

A Forrester Total Economic Impact™ Study
Commissioned By Twilio
February 2018

The Total Economic Impact™ Of Twilio

Business Benefits And Cost Savings
Organizations Can Achieve By Implementing
Twilio To Power Customer Communications For
The Contact Center

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Executive Summary

Organizations across industries are scrambling to reinvent their customer engagement model as empowered customers demand a rich and seamless communications experience. According to Forrester's research, digitalizing and streamlining the customer journey is the key step in creating maximum customer value and boosting operational agility. Evidence shows that slow experiences hinder key business imperatives — and with Twilio organizations can quickly build a powerful, flexible, and scalable operational infrastructure to ensure their customers are receiving communications through the right channel at the right time to enhance the customer journey.

Twilio commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by leveraging Twilio. The purpose of this study is to provide organizations with a framework to evaluate the potential financial impact of the Twilio platform on their business.

Twilio provides a powerful API platform that allows enterprises to easily customize customer communications throughout the entire customer journey. With Twilio, enterprises can transform their customer communications, including secure access to accounts, notifications and alerts, contact center, and workforce mobilization; ultimately helping the business with a critical part of their digital transformation and improving overall customer engagement. Organizations can pick which APIs best fit their use case to create a modern, scalable, cloud-based omni-channel communications hub. This flexibility allows organizations to tailor-fit the engagement experience to their business. Furthermore, Twilio empowers contact center agents, boosting efficiency with tools like smart routing, omni-channel capabilities, interactive voice response, CRM integrated web-dialer, and click-to-call from mobile apps or webpages. Agents can also proactively engage customers through SMS, voice, video, and webchat, to identify and solve issues in real-time. Twilio has a flexible pricing model suited for enterprises that includes annual license or per-minute and or per-message data rates for flexibility, as well as enterprise-oriented pricing plans. With these flexible pricing options organizations can gain benefits and cost savings in a variety of ways:

- › Replacing costly, inefficient, inflexible, single-channel, and unreliable legacy communications systems.
- › Reducing vendor touchpoints by implementing a one-stop, software-based omni-channel communications hub.
- › Creating a differentiated customer engagement experience.
- › Experimenting and innovating with the customer experience.
- › Improving efficiency gains and agent productivity, resulting in higher conversion rates and increased customer satisfaction scores.
- › Programming language compatibility and the ability to rapidly update, innovate, and scale global operations.
- › Reducing fraud and account takeovers.



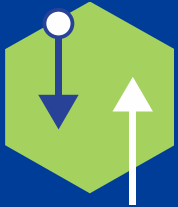
ROI
277%



Benefits PV
\$12.6 million



NPV
\$9.3 million



Payback
<6 months



**Improved
conversion
rate:
\$5.7 million**



**Reduced cost
per contact:
\$5.03 million**



**Improved
developer
productivity:
30%**



**Recognize
benefits:
3 months**

"Our customers are demanding a seamless experience and their loyalty and business depends on this. With Twilio, we can now provide communications that our customers expect through a channel that works for them."

VP engineering, eCommerce company



To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with years of experience using Twilio. Customers participating in the study use Twilio to integrate communications into their applications, which strengthens their digital marketing efforts and streamlines omni-channel communications.

Forrester interviewed four customer-facing global enterprises across a range of industries. These organizations have extensive contact center footprints, with a high volume of customer interactions. Interviewed organizations utilize Twilio to power their digital eCommerce communications and marketing, inbound and outbound call centers, as well as SMS/text customer notifications. To reflect on the total economic impact that the Twilio platform could have on an organization's business, Forrester developed a composite organization based on benefit and cost data gathered from the customer interviews. The composite organization is representative of the companies that Forrester interviewed and is used to present the aggregate financial analysis in this study. While the study aims to quantify direct cost savings and incremental revenue related to an investment in Twilio, organizations may achieve additional benefits such as the ability to increase scale, support new business capabilities, attain rich customer analytics data, and reduce fraud, which were not quantified as part of this study.

Key Findings

Forrester's interviews with four existing Twilio customers and subsequent financial analysis found that an organization making 500,000 monthly customer contacts (voice and SMS) would experience benefits of \$12.6M over three years versus costs of \$3.3M, adding up to a net present value (NPV) of about \$9.3M. Over three years, the composite organization could achieve a 277% return on their investment in Twilio (ROI). The interviewed organizations also noted that they were able to get a payback on their investment within six months of full implementation. Payback is based on companies recovering their costs of deploying and integrating Twilio into their business environment.

Quantified benefits. The following risk-adjusted quantified benefits are representative of those experienced by the organizations surveyed and interviewed and reflect the financial analysis associated with the composite organization. All values are reported in three-year net present value (NPV):

Improved conversion rates through outbound and inbound phone contacts by 15%. Customers interviewed for this study noted an increase in conversion rates from both their outbound and inbound phone channels. Overall, this is enabled through improved quality in communications infrastructure, reduced call wait times, reduced average handling time, and fewer dropped calls. The ability to seamlessly unite communications across customer touchpoints using Twilio allowed agents to react faster and provide a better customer experience. For example, Twilio TaskRouter connects customers with the right agent for their needs, improving the likelihood that a conversion will be made.

"Twilio is great for companies that do not have deep pockets to build an in-house contact center. We can now compete and offer an experience to our customers without breaking the bank in upfront investment costs."

CTO, eCommerce company



Reduced average cost per contact by 15%. Twilio enabled customers to implement call avoidance techniques, such as deflection and self-service, which improved agent efficiency and reduced contact costs. Twilio proactively pushes data to agents through the customer's native CRM, improving the number of contacts they can handle per hour. An organization can build an interactive voice response system with only a few lines of code, routing calls to the most qualified agents, as well as providing them customer context and mitigating lengthy call times.

Improved IT developer productivity by 30%. Customers found that the ability to embed communications in their applications using the programming language of their choosing drastically improved developer productivity. Twilio is well-documented, and the extensive library of information reduced development time.

Cost savings from discontinuing legacy communications platform of \$1.1M. By replacing their legacy provides, customers avoided maintenance, licensing, and professional services expenses with Twilio. Customers noted that Twilio took significantly less effort to support than prior platforms.

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

- › Ability to quickly scale up their contact center operations.
- › Freedom to innovate and experiment with new customer engagement models (insignificant cost and time invested, with upside benefits of finding new and improved ways to communicate with and service customers).
- › Reduce fraud and related costs.
- › Creating a differentiated customer engagement experience.
- › The ability to support new communications capabilities and communicate through the channels the customer chooses.
- › Gather rich operational and customer data to support complex analytic endeavors that inform customer engagement strategies.

Costs. The following risk-adjusted cost is representative of those experienced by the companies interviewed, and reflect the financial analysis associated with the composite organization. All values are reported in the three-year NPV:

Twilio implementation and integration costs totaling approximately \$880K. This includes initial setup and integration with existing business applications. The model implementation of an enterprise Twilio Contact Center had its first phase completed within a month and started delivering benefits within 3 months. The full rollout of all contact center phases took 8 months and the equivalent of 10 full-time resources. The implementation included: using Twilio to create a flexible contact center platform; a robust digital marketing engine to track leads and use phone and SMS to better communicate with customers; and an omni-channel customer experience that can deliver notifications and communications to customers.

Twilio annual license and data costs totaling approximately \$2.5M. This includes the annual Twilio usage and license costs across a variety of software products, across all layers of their stack — Engagement Cloud, Programmable Communications Cloud, and Super Network — driving communications for 500,000 monthly customer contacts.

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 Twilio.

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 Twilio can have on an organization:



DUE DILIGENCE

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



CUSTOMER INTERVIEWS

Interviewed four organizations using Twilio 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 Twilio'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 Twilio 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 Twilio.

Twilio 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.

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

The Twilio Customer Journey

BEFORE AND AFTER THE TWILIO INVESTMENT

Interviewed Organizations

For this study, Forrester surveyed and interviewed four clients using Twilio. Interviewed clients include the following:

INDUSTRY	REGION	NUMBER OF PHONE AND SMS INTERACTIONS PER MONTH THROUGH TWILIO	CONTACT CENTER AGENTS
Finance	United Kingdom	200,000	200
Real estate	United States	550,000	300
Technology	Global operations based in United States	1,500,000	1200
eCommerce	Australia	50,000	15

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 composite organization is a global B2C business engaging in eCommerce activities. The organization has 7,000 employees, of which 250 are contact center agents, who engage in outbound sales and inbound customer service activities. On average, the organization has 500,000 monthly customer contacts.

Of these contacts, 300,000 are via phone, with 60% outbound calls and 40% inbound calls. Of the outbound calls, 10% are notifications, 30% are service related, and 60% are for sales. Of the inbound calls, 30% are for sales and 70% are for service. The composite organization purchased a pool of 10,000 phone numbers, which are used to route and track all inbound contacts.

Of the monthly contacts, 200,000 are via text/SMS. Sixty percent of message interactions are outbound, while 40% are inbound. Outbound messages are primarily for notifications, with 50% for notifications, 40% for service, and 10% for sales or marketing. Seventy percent of inbound messages are for service, with 30% related to sales. Similar to inbound calls, all inbound messages are tracked with unique phone numbers. Prior to using Twilio, the organization had had an average outbound conversion rate of 20%, with an average order value (AOV) of \$150.



Key assumptions
250 contact center agents

300,000 monthly phone interactions (180,000 outbound and 120,000 inbound)

200,000 SMS contacts

15 contact center IT developers

Deployment characteristics. The composite organization uses Twilio for core contact center activities such as outbound dialer, web chat, screen share, and inbound customer service routing. Twilio also enables their digital marketing efforts, offering lead tracking and alerts, text marketing, and post-call SMS surveys for contact centers. In addition, the composite organization takes advantage of Twilio's Engagement Cloud, which offers routing capabilities to quickly connect customers to the right agent to provide a frictionless experience, as well as Twilio Studio, which allows cross functional teams to design, deploy, and iterate new communication workflows.

Key Challenges

Prior to their investment in Twilio, the composite organization had the following challenges:

- › Poor contact center agent efficiency due to weak integration between communications and core business applications.
- › Cumbersome legacy systems which were expensive to maintain, difficult to scale, and challenging to add new channels or capabilities.
- › Need to enable omni-channel communications and create a consistent customer experience across all touchpoints, which legacy systems lacked.
- › Locked into legacy platforms protected by unique IP, making them both expensive and difficult to modify.
- › Lack of in-house talent required to program in multiple specialized languages.
- › Declining customer retention due to an inability to use communications to innovate customer experience.
- › Poor call quality negatively impacting customer experience.
- › Loss of revenue due to inconsistent system performance and frequent downtimes.

"As a company we have been able to reduce our legacy maintenance contracts by several hundreds of thousands of dollars due in large part to the simplicity and flexibility of Twilio's cloud-based solution."

VP engineering, eCommerce company



Solution Requirements

The composite organization searched for a solution that could:

- › Provide communication APIs that are easily integrated into core business applications.
- › Improve communication infrastructure resilience with reduced maintenance issues, fewer dropped calls, and improved communication SLAs.
- › Replace analog, hosted legacy communication solution with a scalable cloud-based software that provides enhanced features, omni-channel capabilities and lower costs.
- › Improve developer productivity.
- › Provide a scalable solution that is consistent across all communication channels.
- › Drive customer engagement and improve satisfaction metrics (NPS scores, retention rates, CSAT scores.)

"There is no other solution in the market that can allow us to overhaul and build a new flexible contact center platform that integrates across our business and marketing applications. Even if we had bandwidth, our IT team could not pull this off without Twilio."

Chief analytics officer, finance company



- › Assist with company-wide goals of digital transformation and providing a differentiated customer experience.

Key Results

Key quantified results from the Twilio investment for the composite organization include:

- › Increased net-new revenue due to improved contact conversions.
- › Increased agent productivity due to improved routing and CRM integration.
- › Increased developer productivity due to easy-to-use APIs which do not require specialized programming skills.

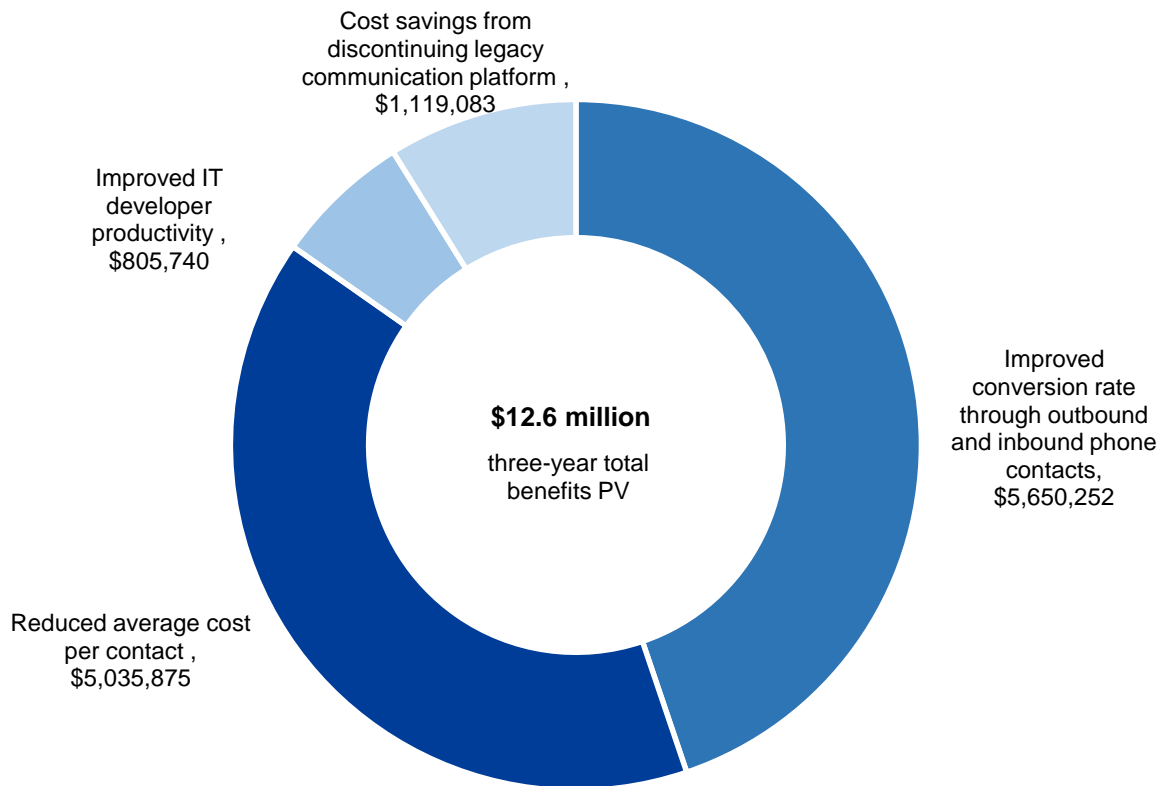
Financial Analysis

QUANTIFIED BENEFIT AND COST DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Improved conversion rate through outbound and inbound phone contacts	\$2,272,050	\$2,272,050	\$2,272,050	\$6,816,150	\$5,650,252
Btr	Reduced average cost per contact	\$2,025,000	\$2,025,000	\$2,025,000	\$6,075,000	\$5,035,875
Ctr	Improved IT developer productivity	\$324,000	\$324,000	\$324,000	\$972,000	\$805,740
Dtr.	Cost savings from discontinuing legacy communication platform	\$450,000	\$450,000	\$450,000	\$1,350,000	\$1,119,083
Total benefits (risk-adjusted)		\$5,071,050	\$5,071,050	\$5,071,050	\$15,213,150	\$12,610,950

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to have a PV of \$12.6M.



Benefit 1: Improved Conversion Rate Through Outbound And Inbound Phone Contacts

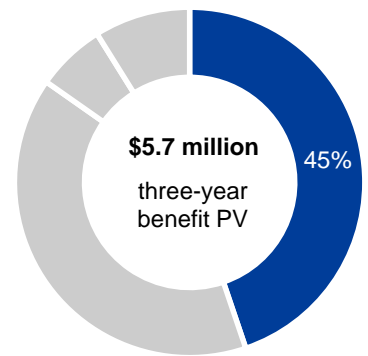
The interviewed organizations revealed that one of the goals in implementing Twilio was to improve their sales conversions for both inbound and outbound contacts. For the composite organization, Twilio improved call quality, system reliability, and overall customer experience. The interviewed organizations revealed that building click-to-call ensured that customers could conveniently contact them, and the organizations could route and service the interaction using additional content. Furthermore, Twilio enabled features such as screen sharing armed agents with context to effectively answer questions and close deals. Interviewed organizations stated that with Twilio their agents could go straight to problem solving, rather than waste time establishing the customer's context and identity. More rich content delivered to agents greatly reduces call times and increases conversion rates in both inbound and outbound contacts.

Customers interviewed for this study noted an increase in both inbound and outbound customer contacts from their Twilio investment. The conversion rate gains were attributed to:

- › Improved call quality, fewer dropped calls and an overall reduction in downtime.
- › Improved context for agents, greatly reducing average talk times.
- › Smart routing ensuring that contacts reach the agent best suited to answer customer questions.
- › The ability for customers to contact an organization how they want, when they want.
- › In app collaboration between agents and customers, leading to a superior customer experience.

For the composite organization, Forrester assumes:

- › Up to 3.6M in annual phone contacts. The model assumes that 60% of these contacts are outbound, and 40% inbound.
- › Outbound calls are 60% sales, 30% service and 10% notifications; inbound calls are 70% service and 30% sales,
- › Prior to implementing Twilio, the composite organization had a 5% conversion rate on outbound contacts and a 20% conversion rate for inbound contacts.
- › The average customer conversion value is \$150, and the composite organization has a 30% profit margin on all customer conversions.
- › After implementing Twilio, the composite organization saw a 15% increase in conversion rates for both inbound and outbound phone contacts.



Incremental benefit through improved conversion rate:
45% of total benefits

Increase in outbound and inbound conversion rates can be influenced by:

- › The types of relationships with account/sales reps.
- › The geographic markets where the customers reside, the customer profiles, and their affinity to purchase over the phone or online.

To account for this, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of \$5.7M.

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.

Improved Conversion Rate Through Outbound And Inbound Phone Contacts: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Monthly outbound phone customer interactions	<u>Outbound calls breakout</u> Sales calls (60%): 108,000 Service calls (30%): 54,000 Notification calls (10%): 18,000	180,000	180,000	180,000
A2	Number of months		12	12	12
A3	Annual outbound phone contacts		2,160,000	2,160,000	2,160,000
A4	Outbound call conversion rate prior to Twilio		5%	5%	5%
A5	Annual customer conversions per year through outbound calls		108,000	108,000	108,000
A6	Monthly inbound phone customer interactions	<u>Inbound calls breakout</u> Service calls (70%): 84,000 Sales calls (30%): 36,000	120,000	120,000	120,000
A7	Number of months		12	12	12
A8	Annual inbound phone contacts		1,440,000	1,440,000	1,440,000
A9	Inbound contacts conversion rate prior to Twilio		20%	20%	20%
A10	Annual customer conversions per year through inbound calls		288,000	288,000	288,000
A11	Total customer conversions through inbound and outbound phone channel		396,000	396,000	396,000
A12	Improved sales conversion rate through outbound and inbound phone contacts		15%	15%	15%
A13	Average revenue per customer conversion		\$150	\$150	\$150
A14	Estimated profit margin		30%	30%	30%
At	Incremental benefit through improved conversion rate	A11*A12*A13*A14	\$2,673,000	\$2,673,000	\$2,673,000
	Risk adjustment	↓15%			
Atr	Incremental benefit through improved conversion rate (risk-adjusted)		\$2,272,050	\$2,272,050	\$2,272,050

Benefit 2: Reduced Average Cost Per Contact

In addition to increasing conversion rates, Twilio helped interviewed organizations drive an additional 15% reduction in the cost per contact. This results in improved margins as the composite organization recognized the following benefits:

Improved agent efficiency. The ability to integrate Twilio APIs with the customer's existing CRM and route interactions ensures that the correct agent is reached and that they have more information at their fingertips when servicing customers, lowering overall talk time per contact. With improved tools, agents are also able to handle more calls faster.

Customer deflection and lead prioritization. Twilio provides simple automation tools, which help organizations prioritize personal contacts for the most challenging problems. Organizations can also leverage contextual data to prioritize leads and focus on those with the highest potential to convert.

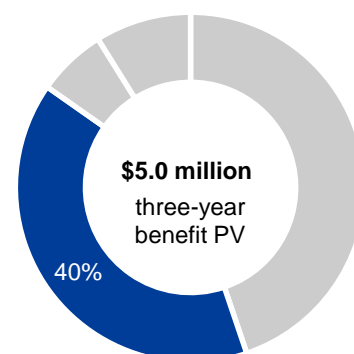
For the composite organization, Forrester assumes:

- › Six million annual customer contacts through phone and SMS.
- › Average cost of \$2.50 per customer contact.
- › Reduction in average cost per contact of 15% using Twilio.

Reductions in average cost per contact can be influenced by:

- › Contact mix based on customer needs.
- › Proprietary in-house analytics and related business process improvements.

To account for this, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$5.0M.



Reduced average cost per contact: 40% of total benefits

Reduced Average Cost Per Contact: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Total monthly customer contacts (phone and SMS)		500,000	500,000	500,000
B2	Number of months		12	12	12
B3	Total annual customer contacts (phone and SMS)		6,000,000	6,000,000	6,000,000
B4	Average cost per contact		\$2.50	\$2.50	\$2.50
B5	Percentage reduction in average cost per contact		15%	15%	15%
Bt	Cost savings from reduced cost per contact	$B3 \times B4 \times B5$	\$2,250,000	\$2,250,000	\$2,250,000
	Risk adjustment	↓ 10%			
Btr	Cost savings from reduced cost per contact (risk-adjusted)		\$2,025,000	\$2,025,000	\$2,025,000

Benefit 3: Improved IT Developer Productivity

The interviewed organizations used internal IT resources to build out and implement their communications platform using Twilio. The ability to use programming languages to match internal skillsets and the availability of extensive documentation vastly improved the time it took developers to embed communications in their applications and roll out new capabilities.

Accessible to developers. Twilio's simple platform is available in most popular languages, so organizations can use broadly available resources, versus relying on expensive and specialized talent with limited availability.

Constantly evolving APIs at your fingertips. Twilio is constantly rolling out new applications and features which can easily be integrated into your ecosystem reducing the need to have internal resources dedicated to R&D.

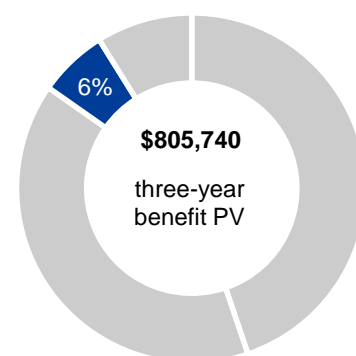
For the composite organization, Forrester assumes:

- › A team of 15 developers dedicated to managing communications applications, with an average fully-burdened salary of \$80,000.
- › Thirty percent improvement in developer productivity when using Twilio.

The magnitude of this benefit may vary for other organizations due to:

- › Size of dedicated IT department and average full-burdened salary.
- › Productivity improvement depending on existing programming skill sets of teams.
- › Complexity of existing application ecosystem.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$895,267.



Improved IT developer productivity:
6% of total benefits

Improved IT Developer Productivity: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
C1	Number of IT developers managing communication/contact strategy applications		15	15	15
C2	Average annual burden rate of IT developer		\$80,000	\$80,000	\$80,000
C3	Improved IT developer productivity with Twilio		30%	30%	30%
Ct	Improved IT developer productivity	$C1 \times C2 \times C3$	\$360,000	\$360,000	\$360,000
	Risk adjustment	↓10%			
Ctr	Improved IT developer productivity (risk-adjusted)		\$324,000	\$324,000	\$324,000

Benefit 4: Cost Savings From Discontinuing Legacy Communication Platform

Interviewed organizations highlighted the cost savings recognized from discontinuing legacy communication platforms. By switching to Twilio's cloud-based solution, users eliminated costs associated with maintaining legacy hardware, paying support fees, and add-on professional service fees. Using Twilio also reduced carrier fees for SMS messages and phone minutes.

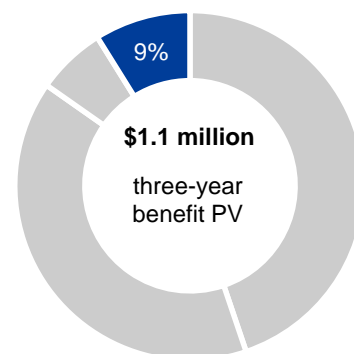
For the composite organization, Forrester assumes:

- › Maintenance and licensing costs of \$250K annually using legacy platform.
- › Professional service expenses of \$75K per year.
- › Legacy carrier usage and hardware of \$175K a year.

The magnitude of this benefit may vary for other organizations due to:

- › Size and complexity of legacy communications platform.
- › Internal maintenance resources.
- › Annual phone and message usage.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$1.2M.



**Cost savings from discontinuing legacy solution:
9% of total benefits**

Cost Savings From Discontinuing Legacy Communication Platform: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
D1	Maintenance and license cost savings from legacy communication platform		\$250,000	\$250,000	\$250,000
D2	Reduction in professional services requirement		\$75,000	\$75,000	\$75,000
D3	Reduction in legacy carrier costs		\$175,000	\$175,000	\$175,000
Dt	Cost savings from discontinuing legacy communication platform	D1+D2+D3	\$500,000	\$500,000	\$500,000
	Risk adjustment	↓10%			
Dtr	Cost savings from discontinuing legacy communication platform (risk-adjusted)		\$450,000	\$450,000	\$450,000

Flexibility

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

- › Improved customer experience and customer loyalty due to better contact quality.
- › Adding new communications channels like video, messaging, and chat.
- › Ability to innovate and experiment with new engagement models.
- › Improved data capture and facilitated customer analytics.
- › Differentiation from those companies that do not offer omni-channel experiences.
- › Improved ability to support multiple engagement models and synchronize all channels and markets resulting in improved sales.
- › Reduced cost fraud and account takeovers using Twilio's two-factor identification system.
- › The ability to integrate Twilio's account security products in the future.
- › Call deflection following the addition of SMS communications, preventing more costly voice communications.

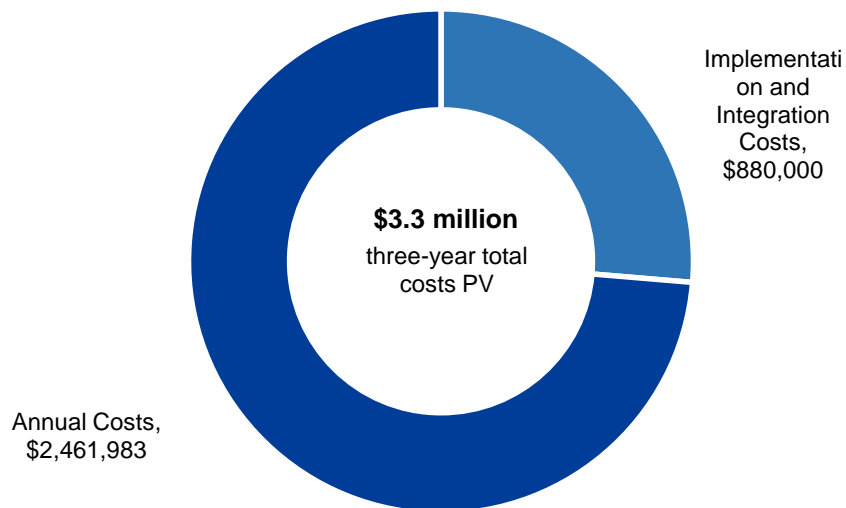
Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

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 so.

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Etr	Twilio implementation and integration costs	\$880,000	\$0	\$0	\$0	\$880,000	\$880,000
Ftr	Twilio annual costs (enterprise license and communication data costs)	\$0	\$990,000	\$990,000	\$990,000	\$2,970,000	\$2,461,983
Total costs (risk-adjusted)		\$880,000	\$990,000	\$990,000	\$990,000	\$3,850,000	\$3,341,983

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to have a PV of \$3.3M.



Cost 1: Twilio Implementation And Integration Costs

The implementation and integration costs for the composite organization is based on the complexity of the platform and available IT resources.

These costs may vary based on the scope of the business, complexity of integration and internal IT resources.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$880,000.

Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Implementation And Integration Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Number of IT resources supporting Twilio deployment and integration with marketing, CRM, and communications systems		10			
D2	Number of months to deploy Twilio		8			
E3	Monthly fully burden rate of IT resource		\$10,000			
Dt	Twilio implementation and integration costs	$E1 * E2 * E3$	\$800,000	\$0	\$0	\$0
	Risk adjustment	↑10%				
Dtr	License fees (risk-adjusted)		\$880,000	\$0	\$0	\$0

Cost 2: Annual Costs

Interviewed and surveyed organizations identified several ongoing costs associated with the use of Twilio. For the composite organization, these ongoing costs were modeled as:

- › Forty-eight percent of interactions are service oriented, 36% sales oriented, and 16% notifications oriented.
- › Annual enterprise license and communication data cost of \$900K.

These costs may vary due to license terms as well as the volume of minutes used, and messages sent on the Twilio platform.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of \$2,461,983.

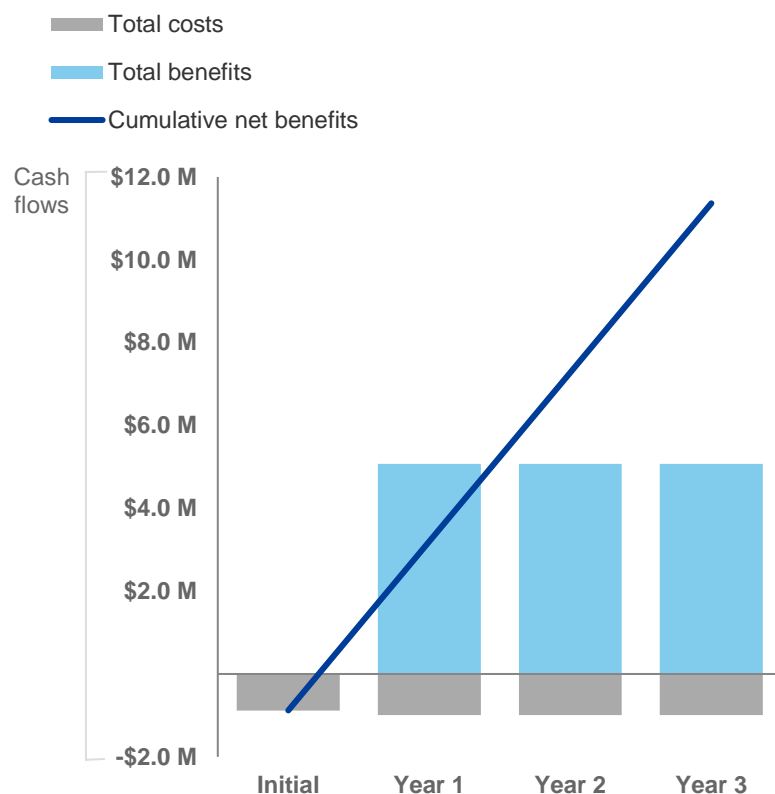
Annual Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Twilio enterprise license costs and communication data costs for 242,000 service customer interactions	<u>Service customer interactions (call and messages)</u> Outbound/inbound calls: 138,000 Outbound/inbound messages: 104,000		\$435,000	\$435,000	\$435,000
F2	Twilio enterprise license costs and communication data costs for 180,000 sales customer interactions	<u>Sales customer interactions (call and messages)</u> Outbound/inbound calls: 144,000 Outbound/inbound messages: 36,000		\$325,000	\$325,000	\$325,000
F3	Twilio enterprise license costs and communication data costs for 78,000 notification customer interactions	<u>Notification customer interactions (call and messages)</u> Outbound/inbound calls: 18,000 Outbound/inbound messages: 60,000		\$140,000	\$140,000	\$140,000
Ft	Twilio enterprise license costs and communication data costs for 500,000 call and messaging customer interactions and 10,000 purchased phone numbers	F1+F2+F3	\$0	\$900,000	\$900,000	\$900,000
	Risk adjustment	↑10%	□			
Ftr	Twilio enterprise license costs and communication data costs for 500,000 call and messaging customer interactions and 10,000 purchased phone numbers (risk-adjusted)		\$0	\$990,000	\$990,000	\$990,000

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



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



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

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	(\$880,000)	(\$990,000)	(\$990,000)	(\$990,000)	(\$3,850,000)	(\$3,341,983)
Total benefits	\$0	\$5,071,050	\$5,071,050	\$5,071,050	\$15,213,150	\$12,610,950
Net benefits	(\$880,000)	\$4,081,050	\$4,081,050	\$4,081,050	\$11,363,150	\$9,268,967
ROI						277%
Payback period						<6 months

Twilio: Overview

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

More than 2 million developers around the world use Twilio to unlock the magic of communications to improve every human experience. Twilio has democratized communications channels like voice, text, chat and video by virtualizing the world's telecommunications infrastructure through APIs that are simple enough for any developer to use, yet robust enough to power the world's most demanding applications. By making communications a part of every software developer's toolkit, Twilio is enabling innovators, across every industry -- from emerging leaders to the world's largest organizations -- to reinvent how companies engage with their customers.

Learn more at www.twilio.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.