "One of the highlights of the Aria system was being able to regularly remind customers to update their credit card information. It definitely reduces customers' churn."
- "This helps us with cash collection. Invoices are more accurate and consistent and delivered faster. Reducing friction makes customers more likely to go ahead and pay."

> "Since moving to Aria, our invoicing has been 100% accurate, and there has been no revenue leakage."
>
> *CIO, automotive*

For the composite organization, Forrester assumed that:

- Typical revenue leakage ranged from 1% to 5%. Forrester conservatively estimated that revenue leakage prior to moving to Aria was 1%. Moving to Aria reduced leakage by 90% for the revenues under management.
- Before moving to Aria, 5% of revenues were not recovered in the dunning process. This was reduced by 70%.
- The average gross margin was 25%.

Revenue protection from reduced leakage and improved dunning processes will vary depending on prior performance and what systems and processes were previously in place. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of $3.3 million.

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Improved Revenue Leakage And Dunning: Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
B1	Total revenue under management	A1	$100,000,000	$125,000,000	$156,250,000
B2	Prior revenue leakage	B1*1%	$1,000,000	$1,250,000	$1,562,500
B3	Reduced revenue leakage	B2*90%	$900,000	$1,125,000	$1,406,250
B4	Prior dunning losses	B1*5%	$5,000,000	$6,250,000	$7,812,500
B5	Reduced dunning losses	B4*70%	$3,500,000	$4,375,000	$5,468,750
B6	Total revenue protection	B3+B5	$4,400,000	$5,500,000	$6,875,000
B7	Gross margin		25%	25%	25%
Bt	Improved revenue leakage and dunning	B6*B7	$1,100,000	$1,375,000	$1,718,750
	Risk adjustment	↓5%			
Btr	Improved revenue leakage and dunning (risk-adjusted)		$1,045,000	$1,306,250	$1,632,813

Billing Efficiencies

Aria streamlines and automates billing and monetization processes. In addition to the business transformation and revenue enhancement benefits discussed above, this also improves billing operations. Interviewees said that their teams were now much more efficient, which reduced the headcount growth required to support revenue growth and freed up time to work on other projects. Some examples included:

- “We doubled our business in the last couple of years with roughly the same level of support from a billing perspective.”
- “We no longer have to take care of billing and invoicing with manual processes. Pricing changes are also easier to make because we do it in Aria.”
- “We can now send an invoice in a matter of seconds — no moving from one billing system to another.”
- “The rules engine in Aria is very good and makes things much easier. It covers complex solution and pricing models such as different expiry dates within a single account.”
- “Using the rules engine saved us time when launching a new offering compared to the other billing solutions we evaluated. This meant we could launch faster, which saved us time and money.”
- “The product provisioning process is smoother and faster. Aria provides other systems information on when a free trial is ending, which automatically triggers our emailing system.”
- “It is faster than with the previous billing solution to launch a new product. It is very easy to set up a new service in Aria.”
- “We get better efficiencies when we set up a new product in Aria.”
- “A big gain for us was having the data automatically sent from the billing system rather than manually pulling it and uploading it into other systems. It has also streamlined how account managers put a new order into the system.”

> “Previously, individuals supported different point solutions. Now the team supports a single platform, which is more efficient. In the past, if someone was on vacation, and they were the only one who knew an affected system, we would have a huge problem.”
>
> *CFO, digital communication solutions*

For the financial analysis, Forrester assumed:

- The various billing functions previously required one FTE for every $6 million in revenue, and efficiencies increased by 20%. This meant that growth could be handled without adding as many new resources.
- The average fully burdened cost, including salary, benefits, and taxes, was $75,000.
- This benefit began in Year 2 because the existing team was already in place.

This benefit will vary based on what processes and systems were in place before and how much spare capacity existed in billing teams. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $420,924.

Billing Efficiencies: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Billing team FTEs (without Aria)	A1/$6,000,000 (rounded up)	17	21	27
C2	Billing team FTEs (with Aria)	A1/($6,000,000*120%) [starting Year 2] (rounded up)	17	18	22
Ct	Billing efficiencies	(C1-C2)*$75,000	$0	$225,000	$375,000
	Risk adjustment	↓10%			
Ctr	Billing efficiencies (risk-adjusted)		$0	$202,500	$337,500

Technology Cost Savings

By moving to Aria, companies can eliminate the cost of other billing- and monetization-related solutions. These can be homegrown systems or those supplied by other vendors. These savings can partially or fully offset the Aria solution costs described in the Analysis Of Costs section of the study. Interviewees provided examples of the three most likely scenarios: another dedicated vendor billing solution, billing as part of a larger ERP package, and a homegrown solution.

One company was previously doing billing on a mainframe computer. This, along with a couple of other related systems, was costing them $1 million per year. After moving to Aria, the company was able to decommission the mainframe and related systems.

Another company replaced its other vendor-provided billing solution, which came with annual fees. The company could also eliminate billing-related upgrades to its ERP system, which were previously occurring every two to three years. Companies that are considering extensively customizing ERP or other billing solutions can experience much higher costs than those shown in the study and exceed what is spent on Aria. Aria's configuration engine provides flexibility, which greatly reduces or eliminates the need for customization.

One of the organizations had built an in-house solution. It cost the company hundreds of thousands of dollars to build, and it also had the ongoing costs to maintain the software and servers. The interviewee said that the company's solution lacked many of the features within Aria and soon afterwards could not support the business's requirements.

For the financial analysis, Forrester included the elimination of another billing vendor solution scenario and assumed:

- The solution that was replaced was not as fully featured as Aria. Therefore, its cost was 80% of Aria's solution.

The savings will vary based on which previous solution scenario was in place and if the solution was on-premises or in the cloud. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of $1.0 million.

Technology Cost Savings: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	Eliminated other billing platforms	Ft*80%	$420,000	$428,000	$436,000
Dt	Technology cost savings	D1	$420,000	$428,000	$436,000
	Risk adjustment	↓5%			
Dtr	Technology cost savings (risk-adjusted)		$399,000	$406,600	$414,200

Unquantified Benefits

Interviewees said that moving to Aria provided a combination of better performance, security, and compliance. To some extent, these underpin the benefits quantified above, so they were not included in the financial analysis in order to avoid double counting. Interviewees shared the following examples:

- "In our old system, we were not GDPR-compliant. Aria is structured much better, which reduced our GDPR compliance difficulties."
- "Aria has the highest level of PCI compliance, so we didn't have to do anything other than file some paperwork and attach their certificates. It's much easier because we don't have to do any testing. We've never had a security incident with Aria."
- "Separation of duties within Aria is much more secure than what we had before. Also, Aria's security team has addressed any concerns we had about moving to the cloud."
- "The sky's the limit in terms of what we can put into Aria. We've added 1,400 active customers in the last six months without any issues."
- "Aria scales with our business as needed."
- "We've never had any problems even though we are growing very fast. System integrations and response times have all been very good."
- "We store information on every customer even if they have not bought an add-on service. That means we quickly had more than 2 million customers recorded in Aria. Even with that, system performance has been excellent."

"With regard to security and compliance, we are no longer storing any sensitive information. Aria is way more secure than our old system and dealt with our PCI and PII compliance. Risk reduction was a huge benefit for us."

CIO, automotive

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 Aria Systems and later realize additional uses and business opportunities. Examples provided by the interviewed organizations included:

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.

- Adding more customer self-service capabilities such as requesting a copy of an invoice, which would save billing team time. This was estimated to be 5% to 10% of all effort.
- Automating additional billing processes not part of the first phase.
- Using Aria's data connectors to integrate with an ERP system and financial planning tools. The goal is real-time communication between systems.
- Making greater use of the rules engine to increase flexibility and options for customers.
- Pulling additional product lines and lines of business into Aria.

None of these future opportunities were included in the financial analysis.

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
Etr	Internal effort	$440,000	$132,000	$132,000	$132,000	$836,000	$768,264
Ftr	Aria Systems fees	$210,000	$551,250	$561,750	$572,250	$1,895,250	$1,605,332
	Total costs (risk-adjusted)	$650,000	$683,250	$693,750	$704,250	$2,731,250	$2,373,596

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 be a PV of nearly $2.4 million.

Internal Effort

The effort to implement Aria will vary based on the number and type of product offerings being moved into Aria and the number of system integrations. A typical project duration for moving the first couple of offerings into Aria was six to 10 months. Some customers reported multiyear projects to migrate all products. For the composite organization, the initial project lasted 10 months and required four internal FTEs — a mix of billing specialists and IT.

One FTE continued in subsequent years with responsibilities for management of the Aria solution, training and assisting other people on using Aria, and managing the migration of other offerings into the system. The average fully burdened cost for all resources was $120,000 per year.

The internal effort will vary based on the size and scope of the implementation and the number of product lines being moved into Aria. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of $768,264.

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.

Internal Effort: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Number of months		10	12	12	12
E2	Number of internal FTEs		4.0	1.0	1.0	1.0
Et	Internal effort	(E1*E2)*($120,000/12 months)	$400,000	$120,000	$120,000	$120,000
	Risk adjustment	↑10%				
Etr	Internal effort (risk-adjusted)		$440,000	$132,000	$132,000	$132,000

Aria Systems Fees

Aria fees consisted of professional services and the solution subscription fees. All interviewees reported using Aria professional services as part of their initial implementation, and many reported using ongoing professional services to assist with future system integration work and other more complex configuration activities. The main solution fee variables are the total revenue under management in Aria, the types of products and services, and the support contract level. The fees included in this financial analysis are based on the total revenues shown in A1 in the calculation table and a silver support contract. Readers are encouraged to work with their Aria account representatives to get an estimate of both professional services and solution fees.

Aria fees will vary based on the size and nature of the Aria deployment To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $1.6 million.

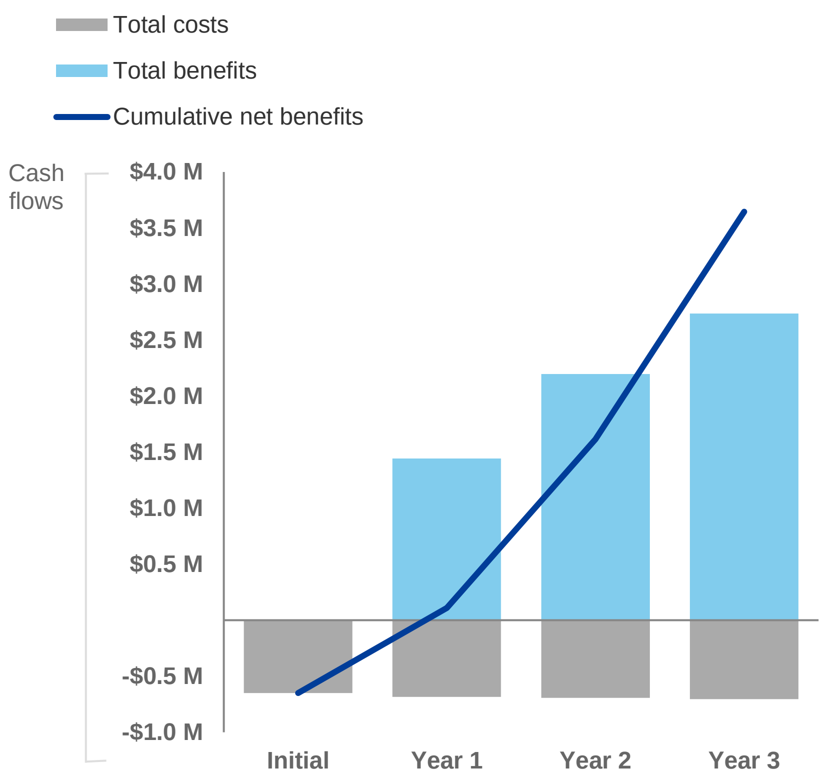
Aria Systems Fees: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Professional services		$200,000	$75,000	$75,000	$75,000
F2	Aria Systems fees			$450,000	$460,000	$470,000
Ft	Aria Systems fees	F1+F2	$200,000	$525,000	$535,000	$545,000
	Risk adjustment	↑5%				
Ftr	Aria Systems fees (risk-adjusted)		$210,000	$551,250	$561,750	$572,250

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.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($650,000)	($683,250)	($693,750)	($704,250)	($2,731,250)	($2,373,596)
Total benefits	$0	$1,444,000	$2,196,600	$2,736,075	$6,376,675	$5,183,753
Net benefits	($650,000)	$760,750	$1,502,850	$2,031,825	$3,645,425	$2,810,157
ROI						118%
Payback period						11 months

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Aria Systems: Overview

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

Changes in the market bring new opportunities for differentiation and growth. As the pace of digital transformation intensifies and technologies advance, companies are at greater risk of being disrupted. And digital transformation shows no signs of slowing. Companies are innovating at greater speeds. Subscriptions can deliver critical insights and analytics. And consumption-based pricing models are becoming the norm.

With Aria's platform, global brands can get to market faster with a wider variety of products and services, while maximizing customer satisfaction, retention, and lifetime value. Aria offers the only enterprise-grade, cloud-based solution that helps businesses orchestrate customer-driven events across multiple systems, quickly innovate on their pricing and packaging, and iterate at the speed of today's agile businesses.

Why Aria?

› **Focus on large enterprises.** Aria acknowledges and embraces the complexity that comes with sophisticated problem-solving at the enterprise level. Aria's platform seamlessly integrates to other systems within the enterprise ecosystem and provides the scalability, security, and uptime that large enterprises need. Aria's track record of getting major Fortune 500 companies live is unmatched.

› **Uniquely architected.** Clients can easily automate core billing processes, such as change management and proration, distributed and split billing/payment responsibilities across accounts and dunning and collections. Aria's Active Orchestration™ helps businesses deliver a better customer experience by optimizing billing processes, proactively synchronizing data, and automating custom business rules and processes without coding.

› **Deep billing expertise.** Aria takes a consultative approach with a partner mindset from the first exploratory discussions through implementation, go-live, and ongoing support. Enterprise clients not only rely on Aria to go live quickly, but also for advice and best practices as their business models and target markets continue to evolve.

About Aria

Aria Systems' cloud-based monetization platform is the analysts' choice, top ranked by leading research firms. Innovative enterprises like Adobe, Audi, Allstate, Comcast, and Telstra depend on Aria to accelerate time-to-market and increase flexibility, enabling them to maximize customer value and grow recurring revenue through subscription- and usage-based offerings. For more information, visit www.ariasystems.com.

Appendix A: Total Economic Impact

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

Total Economic Impact Approach

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

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

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

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

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

Present value (PV)

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

Net present value (NPV)

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

Return on investment (ROI)

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

Discount rate

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

Payback period

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

Appendix B: Endnotes

[1] Source: Forrester Analytics Business Technographics Global Priorities & Journey Survey, 2019