A Forrester Total Economic Impact™
Study Commissioned By Alation
October 2019

The Total Economic Impact™ Of The Alation Data Catalog

Cost Savings And Business Benefits Enabled By Alation

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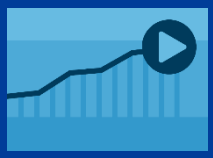
Investment Benefits



Analyst time saved from self-service:
$2.7 million

Business user productivity gains from self-service:
$584,182

Savings from faster onboarding of new analysts:
$286,085

Executive Summary

In 2018, 37% of global data and analytics decision makers ranked "sourcing, gathering, managing, and governing the data as it grows" as one of their firm's biggest challenges when using systems of insight.[1] And finding a solution for data management and governance becomes increasingly urgent as data volumes continue to grow. In the Forrester survey, 36% to 38% of global data and analytics decision makers reported that their structured, semi-structured, and unstructured data each totaled 1,000 TB or more in 2017, up from only 10% to 14% in 2016.[2] In this reality, organizations seek to organize their data for effective consumption.

Alation provides an enterprise data catalog that helps scale the use of data within the organization by making it easy to find, understand, trust, use and reuse for self-service analysis. Alation commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential ROI enterprises may realize by deploying Alation. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Alation Data Catalog on their organizations.

To better understand the benefits, costs and risks associated with this investment, Forrester interviewed seven customers with experience using the Alation Data Catalog.

Customers told Forrester that prior to using Alation their efforts to become more data-driven yielded limited results: companies invested in data lakes and other technologies but lacked accessible tools, documentation, and guidance on how and where to find the data. Access to data was limited and the team's capacity served as a bottleneck to how quickly business users could get the answers they needed. Bringing new analysts up to speed took months due to system complexity and the lack of a single source of reference. Data engineers, analysts, and business users operated in siloes, with no venue to share their work, experience, learnings, or best practices, so they frequently and unknowingly ran the same queries, built redundant data sets, and made errors.

Alation provides organizations with a single platform to document data and data usage guidelines, define best practices, and certify standard data sets for further use. Clear documentation and links to experts and former data users within Alation make data accessible and easy to understand beyond engineering and analytics titles. The VP of information management and strategy at a software company told Forrester: "Alation is our foundation for data management. Everything depends on knowing where your assets are and what's in the data. So, whether you're looking at the data governance initiative and policies around the data, identifying stewards, reviewing accountability models, or controlling for data quality, it's now all in Alation. It's truly the foundation for everything else."

Key Findings

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

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ROI
364%

Benefits PV
$3.8 million

NPV
$3 million

- **Analyst productivity improvement due to shortened data discovery of $2.7 million.** Alation provides the platform to quickly find data sets and queries verified by the user community, write new queries faster, and when there are gaps in understanding the context of data before querying, quickly identify subject matter experts. As a result of using the Alation Data Catalog, organizations are shortening their time to analysis from weeks to days or hours.
- **Business user productivity improvement from self-service of $584,182.** Before Alation, business users had to work closely with data analysts and engineers to receive the data necessary to make decisions. Regardless of whether they submitted a request to get data or used available tools to find it on their own, the process was time-consuming. Alation enables business users to self-serve and find answers in a matter of hours.
- **Data engineer productivity improvement due to user self-service by $165,065.** Before Alation, there was no easy way for data engineers to document the data and communicate the best practices or concerns around the data to self-service users. The use of the Alation Data Catalog reduces the number of requests the engineering team receives to explain data, identify data owners, schedule custom queries, and simplify data management.
- **Savings from faster onboarding of new analysts of $286,085.** Prior to Alation, it would take an average of two months to ramp up a new analyst. A significant portion of the onboarding process is dedicated to familiarizing new hires with the data sources and types of data available, shadowing other analysts on how they handle data requests and write queries. Alation becomes a single source of reference to learn and understand data assets and queries; it also shortens onboarding time by at least 50%.

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

- **Alation's data catalog prevents data lakes from turning into data swamps.** Several interviewed organizations report that they are heavily investing in building out data lakes. However, without a way to navigate these ecosystems, these lakes begin to turn into sunk costs. Through the use of Alation, these organizations are able to organize and categorize that data, providing users with a portal that makes the data lake more accessible and actionable for data analysts and business users.
- **Alation enables collaboration around data.** The Alation Data Catalog allows users to find data experts, reuse their work, and ask them questions. The tool also enables users to share advice, endorsements, or warnings for existing data sets within the platform, making it the single venue to find answers about data.
- **Alation facilitates documentation of tribal knowledge.** The enterprise data catalog provides automated capture of metadata that saves time from manually documenting data assets. It lowers the barrier to capturing tribal knowledge by inviting users to document their data and share with others.

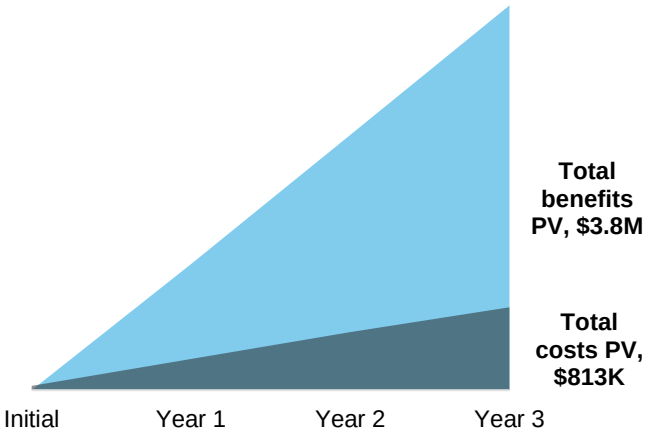
- **Increased data transparency and reuse improve the accuracy of analysis.** Alation provides a platform for finding existing data sets and building upon the work already accomplished, versus starting fresh every time. Repeated use of the already verified queries or data sets allows users to leverage proven standards, get consistent results, learn, and avoid repeating mistakes.
- **Alation increases compliance with data governance policies.** Business users can gain access to data that is relevant and pre-prepared without considering whether they should trust that data. Alation embeds data governance policies side by side with the data and features like TrustCheck automate compliance recommendations to assist with policy enforcement.
- **The use of Alation enables organizations to address business challenges.** Alation provides time and access to data for analysts and business users, enabling them to discover and resolve business issues, which contributes to better customer experience and faster time-to-market.

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

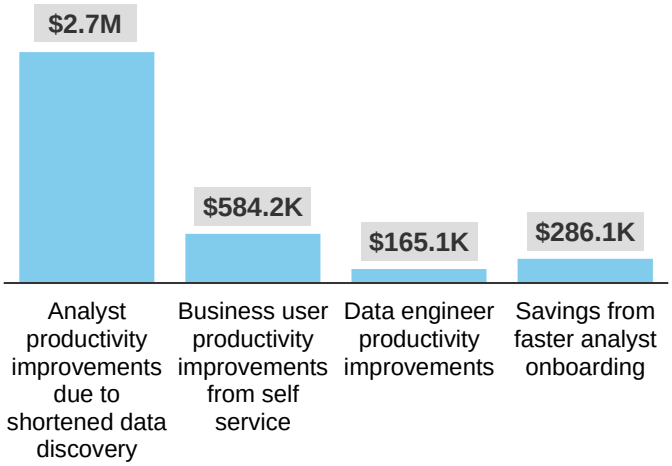
- **Fees to Alation of $652,440.** Alation pricing is based on the number of users and the rights each user has within the catalog. Forrester builds this financial model around a population of 300 active Alation users.
- **Cost of implementation of $9,328.** There is an associated cost to implement and install Alation and connect the catalog to the organization's environment.
- **Training and adoption cost of $38,593.** Organizations designed programs to train and engage employees on how to use Alation. This effort is conducted following the initial implementation, and more users are trained as the data catalog adoption grows in the subsequent years.
- **Ongoing management of $112,841.** Interviewees dedicate resources to overseeing both the use of the data catalog enterprisewide and further integration into the organizations' data environment.

Forrester's interviews with seven existing customers and subsequent financial analysis found that an organization based on these interviewed organizations experienced benefits of $3.8 million over three years versus costs of $813,202, adding up to a net present value (NPV) of $3 million and an ROI of 364%.

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 Alation.

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 Alation 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 Alation stakeholders and Forrester analysts to gather data relative to Alation.

CUSTOMER INTERVIEWS
Interviewed seven organizations using Alation 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 Alation'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 Alation 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 Alation data catalog.

Alation 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.

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

The Alation Data Catalog Customer Journey

BEFORE AND AFTER THE ALATION DATA CATALOG INVESTMENT

Interviewed Organizations

For this study, Forrester conducted seven interviews with Alation customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	NUMBER OF ALATION USERS
Engineering	Headquartered in the US	Senior manager, self-service data and analytics	1,800 registered users
Insurance	Headquartered in Europe	Data engineering consultant	250 active users
Online marketplace	Headquartered in Europe	Head of data technology	300 active users
Software	Headquartered in the US	VP, information management and strategy	3,000 registered users
Web hosting	Headquartered in the US	Director of enterprise data and BI tools	200 active users
Electronic component distributor	Headquartered in the US	Director, enterprise data systems	250 active users
Travel technology	Headquartered in the US	Technical account manager	850 active users

Key Challenges

The interviewed organizations shared the following challenges leading up to the decision to invest in Alation:

- **Bottlenecks to access existing data.** To keep up with their customers' and internal businesses' demands, employees need real-time access to trusted data. Any data bottlenecks can result in lost revenue due to missed sales opportunities, lost customers, inefficient supply chains, and uninformed strategic decisions.[3] As a part of their initiative to activate the existing data, several interviewed organizations invested in building data lakes. However, having a data lake did not guarantee successful use of data. Data users needed a tool that would show them what is available within the data environment and how it could be used. The head of data technology at an online marketplace explained to Forrester, "We needed better documentation of the data in the data lake to avoid the data lake becoming a big mess."
- **Long time to data acquisition.** Organizations were consistently slowed down by long timelines to get data to inform their decisions. It could take business users anywhere from 24 hours to several weeks to receive answers to their data requests, depending on the complexity. Data scientists could spend weeks finding the right data and days validating and documenting the data. New queries had to be written from scratch, and testing them could take additional time. The senior manager of self-service and analytics at an engineering company reported: "Previously, when I was looking for data it could take me up to two months to find what I was looking for in the data lake because nothing was documented anywhere. I didn't know what sources these data came from. I didn't know what it was."

> "It is a problem when data exists in the organization, but nobody knows where it actually is. Before, I had to ask several people where I could find the data. Eventually I would get my hands on a piece of software or something in an Excel sheet, then find a way to pull that data from different systems, pull it all together and eventually get it right."
>
> *Senior manager, self-service and analytics, engineering*

- **Siloed teams and disjointed processes.** Prior to Alation, there was no easy way for data users to access previously completed data requests, learn about data sets, find experts in certain data areas, or document their own work. The VP of information management and strategy at a software company responded: "People would share details in emails or documents or spreadsheets instead of a standardized place where you know you can get those particular details and you can self-service. It was all ad hoc and very manual."
- **Lack of a single source of reference.** Several interviewees shared examples of situations when analysts presented findings back to business to realize that the results did not look correct, or where several analysts working with the same data found inconsistent answers to the same problem. It was not uncommon to use data sources that were outdated or not recommended for use because there was no easy way to communicate about best practices.

"We wanted the catalog to be the entrance point that is easy to use, easy to understand, and allows you to easily find your way to the answer you're looking for."

Head of data technology, online marketplace

Solution Requirements

The interviewed organizations searched for a solution that could:

- Activate the data to deliver business value.
- Provide an easy-to-use solution that enabled self-service for business users.
- Shorten time to get to data across the organization.
- Introduce a social aspect of data use.
- Encourage and document user interaction about data assets, their use, and best practices.

"We really aim for everyone in the company — from the CEO and the management board to a developer or someone in the travel team — to get easy access to the data and analyze whatever is required on their side."

Head of data technology, online marketplace

Key Results

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

- **Democratization of analytics.** Clear documentation, direction, and links to experts and former data users within Alation made data accessible and easy to understand beyond the engineering and data science teams. The senior manager of self-service data and analytics at an engineering company noted: "Alation, because of its ease of use and nature, makes the data look more approachable. Employees are more likely to go and then start trying to use it. It's the difference between having a map in front of you when you're walking somewhere new versus going there blindly."
- **Single source of reference.** The Alation Data Catalog became the central platform to document data and data usage guidelines, define best practices, and determine the standard data sets for further use. Easy search, rich context, and collaboration around each query and data set helped users find, understand, trust, use and reuse previously completed work, ensuring consistency and continuity.

"Allowing people to self-serve reduced our internal operational costs."

VP of information management and strategy, software

"Alation gave us the ability to discover what assets already exist, make sure that we're using the best in class, the highest data quality, and to eliminate duplicates."

VP of information management and strategy, software

- **Improved data literacy.** While data analysts cannot easily spot patterns and trends in ways they write queries and work with data, artificial intelligence and machine learning can sift through these patterns and use them to make valuable suggestions to new analysts and business users as they learn to find and use the data within the organization. Not only does Alation speed up the onboarding process for new data users, it also helps them learn from best practices and, when needed, find the most relevant experts to ask for guidance.
- **Collaboration around data.** Having a central platform and automated capture of meta-data lowered barriers for data users to document their assets. Alation provided a tool to easily share insights, identify top users and internal experts, provide endorsements, warnings, or advice for existing data sets.

> "The collaboration component of the catalog helps us bridge employees in different divisions. It also centralizes the network and becomes a good place to document [best practices]."
>
> *Senior manager, self-service and analytics, engineering*

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 seven 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. It is a global, multibillion-dollar enterprise. The organization has a strong brand and a large customer base. Prior to Alation, the organization did not have a specific data management or data governance tool in place. Recently, the organization invested in a data lake and wants to ensure that it is continually used.

Before investing in an enterprise data catalog, the organization conducts a comprehensive vendor selection process that results in it choosing Alation. The driving factors were data ingestion methods, collaboration capabilities, native integrations, and intuitive interface.

The organization provides Alation licenses to users as needed.

Usage characteristics. Alation crawls and indexes assets stored across different physical repositories including databases, Hadoop files, and data visualization tools.

Key assumptions:

- 75 data analyst users
- 25 data engineer users
- 200 business users
- 30 hours per week an analyst spends on data projects
- 2 months to onboard a new hire analyst

Analysis Of Benefits

QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefits

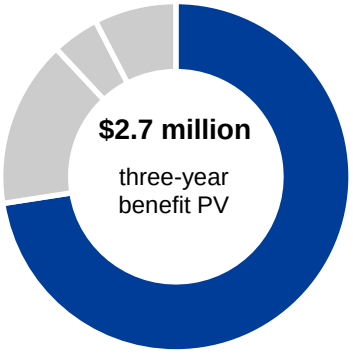
REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Analyst productivity improvement due to shortened data discovery	$980,343	$1,106,387	$1,239,900	$3,326,631	$2,737,146
Btr	Business user productivity improvements from self-service	$214,200	$235,620	$259,182	$709,002	$584,182
Ctr	Data engineer productivity improvements	$66,375	$66,375	$66,375	$199,125	$165,065
Dtr	Savings from faster analyst onboarding	$96,005	$126,006	$126,006	$348,017	$286,085
	Total benefits (risk-adjusted)	$1,356,923	$1,534,388	$1,691,464	$4,582,775	$3,772,478

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 $3.8 million.

Analyst Productivity Improvement Due To Shortened Data Discovery

All interviewed organizations name shortened time to data discovery as the main benefit of using the Alation Data Catalog. Prior to Alation, finding the necessary information required not only searching through raw data and building SQL queries, but it also would take plenty of legwork to find both what the data meant and who put it into the data lake. Analysts would have to identify experts who could confirm what the data meant and how it could be used. If a similar query had been previously executed, the current model disallowed analysts from finding proof of that completion and whether it had been successful or not. Alation provides the platform to find trusted data, locate former queries, write new queries faster, identify experts, and to see feedback from the user community, which results in time savings for data analysts.

- A senior manager of self-service data analytics at an engineering company said: “Previously, when I was looking for data it could take me up to two months to find what I was looking for in the data lake because nothing was documented anywhere. I didn’t know what sources this data came from. I didn’t know what it was. And with Alation, I can use search and find what I need within 5 to 10 minutes.”
- Similarly, the head of data technology at an online marketplace company explained to Forrester: “It probably took two weeks to find out who put the data where and in which format, and only then you could start using it. Today, it takes you minutes in Alation to find the data.”
- According to the enterprise data and BI tools director at a web hosting company, “Alation became a single place where analysts went to write queries, save them, share them, and schedule them against multiple platforms.” With the documentation and search available in Alation, analysts could find experts in a certain field, reuse their queries or parts of queries, and provide analysts with direction of who to ask for guidance, if needed.



Analyst productivity improvement due to shortened data discovery:
73% of total benefits

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Among the Alation features that impact analysts' workflow, all interviewed customers specifically point to Alation Compose as a powerful tool which allows data analysts to benefit from the wealth of previously built queries.

- The enterprise data and BI tools director at a web hosting company said, "Alation Compose was the shining star of the product and it really brought users onboard initially."
- The head of data technology at an online marketplace said: "If you start writing a query, it tests the knowledge of all other queries, which have been written historically. It tells you, 'Hey, this user created the same query,' or 'For this table, that is the top user,' or 'No one before used this column,' or 'This column is going to be deprecated.' The SQL composer with all the knowledge and the background of all queries executed over the last 12 months really helped to write much faster, efficient queries."

For the composite organization, Forrester assumes:

- Of the 300 Alation users, 75 are data analysts who use Alation to fulfill data requests coming from business users.
- On average, each analyst handles four data requests per day, spending 1.5 hours per request each day.
- The organization is working on onboarding all of its data sources to Alation, but to date not all of the sources are connected. Of the data analysis requests being handled by an analyst, 70% are impacted by the use of Alation in Year 1. The percentage grows as the organization onboards new data sources in Year 2 and Year 3.
- The use of the Alation Data Catalog shortens the time needed for analysts to complete a project by 70%.
- Forrester estimates that 50% of the total time saved per analyst is applied directly back to data analysis tasks and is, therefore, included in the benefit calculation. Individual users may apply additional time savings toward professional development, networking, and work-life activities, which are not included in the benefit analysis.

The time saved by analysts from business user self-service will vary based on:

- The organization's commitment to democratizing the data and the push to educate business users on how to use Alation.
- The number of data analysts in the organization and the type of the data requests handled by the analysts.
- The analysts' annual burdened salary.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $2.7 million.

Alation reduces the time an analyst spends per data request, on average, by 70%.

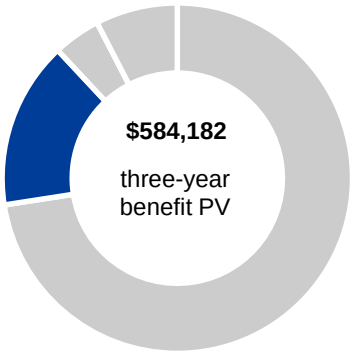
Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

Analyst Productivity Improvement Due To Shortened Data Discovery: Calculation Table					
REF.	**METRIC**	**CALC.**	**YEAR 1**	**YEAR 2**	**YEAR 3**
A1	Number of data analysts	Includes 5% growth YOY	75	79	83
A2	Number of data projects an analyst works on per day, on average		4	4	4
A3	Percent of analyst's work affected by Alation	Includes 5% growth YOY	70%	75%	80%
A4	Number of hours spent per project per day by an analyst		1.5	1.5	1.5
A5	Time spent on projects (hours) in one week	A2*A4*5 days	30	30	30
A6	**Time spent to serve business users prior to Alation per week (hours)**	**A1*A5*A3**	**1,575**	**1,778**	**1,992**
A7	Percent reduction in time needed to complete a project with Alation		70%	70%	70%
A8	Analyst time savings due to Alation (hours)	A6*A7	1,103	1,244	1,394
A9	Productivity capture		50%	50%	50%
A10	Data analyst hourly rate (fully burdened)	$80,000/ 2,080 hours (rounded)	$38	$38	$38
At	Analyst productivity improvement due to shortened data discovery	A8*A9*A10* 52 weeks	$1,089,270	$1,229,319	$1,377,667
	Risk adjustment	↓10%			
Atr	Analyst productivity improvement due to shortened data discovery		$980,343	$1,106,387	$1,239,900

Business User Productivity Improvement From Self-Service

Interviewees name data democratization among their top goals for using Alation. An enterprise data catalog can remove bottlenecks between business users and big data to accelerate data-driven decision making. Before Alation, typical steps to access necessary analytics included submitting a request to data analysts, answering any clarifying questions, waiting for the data to come back from an analyst, verifying whether the data set looked as intended, and, if necessary, engaging in the follow-up clarifications and waiting for updates. Alternatively, business users attempted finding the necessary data on their own, but with little to no documentation. If they did not seek guidance from analysts or data engineers, they were rarely able to fully understand what the data meant and whether it was right to use.

Alation enables business users to self-service and find answers in a matter of hours. Documentation helps them to understand the data and find experts if they still require guidance.



Business user productivity improvement from self-service: **16%** of total benefits

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- Interviewed organizations acknowledge that business users find Alation easy to use and frequently trend toward self-service instead of turning to the data team for assistance. A software company sees a 35% reduction in the number of data requests as business users use Alation to get the necessary data.
- A web hosting company uses Alation to build and document a library of data sets to allow business users to answer 80% of their data questions without coming to data analysts.
- Within the engineering company, business users represent 90% of Alation users, and include engineering, finance, and HR. The senior manager of self-service data and analytics at an engineering company said: "That's the whole goal of the program. We truly democratized access to data with Alation. Our focus was on the end users in the business."

For the composite organization, Forrester assumes that:

- Within the organization, 200 business users start using Alation in Year 1, and the adoption grows by 10% each year.
- Prior to Alation, a business user would need to perform a custom data analysis, on average, once every two weeks. Once Alation had been introduced, business users could mostly find answers in the existing data and only needed to run a custom analysis or data request once every six weeks.
- A custom analysis requires, on average, 4 hours to complete.

The reduction in business user productivity gains will vary with:

- Business users' adoption of Alation to self-service.
- Business users' need for data in decision making and business analysts' commitment to document data in Alation.
- Business users' average hourly burdened rate.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $584,182.

With Alation, the number of custom data analyses a business user had to conduct was reduced from 26 to 9 per year, saving 68 hours of labor per user.

Business User Productivity Improvement From Self-Service: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Number of business users	Includes 10% growth YOY	200	220	242
B2	Number of custom data assets built by business users prior to Alation	1 every other week	26	26	26
B3	Number of custom data assets built by business users with Alation	1 every 6 weeks	9	9	9
B4	Time required to build a custom data asset (hours)		4	4	4
B5	Business analyst time saved by self-service (hours)	(B2-B3)*B4*B1	13,600	14,960	16,456
B6	Business user average hourly burdened rate	$73,000/ 2,080 hours	$35	$35	$35
B7	Productivity capture		50%	50%	50%
Bt	Business user productivity improvement from self-service	B5*B6*B7	$238,000	$261,800	$287,980
	Risk adjustment	↓10%			
Btr	Business user productivity improvement from self-service (risk-adjusted)		$214,200	$235,620	$259,182

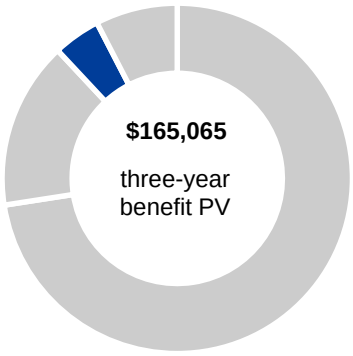
Data Engineer Productivity Improvements

Several interviewees spoke about the impact that Alation's implementation had on their enterprise data engineers. Before Alation, data engineering teams were tasked with building data sets for organizations, but there was no easy way of documenting or describing the data. Neither was there an efficient way to communicate best practices or concerns around the data to their consumers. With Alation making data more usable for analysts and business users, the number of requests that the engineering team receives to explain data, identify data owners, schedule custom queries, and simplify data management is reduced.

- The director of enterprise data and BI tools at a web hosting company said: "[With Alation] we see value in understanding where the data is being used. When we are getting ready to deprecate a table we can easily notify users that it is going away."
- Data engineers at a travel company save time by creating automation that assigns ownership to each new incoming data source based on its patterns, according to the technical account manager of a travel technology company: "As soon as a new object comes in and matches a certain pattern, it's stamped with the owner. So now, nobody has to worry about somebody coming in to search for an object and not knowing who the owner is. Because it is automated, a user doesn't ever have to worry about it not being decorated, and engineers do not have to go in and update the new [sources] that keep coming into the catalog."

For the composite organization, Forrester assumes that:

- The organization employs 25 data engineers.



Data engineer productivity improvements: **5%** of total benefits

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- With Alation, data engineers save 5% of their time previously spent on data management and serving data users.
- An average annual burdened salary for a data engineer is $118,000.

The productivity improvement for data engineers will vary with:

- The number of data engineers employed.
- Data engineers' use of the Alation Data Catalog to manage data and serve data users.
- The fully loaded compensation of data engineers.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $165,065.

> "I think now we have people doing the right thing in the right areas, as opposed to having the heavy technical team handling simple data requests."
>
> *Director of enterprise data and BI tools, web hosting*

Data Engineer Productivity Improvements: Calculation Table

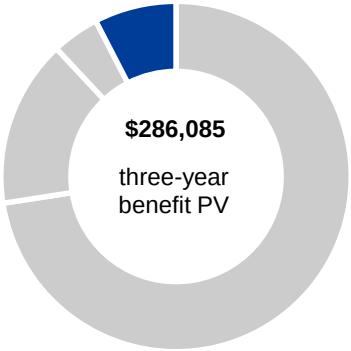
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Number of data engineers supporting enterprise data		25	25	25
C2	Percentage of data engineers' time saved with Alation		5%	5%	5%
C3	Data engineers' time saved with Alation (hours)	C1*2,080 hours*C2	2,600	2,600	2,600
C4	Data engineers' average hourly burdened rate	$118,000/ 2,080 hours	$57	$57	$57
C5	Productivity capture		50%	50%	50%
Ct	Data engineer productivity improvements	C3*C4*C5	$73,750	$73,750	$73,750
	Risk adjustment	↓10%			
Ctr	Data engineer productivity improvements (risk-adjusted)		$66,375	$66,375	$66,375

Savings From Faster Onboarding Of New Analysts

All interviewed organizations report that shortening the time it takes to onboard newly hired data analysts is an important need. Prior to Alation, it would take an average of two months to ramp a new analyst. A significant portion of the onboarding process is dedicated to familiarizing them with the data sources and types of data available, shadowing other analysts on how they handle data requests and write queries. Interviewed organizations explain that analysts need to master several tools in order to be successful in their role. In one organization the need to switch from one tool to another frequently contributes to high analyst attrition. Alation provides the environment for learning from real organizational use cases, best practices, and experts.

- The VP of information management and strategy at a software company said, "For the new hires, Alation became a single source of truth to learn and understand our data assets, queries, what they are producing, and how you handle them."
- The technical account manager at a travel company said, "Teaching and onboarding new analysts is easier and happens on the fly."

For the composite organization, Forrester assumes that:



Savings from faster onboarding of new analysts:
8% of total benefits

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- The organization grows its data analyst team by 5% each year.
- The average turnover rate for data analysts in the organization is 21%. The organization fills positions of the departed analysts every year.
- Prior to Alation, analysts need two months to get comfortable with the organization's data structure and query process.
- The use of Alation shortens the onboarding process by 50%.

The reduction in software development expenses will vary with:

- The number of analyst new hires requiring onboarding.
- The organization's data complexity and the average onboarding time prior to Alation.
- Data analysts' turnover rate.
- Data analysts' burdened annual compensation.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV of $286,085.

The use of Alation shortens the analyst onboarding process by 50%.

Savings From Faster Onboarding Of New Analysts: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	New analysts hired every month due to organization growth		0	4	4
D2	Average analyst turnover	Industry data	21%	21%	21%
D3	Analysts replaced due to turnover	A1*D2	16	17	17
D4	Time to onboard a new analyst prior to Alation (months)		2	2	2
D5	Percent reduction in time to onboard a new analyst with Alation		50%	50%	50%
D6	Data analyst monthly salary (fully burdened)	$80,000/ 12 months	$6,667	$6,667	$6,667
Dt	Savings from faster analyst onboarding of new analysts	(D1+D3)*D4*D5* D6	$106,672	$140,007	$140,007
	Risk adjustment	↓10%			
Dtr	Savings from faster analyst onboarding of new analysts		$96,005	$126,006	$126,006

Unquantified Benefits

- **Data catalog prevents data lakes from turning into data swamps.** Forrester predicted that for 2018 one-third of all data lakes would be taken off life support. Prior to Alation, several interviewed organizations heavily invested in building these data lakes. However, without a way to navigate across the ecosystem that fed these lakes, automatically indexing and tagging raw data, the lakes ran the risk of sitting idle and, ultimately, turning into sunk costs. Alation's data catalog ingests and categorizes that data, making it an actionable resource for all data users in the organization instead of a data swamp.

"Alation improves the quality of our data because without it people would stumble across the challenges someone else already resolved."

Data engineering consultant, insurance

- **Alation enables collaboration around data.** Alation allows users to see how others create and share knowledge, including query-building advice, identifying top users and internal experts, and sharing endorsements, warnings, or advice for the existing data sets. As a manager of self-service and analytics at an engineering organization said: "The collaboration component of the catalog helps us bridge employees in different divisions. It also centralizes the network and becomes a good place to document [best practices]."
- **Alation facilitates documentation of tribal knowledge.** Without Alation, users have no way of easily documenting and sharing the insights from important conversations over solutions to finding and writing queries. Alation provides automated capture of metadata that saves time from manually documenting data assets. It lowers the barrier to capturing tribal knowledge by inviting users to curate their data and share with others.
- **Increased data transparency and reuse improve the accuracy of analysis.** Alation provides the platform for finding existing data sets and building upon the work already done versus starting fresh every time. Repeated use of the already verified queries or data sets allows users to use proven standards, get consistent results, learn, and avoid repeated mistakes. Reuse of certified assets, rather than creating their own, also guarantees better adherence to best practices and reduces the risks of noncompliant queries. The data engineering consultant at an insurance organization noted: "Alation improves the quality of our analysis because without it people would stumble across the challenges someone else already resolved. For example, we have one data set that consists of 40 tables. Someone wrote and checked a flat table, and now everyone can connect to this table and doesn't have to think about how to correctly represent the hierarchy based on those 40 tables again."
- **Alation increases compliance with data governance policies.** Business users can gain access to data that is relevant and prepared without considering if they should trust that data. Alation embeds data governance definitions and policies side by side with the data, and features like TrustCheck automate compliance recommendations to assist with policy enforcement. The data engineering consultant at an insurance company further explained: "Alation for us is about consolidation and management of the global data and about governance. We use the catalog to define what data you are allowed to analyze and what restrictions are there as well as the guidelines and the process."
- **Business outcomes.** While they struggle to quantify it, several interviewed companies experience impact to their topline from using Alation:
  - Alation allowed analysts at a web hosting company to spend less time on supporting data requests, enabling them to dive deeper into the company data to understand customer behavior and identify difficulties customers had with some of the services. As a result, the organization made changes to improve customer experience and become more customer focused.
  - With the help of Alation, an electronic component distributor was able to start delivering parts to market faster. The organization's compliance department had to assign an export control class number to each part as it came in. In the past, the team relied on a

> "We never had that kind of a relationship between the data engineers and analysts where the engineers could prescribe best practices in a way that was helpful and usable."
>
> *Technical account manager, travel technology*

> "[Using Alation] definitely made us a better company because we are now aware and are paying attention to our customers and end users. We can help them along in their journey as opposed to being an order shop."
>
> *Director of enterprise data and BI tools, web hosting*

legacy operational report. With Alation, the team "could find numbers quickly and drill down to exactly what they were looking for," allowing the team to assign the export control class numbers and get the products to market faster.

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 Alation and later realize additional uses and business opportunities, including:

- **Fostering self-service culture.** Organizations' push to be data-and insights-driven puts more pressure on business users to make decisions quickly, taking away the luxury of waiting days until necessary data is ready and provided by the data team. Interviewed customers look to expand the number and increase the level of comfort for business decision makers to use Alation and explore what they need in real time to keep up with customers, competitors, and partners.[4]
- **Embedding Alation further into the data environment.** Some interviewed companies mentioned that they plan to build new connectors to certain data sources in their environment to expand their use of Alation. Others are considering developing applications to connect Alation to other tools for fast definition and search of rules.
- **Analyzing data use to optimize data consumption.** Several interviewees told Forrester that Alation allows companies to track what data is used and how, who the active users are, and which queries are most popular. While the interviewees said they were only starting to track the patterns, they saw how this knowledge could help identify direction for future improvements or additional training.
- **Retiring homegrown data management tools.** Prior to Alation, several interviewed organizations developed internal tools to describe and organize data. Alation far outperformed the capabilities of the homegrown solutions, and organizations were in the process of sunsetting them and reassigning resources.

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.

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	Fees to Alation	$0	$246,000	$266,580	$277,500	$790,080	$652,440
Ftr	Implementation cost	$9,328	$0	$0	$0	$9,328	$9,328
Gtr	Training and adoption cost	$31,889	$1,328	$3,404	$3,570	$40,192	$38,593
Htr	Ongoing management	$0	$45,375	$45,375	$45,375	$136,125	$112,841
	Total costs (risk-adjusted)	$41,217	$292,703	$315,359	$326,445	$975,725	$813,202

Fees To Alation

The fees to Alation include a subscription to a server and are determined by the number of Alation users and the distribution between the type of licenses that users receive, which includes Contributors, Consumers, and Collaborators.

For the composite organization with 300 Alation users, the annual price amounts to $246,000, and it goes up as the number of users increases in Year 2 and Year 3.

Forrester did not risk-adjust this cost because the calculation is based on the average price paid per user based on their role and technology costs that came from Alation. The three-year total PV was $652,440.

For more information regarding Alation pricing specific for your organization and use case, please contact your Alation representative.

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 $813,202.

Fees To Alation: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Fees to Alation			$246,000	$266,580	$277,500
Et	Fees to Alation	E1	$0	$246,000	$266,580	$277,500
	Risk adjustment	0%				
Etr	Fees to Alation (risk-adjusted)		$0	$246,000	$266,580	$277,500

Implementation Cost

All interviewed organizations describe the Alation installation as an easy process requiring up to two weeks of developers' time. The following phase of connecting the organization's environment to Alation required several months' worth of effort from several employees across different roles. For some companies, the legal department needed to approve data integrations to ensure compliance with company security protocols and any relevant organizational and industry requirements.

For the composite organization Forrester assumes:

- Two engineers work on the initial installation and configure Alation's connection to the organization's data sources.
- The organization uses connectors available through Alation and does not need to develop any custom connectors. If new connectors were necessary, the organization would incur additional development costs.

The cost of implementation would vary based on:

- The complexity of the existing data landscape and the team's dedication to connecting Alation to the environment.
- The number and salaries of FTEs involved in implementation.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $9,328.

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.

Implementation Cost: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F2	Engineering effort required to install Alation initial source connectivity (hours)	2 weeks for 2 engineers	160			
F3	Engineer average burdened hourly rate (rounded)	$110,000/ 2,080 hours	$53			
Ft	Cost of implementation and initial adoption	F1+F2*F3	$8,480	$0	$0	$0
	Risk adjustment	↑10%				
Ftr	Cost of implementation and initial adoption (risk-adjusted)		$9,328	$0	$0	$0

Training And Adoption Cost

Interviewees recognize that for their investment in Alation to have a positive outcome, they need to get data analysts and business users to use Alation and be proficient in the tool.

- An insurance company includes Alation training in its two-day big data analytics training course, that's aimed at introducing users to the catalog and its main capabilities and dashboards.
- The online marketplace company provides regular webinars to introduce business users to Alation for the first several months of using the enterprise data catalog.
- A software company also runs regular training sessions to teach users necessary skills, such as how to automate queries, write an article, and how to customize a field in Alation.
- In addition to the training program, to stimulate user adoption rates and engage their analyst community, the engineering company develops a gamification program where users receive badges and rewards for using Alation.
- An electronic component distributor runs a similar program with its "Alation Days," where data analysts and engineers are encouraged to pause other work and focus on writing queries and creating documentation in Alation. The most active participants receive recognition and rewards.

To stimulate user adoption rates and engage their analyst community, the engineering company successfully executes a gamification program in which users receive badges and rewards for using Alation.

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For the composite organization Forrester assumes:

- Data/analytics leadership FTE(s) dedicate 80 hours to develop an adoption and training program.
- Every user with access to Alation goes through a 2-hour training to learn how to use the data catalog. Initially, the organization trains 300 new users, and every following year new hires and FTEs receive the same training.
- An average user hourly rate amounts to $38.

Training and change management costs will vary based on:

- Organization's effort to train employees new to Alation and to interest them in using the platform.
- Number of employees who need to be trained and their prior experience with data and data queries.
- Employees' average hourly rate.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $38,593.

Training And Adoption Cost: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	Data/analytics management hours dedicated to change management		80			
G2	Data leadership burdened hourly rate	$165,000/ 2,080 hours	$79			
G3	Training/adoption program development cost	G1*G2	6,346			
G4	Number of users trained to use Alation	All users initially, then new hires only	300	16	41	43
G5	Hours required for training		2	2	2	2
G6	Average FTE hourly rate	(Rounded)	$38	$38	$38	$38
Gt	Training and adoption cost	G4*G5*G6	$28,990	$1,208	$3,095	$3,246
	Risk adjustment	↑10%				
Gtr	Training and adoption cost (risk-adjusted)		$31,889	$1,328	$3,404	$3,570

Ongoing Management

All organizations report that Alation requires little maintenance and administration. Their ongoing use exhibits the following patterns:

- An engineering company has less than one FTE's worth of managing the platform. It assigned four to five FTEs part-time to enhance the processes around using the data catalog enterprisewide to further integrate it within the organization's environment.
- For the insurance company, the IT team takes on the administrative efforts, and the data engineering team spends under 5% of their time to quality control new integrations and features.

One developer dedicates 30% of their time to building enhancements and new integrations for Alation.

- A software company dedicates a product manager, an operations FTE, and several developers part-time to managing the platform and building connectors.

For the composite organization Forrester assumes:

- Data/analytics leadership FTE(s) dedicate 5% of their time to Alation oversight.
- One developer dedicates 30% of their time to building enhancements and new integrations for Alation.

The cost will vary based on:

- The number of Alation-related dev initiatives led by the organization and the complexity of the organization's data environment.
- Development effort required to support these data initiatives.
- Fully loaded salaries of developers and data/analytics leadership.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV of $112,841.

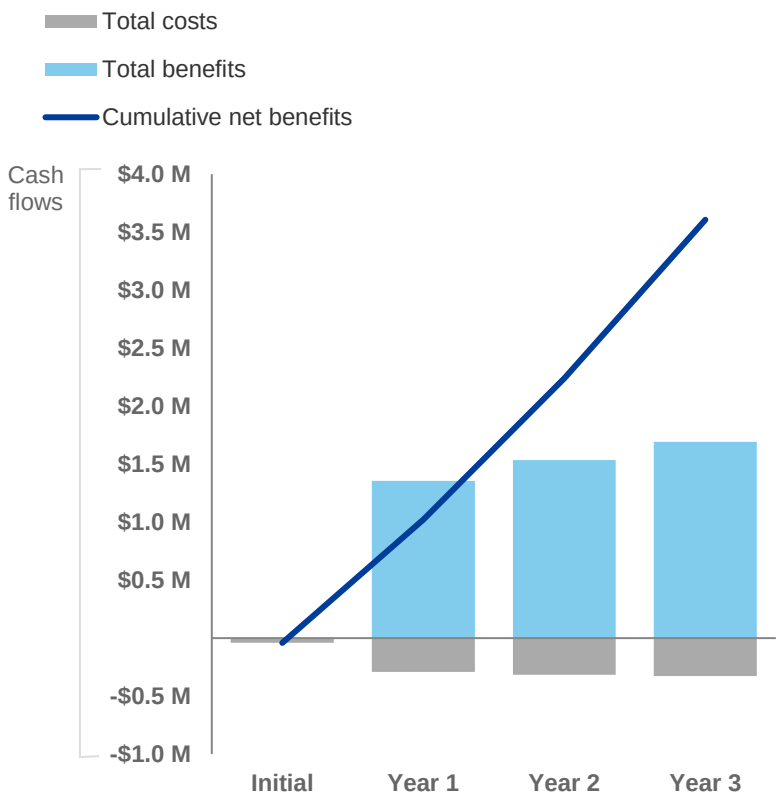
Ongoing Management: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
H1	Percent of one product owner's time to manage the platform			5%	5%	5%
H2	Director of analytics, average burdened annual salary	(Rounded)		$165,000	$165,000	$165,000
H3	Number of developers building enhancements and new integrations			1	1	1
H4	Percentage of 1 developer's time dedicated to Alation work			30%	30%	30%
H5	Developer annual fully burdened salary	(Rounded)		$110,000	$110,000	$110,000
Ht	Ongoing management	(H1*H2)+ (H3*H4*H5)	$0	$41,250	$41,250	$41,250
	Risk adjustment	↑10%				
Htr	Ongoing management (risk-adjusted)		$0	$45,375	$45,375	$45,375

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

These risk-adjusted ROI and NPV 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	($41,217)	($292,703)	($315,359)	($326,445)	($975,725)	($813,202)
Total benefits	$0	$1,356,923	$1,534,388	$1,691,464	$4,582,775	$3,772,478
Net benefits	($41,217)	$1,064,219	$1,219,029	$1,365,019	$3,607,050	$2,959,276
ROI						364%

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Alation: Overview

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

The Alation Data Catalog

The first data catalog designed for human collaboration

Alation is changing the way people find, understand, trust, use, and reuse data. We make all of this possible with the world's first collaborative enterprise data catalog. Alation's data catalog acts as a recommendation engine for your data, delivers agile data governance, and connects data to insights in a self-service analytics environment. It automatically collects all knowledge about your data and its usage, so useful information is always available, allowing everyone in the organization, from data novices to experts, to easily search, collaborate, and leverage knowledge from one trustworthy source. It's a powerful solution that dramatically improves analytic productivity and empowers better business decisions for all.

Alation is building a customer-first data culture and has been credited by Forrester* for creating and leading the 'Machine Learning Data Catalog' category.

**The Forrester Wave™: Machine Learning Data Catalogs, Q2 2018, June 2018*

A Data Catalog Is Only As Good As Its Applications

Alation surfaces proactive recommendations to data consumers

SEARCH

Browse all your data–no technical jargon needed

We took inspiration from Google for a simple interface to connect the language of your business to the technical schema of your data. Finding the data you need is no longer stalled by tricky semantic translations.

COMPOSE

Increase productivity for both the SQL-savvy and the novice

Interested in using a data set for analysis, but not sure which filters or joins to use? We'll guide you through building a query with inline recommendations powered by the Alation Data Catalog.

CURATE

Best practices shared through endorsements and warnings

In the creative flow of analysis, it's easy to forget governance policies and best practices. Alation ensures that both data policies and proactive recommendations are available in real time, as you work.

COLLABORATE

Share work seamlessly in a wiki built for data analysis

Collaborating with data is challenging. Data updates automatically and conclusions change. Cut and paste mistakes result in errors. Alation removes these barriers to teamwork with data-aware collaboration tools.

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

Related Forrester Research

"The Forrester Wave™: Machine Learning Data Catalogs, Q2 2018," Forrester Research, Inc., June 21, 2018.

Appendix C: Endnotes

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[1] Source: Forrester Analytics Global Business Technographics® Data And Analytics Survey, 2018.
[2] Source: "The Forrester Wave™: Machine Learning Data Catalogs, Q2 2018," Forrester Research, Inc., June 21, 2018.
[3] Source: "Your Business Is Only As Fast As Your Data," Forrester Research Inc., November 13, 2018.
[4] Source: "Create A Road Map For A Real-Time, Agile, Self-Service Data Platform," Forrester Research, Inc., November 20, 2018.