

A Forrester Total Economic Impact™  
Study Commissioned By Algolia  
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# The Total Economic Impact™ Of Algolia

Cost Savings And Business Benefits  
Enabled By Algolia

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## ABOUT FORRESTER CONSULTING

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# Executive Summary

Algolia helps businesses across industries quickly create relevant, scalable, and fast search and discovery experiences. Algolia commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential ROI that enterprises may realize by deploying Algolia. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Algolia on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four customers with up to four years of experience using Algolia.

Prior to Algolia, the organizations used less modern search tools or tasked their development teams with building search capabilities internally. However, prior attempts yielded limited success: former solutions failed to deliver relevant and personalized experiences to customers, and homegrown, open-source search was expensive and time-consuming to build and maintain. Customers experienced difficulties finding what they were looking for on organizations' websites and often left to find the products or services via search engines, which resulted in lost sales opportunities.

After implementing Algolia, these organizations improved customers' search experience, which resulted in incremental sales, shortened the cycle for updates to search parameters, and reduced the burden on the IT team. The SVP of engineering at one of the interviewed organizations said: "In the end, our transition to Algolia resulted in higher retention and higher engagement. And if you can make your customers stay with you longer, that will have a material impact on the bottom line."

## Key Findings

**Quantified benefits.** The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed:

- › **Algolia drove \$73 million in incremental revenue.** Algolia search enabled organizations to provide fast, relevant, and personalized search results to customers, allowing them to find products they were looking for on the companies' website. As a result, conversion rates increased, which resulted in new revenue streams.
- › **Replacing an open-source search tool with Algolia resulted in \$169,000 of development cost savings.** To achieve the functionality comparable with Algolia, an organization would have to invest in initial development with continual improvements in order to stay up-to-date with customers' expectations.
- › **Retiring a previous search solution reduced the maintenance burden on IT, saving \$205,911.** Prior to Algolia, search tools required dedicated full-time IT resources to keep the tool running and functioning properly.

## Case Study Highlights



Incremental PV sales revenue:  
**\$73 million**



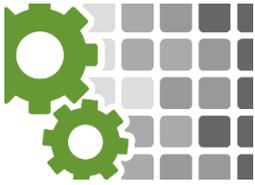
Avoided cost of development:  
**\$169,000**



Savings from reduced search maintenance:  
**\$206,000**



**Conversion rate increase:  
0.6 percentage points**



**Implementation time:  
1 month**



**Algolia ongoing  
management:  
10% of 1 FTE's time**

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

- › **Algolia provides teams with the agility to iterate on search relevance.** Algolia's A/B Testing feature enables easier and faster iteration and introduces more agility.
- › **Algolia delivers reliability and uptime to customers.** Since Algolia implementation, customer complaints of either *search being broken* or *search not working* have disappeared.
- › **Algolia provides consistent search experience across different environments.** Algolia guarantees consistent look, feel, and functionality across web, mobile, or in-store environments, ensuring continuity for customers as they switch from device to device and from page to page.
- › **Quality search delivers an improved customer experience.** Improved search quality and speed enable customers to find products and information faster and any device, leading to better overall experience with the organization's brand.

**Costs.** The interviewed organizations experienced the following risk-adjusted PV costs:

- › **Annual software fees.** Algolia's annual recurring license fees are based on the configuration and search volume, and these fees include ongoing support. Fees to Algolia amounted to a three-year total PV of \$1,243,426. This cost was not risk-adjusted as Algolia provided realistic quotes.
- › **Implementation costs.** Three developers were involved for one month to transition to Algolia from the former search solution. After implementation, one developer worked with the Algolia team for the total duration of two weeks per year in order to enhance search and introduce new features. Similar levels of involvement were required from the business analysts to ensure that the rules, ranking parameters, or product descriptions were in line with business objectives, resulting in a three-year risk-adjusted total PV of \$56,675.
- › **Ongoing management.** As a search-as-a-service solution, Algolia required little to no maintenance post-implementation. One developer managed Algolia for 10% of their time, amounting to a three-year risk-adjusted total PV of \$25,167

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

## TEI Framework And Methodology

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

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 Algolia can have on an organization:



### **DUE DILIGENCE**

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



### **CUSTOMER INTERVIEWS**

Interviewed four organizations using Algolia 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 Algolia'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 Algolia 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 Algolia.

Algolia 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.

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

# The Algolia Customer Journey

## BEFORE AND AFTER THE ALGOLIA INVESTMENT

### Interviewed Organizations

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

INDUSTRY	REGION	INTERVIEWEE	ALGOLIA USE
Retail, eCommerce, and brick and mortar	Australia and New Zealand	Technology director	Website (desktop and mobile) and in stores
Wellness	Global	SVP, engineering VP, product	Website (desktop and mobile), mobile app, and at physical locations
Entertainment	US	VP of technology	Website (desktop and mobile)
Retail, eCommerce	Europe	Product manager	Website (desktop and mobile)

### Key Challenges

- › **Inferior search capabilities led to lost sales and business opportunities.** The search capability on organizations' websites did not return relevant results in a logical order, forcing customers to scroll, review several pages of results and, ultimately, leave organizations' websites to look for products via more efficient search engines.
- › **Efforts to develop search capabilities in-house, or to customize former search solutions, failed to achieve desired outcomes.** Organizations struggled to customize former search solutions to provide relevant and consistent results. The alternative of developing custom search solutions via open source proved to be expensive and time-consuming and did not guarantee the desired performance. The VP of technology at an entertainment company said: "We had originally built a bare bones search tool with an internal team of developers, but we didn't have the resourcing to build the new features or improve performance. We realized that we needed a managed service."

"With our open-source search, the rules for how results were presented to customers were pretty stiff and could not be easily adjusted."

*Technology director, retail*



### Solution Requirements

The interviewed organizations searched for a solution that could:

- › Improve relevance and consistency of search results.
- › Increase search performance, including speed, typo tolerance, and synonym tolerance.
- › Allow organizations to reduce internal labor and time investments in search.

"When you're on eCommerce platform, the search capability is the main feature that people are in contact with in order to properly discover your products. And this is why it is important to get it right."

*Product manager, retail*



## Key Results

The interviews revealed that key results from the Algolia investment include:

- › **Improved search provides better customer experience.** The search capability powered by Algolia meets customers' expectations: it is fast, reliable, and delivers results in a convenient and expected order to minimize scrolling. With a better experience of finding what they are looking for, customers are more likely to convert, stay on a site longer, or go deeper into its content.
- › **Search-as-a-service enables IT to focus on strategy instead of execution.** Algolia removes the burden from IT of search development, management, and ongoing support, freeing up resources to address the business problems. As an SVP of engineering at a wellness company explained, "With Algolia responsible for the technology, we can focus on more interesting business problems, such as improving search for a particular customer group, or for a specific area of the business."
- › **Flexible search platform provides agility in responding to business needs.** Algolia provides tools to easily modify search parameters and rules based on introducing new products, marketing campaigns, season, etc., enabling the organization to be proactive in responding to customers' needs.

"With Algolia we got a full-featured search platform with minimal resource investment on our side."

*VP of technology, entertainment*



"Algolia has allowed us to dramatically change the way people interact with the search capability on our website. Today, search is the best way to not only find, but to also discover the products they would be interested in."

*Product manager, retail*



## 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 that Forrester synthesized from the customer interviews has the following characteristics:

**Description of composite.** The national, multibillion retail organization provides sales, customer support, and service/warranty support for its consumer products. The organization has a strong brand, a large customer base, and a strong online and offline presence. Customers frequently search products on the website from their desktops/laptops or on their handheld mobile devices.

**Deployment characteristics.** The organization provides search capabilities on its website (desktop and mobile), in the mobile app, and on work-stations in stores for sales associates. The organization uses Algolia Instant Search and A/B Testing capabilities. It gradually expands Algolia use beyond the landing page deeper into the website and adds new features. Prior to Algolia, the organization used open-source capabilities to develop its search solution.



### Key assumptions:

- › \$260 million eCommerce sales
- › 5% average eCommerce conversion rate
- › \$52 average order value
- › \$2 billion in revenue
- › 5,000 employees
- › 100 physical locations

# 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	Revenue from incremental digital sales	\$26,520,000	\$29,437,200	\$32,675,292	\$88,632,492	\$72,986,786
Btr	Avoided cost of development	\$138,000	\$27,600	\$27,600	\$193,200	\$169,001
Ctr	Saving from reduced search maintenance	\$82,800	\$82,800	\$82,800	\$248,400	\$205,911
	Total benefits (risk-adjusted)	\$26,740,800	\$29,547,600	\$32,785,692	\$89,074,092	\$73,361,698

## Revenue From Incremental Digital Sales

All interviewed organizations used Algolia on their websites to improve the quality of the search results, including relevance, speed, order, and interface:

- › Consumers expect a fast search experience and when forced to wait for results they are likely to leave a business' website to look for the product or service elsewhere, via a consumer search engine. As a result, organizations face lost sales opportunities. Algolia's search capability provided faster results than interviewees' previous solutions. An SVP of engineering at a wellness organization told Forrester that they were able to reduce the time per search from 100 milliseconds to less than 10 milliseconds.
- › All interviewed organizations reported an improvement in the quality of the search results. The capability became more tolerant of users' misspellings and use of synonyms. Unlike the legacy tools, if a search term consisted of multiple words, Algolia returned results for a combination of those words, as expected by a customer, not for each term separately.
- › With Algolia, interviewees received better control over how results were displayed, for example, showing new or best-selling items first. For users, this meant seeing the products or services they expected quickly, without scrolling through multiple pages of search results.

For several interviewees, these search functionality improvements — targeted to better meet the needs of their customers — resulted in higher conversion rates.

- › A retailer in Australia saw a 40% conversion rate increase as a result of making changes to the search experience. As compared to the previous solution, consumers saw more relevant results faster and in the order they expected (e.g., best-selling items appeared on top).
- › Similarly, a retail platform in Europe saw the overall conversion rates increase by 20% once the organization used Algolia to improve the UI to make filters accessible.

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 \$73,361,698.



Improved search results relevance and ordering lead to a 0.6-percentage-point conversion rate increase.

"As a retailer, you have a chance to get your mobile customers in 3 minutes or you've lost them because they stepped on the train and they're gone. So, you need your search to be quick."

*Technology director, retail*



- › A health and wellness services provider experienced an 85% reduction in the number of failed searches within four weeks of Algolia implementation. Algolia provided the tools to make the query rules more flexible (e.g., enable search using synonyms), making it easier for customers to succeed in their searches.

For the composite organization Forrester assumes:

- › The organization sees 100 million visits to its website in the first year. The number of visits grows by 11% each year, following a general trend for higher eCommerce sales described in the May 2018 Forrester report, "Forrester Data: Online Retail Forecast, 2018 To 2023 (US)."<sup>1</sup>
- › The organization has a 5% conversion rate and a \$52 average order size.
- › After Algolia implementation, the organization experiences a 0.6 percentage point improvement in its conversion rate.

Incremental sales revenue from online sales will vary based on:

- › Organization's commitment to use Algolia and its dedication to improve customer search.
- › Number of website visitors and average order size.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of \$72,986,786.

### ROI Predictions

To estimate the ROI of investing in Algolia, organizations should evaluate incremental profits — Forrester uses operating margin to calculate profit:

- Operating margin will vary by industry.
- With the operating margin of 7%, the composite organization would see an ROI of 314%.
- With the operating margin of 20%, the composite organization would see an ROI of 1,030%.

Readers are encouraged to customize the calculations based on their business model and industry. See p.16 for details.

### Revenue From Incremental Digital Sales: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Number of visits to the organization's site	Assumes 11% growth YoY*	100,000,000	111,000,000	123,210,000
A2	Conversion rate before Algolia	Composite organization	5.0%	5.0%	5.0%
A3	Average order value	Composite organization	\$52	\$52	\$52
A4	eCommerce sales	A1*A2*A3	\$260,000,000	\$288,600,000	\$320,346,000
A5	Increase in web-conversion rate as a result of Algolia-driven improvements	Interview	0.6%	0.6%	0.6%
A6	Conversion rate post-Algolia-driven improvements	A2+A5	5.6%	5.6%	5.6%
A7	eCommerce sales with the use of Algolia	A1*A6*A3	\$291,200,000	\$323,232,000	\$358,787,520
At	Revenue from incremental digital sales	A7-A4	\$31,200,000	\$34,632,000	\$38,441,520
	Risk adjustment	↓15%			
Atr	Revenue from incremental digital sales (risk-adjusted)		\$26,520,000	\$29,437,200	\$32,675,292

### Avoided Cost Of Development

Several interviewees told Forrester that they avoided significant costs of developing search features by switching to Algolia from their open-source solutions. To achieve the functionality comparable to what Algolia

offers as a part of the platform, an organization would have to invest in the initial development effort and would continue to invest in development to add features, and make search available on other platforms, such as on mobile devices or in apps.

- › Prior to switching to Algolia, one interviewed organization attempted to create the instant search feature within their former open-source tool. It took three developers three months to build it and resulted in a failed deployment.
- › Another interviewee estimated that with their former solution, the organization needed 10% of its engineering staff to work on the search capability, while with Algolia, it was only 1%. The VP of engineering at a health and wellness organization reported, “As one example, with our former tool we had to go record-by-record to customize relevance, but with Algolia, you could do it at the index level, which is powerful.”
- › An entertainment company would have had to reprioritize other initiatives that their developers were working on in order to devote time to building necessary search functions — which would have slowed down their speed-to-market.

For the composite organization, Forrester assumes that:

- › In Year 1, the organization avoids the need to develop a modern search solution that meets their customers’ expectations. The effort would require five developers working full-time for four months.
- › In the second and third year, the organization expects to dedicate two developers for the duration of two months to build additional features, such as instant search or advanced filters, and expand the use of the tool to fit mobile parameters.

The reduction in avoided development expense will vary with:

- › The desired search functionality an organization finds necessary to serve its customers.
- › The time needed to develop new features and capabilities.
- › The fully loaded compensation of software developers.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$169,001.



With Algolia, the organization avoided an effort of four months for five FTEs to build comparable search capabilities via open-source solutions.

“From the engineering side, with Algolia we mostly get involved in strategy and rely on Algolia to manage how the search engine operates.”

*SVP, engineering, wellness organization*



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.

### Avoided Cost Of Development: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Number of developers required to expand in-house search capabilities	Interview	5	2	2
B2	Percent of developers' time spent on search	Interview	33%	17%	17%
B3	Developer annual burdened compensation		\$92,000	\$92,000	\$92,000
Bt	Avoided cost of development	B1*B2*B3	\$153,333	\$30,667	\$30,667
	Risk adjustment	↓10%			
Btr	Avoided cost of development (risk-adjusted)		\$138,000	\$27,600	\$27,600

## Savings From Reduced Search Maintenance

All interviewed organizations recognized that with their former solutions, whether provided by a vendor or developed in-house, they needed to dedicate resources to implement patches, manage upgrades and deployments, and to keep search running.

- › A media and entertainment company estimated that a couple of part-time FTEs were required to support the company's search tool.
- › Another organization explained to Forrester that to reach the same level of agility in applying rules or changing the ranking formula with open source they would need to have a dedicated team of developers maintaining their search solution.
- › A wellness company explained that they used search in different parts of their business, including the website, the app, physical locations, and the internal social network. The VP of product told Forrester: "A search engine that could be leveraged across all those different projects in a generic way lifted the burden of maintaining search in different environments off of our shoulders."

For the composite organization Forrester estimates that:

- › One developer is dedicated to managing the open-source solution full-time.
- › A developer's fully burdened salary equals \$92,000.

Savings from reduced search maintenance could vary based on:

- › The effort necessary to maintain the legacy software.
- › A developer's compensation.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$205,911.

### Saving From Reduced Search Maintenance: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Number of developers maintaining a search solution prior to Algolia	Interview	1	1	1
C2	Developer annual burdened compensation		\$92,000	\$92,000	\$92,000
Ct	Saving from reduced search maintenance	C1*C2	\$92,000	\$92,000	\$92,000
	Risk adjustment	↓10%			
Ctr	Saving from reduced search maintenance (risk-adjusted)		\$82,800	\$82,800	\$82,800

## Unquantified Benefits

- › **Algolia provides teams with the agility to iterate on search relevance.** Algolia's A/B Testing capability enables easier and faster iteration and introduces more agility. As a product manager at an online retail platform explained, "When we are not entirely sure which approach will work, with A/B Testing we can always test our hypothesis fast, in an easier and more intuitive way."



Algolia provides teams with the agility to iterate on search relevance.



Algolia relieved developers from extensive search maintenance responsibilities, allowing them to focus on value-add initiatives.

- › **Algolia delivers reliability and uptime to customers.** A technology director at a retail organization said, “Since we have implemented Algolia, customer complaints that search is either broken or it doesn’t work, or that customers can’t find something on the website, has completely disappeared.”
- › **Algolia provides consistent search experience across different environments.** Interviewed organizations used Algolia to power search on their website, in stores, and on mobile devices in browsers and apps. Algolia provided a consistent look, feel, and functionality across the environments, ensuring continuity for customers as they switched from device to device and from page to page. As a technology director at a retailer told Forrester, “The architecture that Algolia created is really important for driving the organization forward overall and not just online.”
- › **Quality search delivers improved customer experience.** Several interviewees explained how improved search quality and speed enabled customers to find products and information faster and on any device without leaving the organization’s website in favor of a consumer search engine.



Algolia provides a consistent search experience on desktop browsers, mobile web interfaces, and mobile apps.

## 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 Algolia and later realize additional uses and business opportunities, including:

- › **Expanding the use to other markets and adding new features.** All interviewed organizations plan to expand the use of Algolia, whether to add new features such as voice search or other languages to serve additional markets.
- › **Strengthening organizations’ online merchandizing capabilities.** Enhanced search, filtering and sorting enabled by Algolia strengthen organizations’ overall online visual merchandizing aimed to enhance customer experience and, ultimately, lead to additional sales.
- › **Empowering business users to work in Algolia.** As a product manager at a retail organization told Forrester, “We want to provide our business analysts with the platform where they can design the [search] rules relying on their business and customer knowledge without any dependency on IT.” In addition to freeing IT resources to work on other projects, engaging business users introduces more agility to tuning search to customers’ needs.
- › **Increasing customer loyalty to bring in additional revenue.** Improved customer experience leads to better business outcomes through increased customer loyalty, as described in the September 2018 Forrester report, “How Customer Experience Drives Business Growth, 2018.”<sup>2</sup> By improving the search experience for customers, interviewees intend to strengthen their customers’ loyalty to fuel additional sales.

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

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



All interviewed organizations plan to expand the use of Algolia, whether to add new features such as voice search or other languages to serve additional markets.

# Analysis Of Costs

## QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

### Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Dtr	Annual Algolia Fees	\$0	\$500,000	\$500,000	\$500,000	\$1,500,000	\$1,243,426
Etr	Implementation costs	\$42,029	\$5,889	\$5,889	\$5,889	\$59,697	\$56,675
Ftr	Algolia maintenance and management costs	\$0	\$10,120	\$10,120	\$10,120	\$30,360	\$25,167
	Total costs (risk-adjusted)	\$42,029	\$516,009	\$516,009	\$516,009	\$1,590,057	\$1,325,268

### Annual Algolia Fees

The composite organization incurred software subscription fees for Algolia. These are the annual recurring license fees that are based on Algolia features used, such as Instant Search, A/B Testing, and search volume. As a part of the annual fee, the organizations receive access to a customer success manager for ongoing support.

The composite organization uses the advanced tools of Instant Search and A/B Testing and attracts approximately 100 million visits to its website per year. An annual fee to Algolia amounted to \$500,000.

Algolia provided realistic quotes, so Forrester did not risk-adjust this cost. Over three years, the total PV cost was \$1,243,426.

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 \$1,325,268.

### Annual Algolia Fees: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
Dt	Annual Algolia fees	Provided by Algolia	\$0	\$500,000	\$500,000	\$500,000
	Risk adjustment	0%				
Dtr	Annual Algolia fees (risk-adjusted)		\$0	\$500,000	\$500,000	\$500,000

### Implementation Costs

Interviewed organizations described Algolia implementation as the process that required:

- › A development effort to transition product information to the Algolia platform, including all product names, product descriptions, and necessary indexes.
- › Involvement from business analysts to determine the desired search parameters, such as searchable attributes, rules, or ranking formulas.

For the composite organization, Forrester assumes that:

- › Three developers are involved initially for the duration of two sprints (or one month) to transition to Algolia from the former search solution.

- › After implementation, one developer works with the Algolia team for two weeks every year to support the introduction of new search features.
- › Similar levels of involvement are required from the business side: five analysts from different departments are involved in the initial implementation on a part-time basis for one month to coordinate Algolia search parameters. After the initial effort, the same analysts dedicate two weeks per year (also part-time) to review the rules, ranking parameters, or product descriptions as required by the business.



Customers receive access to Algolia's dedicated engineering and customer support resources.

The cost of implementation will vary based on:

- › The initial preparation work required to transition to Algolia, based mostly on how the product/service information is organized for a legacy search solution (if the latter existed).
- › The number and salaries of FTEs dedicated to initial and new feature implementation in the following years.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$56,675.

#### Implementation Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Number of developers involved in Algolia implementation and expansion		3	1	1	1
E2	Duration of developers' and analysts' involvement (months)		1	0.5	0.5	0.5
E3	Developer monthly burdened salary	B3/12 months	\$7,667	\$7,667	\$7,667	\$7,667
E4	Number of business analysts involved in implementation and expansion		5	5	5	5
E5	Duration of business analysts' involvement (months)		1	0.5	0.5	0.5
E6	Percentage of business analyst's time spent on Algolia		50%	10%	10%	10%
E7	Client services analyst monthly burdened salary	\$73,000/12 months	\$6,083	\$6,083	\$6,083	\$6,083
Et	Implementation costs	$(E1 \cdot E2 \cdot E3) + (E4 \cdot E5 \cdot E6 \cdot E7)$	\$38,208	\$5,354	\$5,354	\$5,354
	Risk adjustment	↑10%				
Etr	Implementation costs (risk-adjusted)		\$42,029	\$5,889	\$5,889	\$5,889

## Algolia Maintenance And Management Costs

All interviewed organizations reported that as a search-as-a-service solution, Algolia required little to no maintenance post-implementation.

- › One organization explained that they have a search and tracking team, but they are focused more on the quality of data and not on managing the platform.



One FTE spends 10% of his or her time on ongoing management of Algolia.

- › A technical director at a retail organization told Forrester: “Algolia manages itself. We do put in a tiny amount of energy to develop new functionality, but it is never around maintaining existing features.”

For the composite organization Forrester assumes that:

- › It has one developer managing Algolia for 10% of their time.

These costs will vary based on:

- › The fully loaded salaries and the number of developers managing the platform.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$25,167.

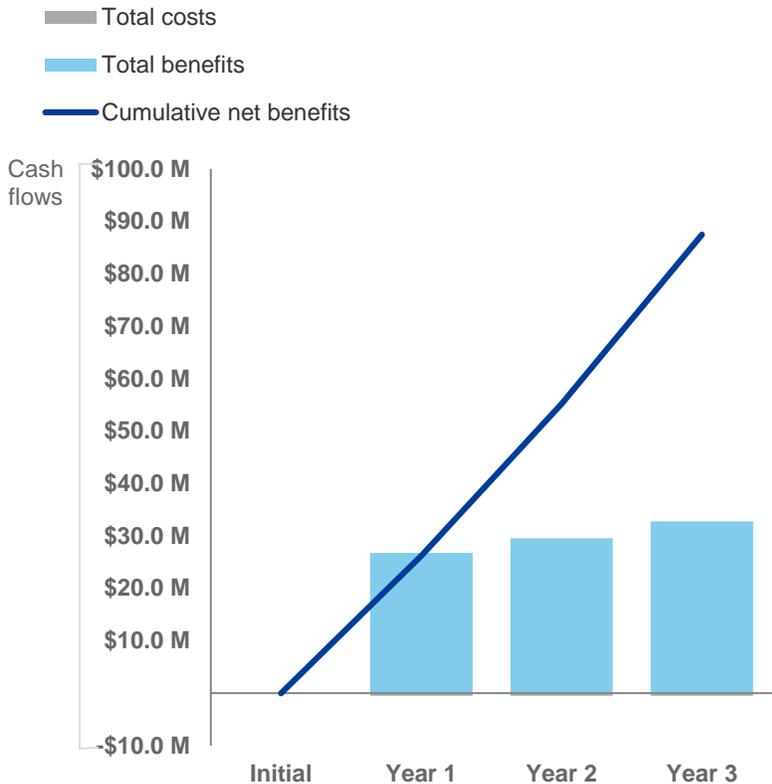
#### Algolia Maintenance And Management Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Developers managing Algolia			1	1	1
F2	Percent of FTE's time spent managing Algolia			10%	10%	10%
F3	Developers' annual burdened salary			\$92,000	\$92,000	\$92,000
Ft	Algolia maintenance and management costs	$F1 * F2 * F3$	\$0	\$9,200	\$9,200	\$9,200
	Risk adjustment	↑10%				
Ftr	Algolia maintenance and management costs (risk-adjusted)		\$0	\$10,120	\$10,120	\$10,120

# 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 NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.



The risk-adjusted NPV value is 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 of using Algolia	(\$42,029)	(\$516,009)	(\$516,009)	(\$516,009)	(\$1,590,057)	(\$1,325,268)
Total benefits from using Algolia	\$0	\$26,740,800	\$29,547,600	\$32,785,692	\$89,074,092	\$73,361,698
Net benefits	(\$42,029)	\$26,224,791	\$29,031,591	\$32,269,683	\$87,484,035	\$72,036,430

# Calculating ROI

To evaluate the ROI of investing in Algolia, organizations need to use incremental profit rather than incremental revenue, to ensure the calculation accounts for costs of selling and delivering the additional goods or services. Forrester uses operating margin to calculate profit. Operating margin will vary by industry and an organization's business model. To calculate profit, multiply the incremental revenue by your operating margin.

A sample profit calculation using the average operating margin in the retail industry is presented in the table below.

Profit From Incremental Digital Sales: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A8	Revenue from incremental digital sales	At	\$31,200,000	\$34,632,000	\$38,441,520
A9	Operating margin	Industry average	7%	7%	7%
At <sub>(profit)</sub>	Incremental profit	A8*A9	\$2,184,000	\$2,424,240	\$2,690,906
	Risk adjustment	↓15%			
Atr <sub>(profit)</sub>	Incremental profit (risk-adjusted)		\$1,856,400	\$2,060,604	\$2,287,270

Once total benefits have been adjusted for profit instead of revenue, you can calculate ROI. Forrester would use the following formula to calculate the ROI of Algolia:

$$ROI = \frac{\text{Benefits from using Algolia} - \text{Costs of using Algolia}}{\text{Costs of using Algolia}}$$

With the operating margin of 7%, the industry average for online retailers, the composite organization would see an ROI of 314%. If the composite organization had an operating margin of 20%, it would see an ROI of 1,030%.

Readers are encouraged to customize the calculations based on their business model, industry, and their organization's operating margin.



For example, an organization with an operating margin of 7% would experience a 314% ROI; while another organization with a 20% operating margin would see an ROI of 1,030%.

# Algolia: Overview

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

Algolia helps businesses across industries quickly create relevant, scalable, and lightning fast search and discovery experiences. Algolia's mission is to make every search interaction meaningful and rewarding. Our hosted platform reduces the complexities of building relevant digital experiences. More than 5,000 companies like Weight Watchers, Lacoste, Twitch, Medium, and Stripe rely on Algolia's enterprise-grade APIs to manage 40 billion search queries a month.

Founded in 2012, Algolia is backed by \$74M in funding from Accel Partners, Alven Capital, Point Nine Capital, and Storm Ventures. The team is headquartered in San Francisco with offices in Paris, London, New York, and Atlanta. To learn more, visit [www.algolia.com](http://www.algolia.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: Supplemental Material

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- <sup>1</sup> Source: “Forrester Data: Online Retail Forecast, 2018 To 2023 (US),” Forrester Research, Inc., May 7, 2018.  
<sup>2</sup> Source: “How Customer Experience Drives Business Growth, 2018,” Forrester Research, Inc., September 21, 2018.