

FORRESTER®

The Total Economic Impact™ Of Amazon Connect

Cost Savings And Business Benefits
Enabled By Amazon Connect

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ABOUT FORRESTER CONSULTING

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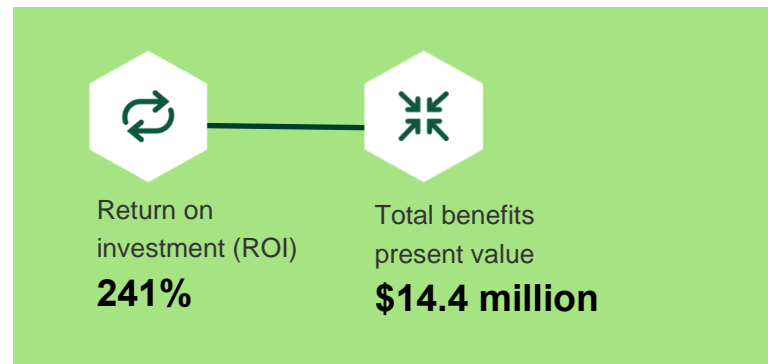
Executive Summary

Forrester's analysis of six current Amazon customers found that Amazon Connect reduced contact center costs, deflected and streamlined calls, improved visibility, simplified management, and boosted customer experience (CX) — while providing dependability and agility at scale. Ultimately, a composite organization modeled after the interviewed organizations with 6 million annual calls reduces costs by 31% and achieves a 241% ROI over three years by replacing its legacy cloud solution with Amazon Connect.

Contact centers are at the core of what it takes to properly win, serve, and retain customers for both B2B and B2C organizations. Rising customer expectations push companies to deliver ever-improving CX, yet, contact centers have complex suites of applications that can slow contact resolution and increase customer dissatisfaction. Enterprises need to integrate contact center software systems to leverage emerging AI tools to simplify the agent desktop and increase the speed and quality of contact resolution.¹ They must also ensure reliability and agility at scale — especially during times of global or market disruption.

TEI methodology. Amazon Web Services (AWS) commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential ROI enterprises may realize by deploying the voice capabilities of Amazon Connect for their contact centers. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Amazon Connect for their own organizations.

Amazon Connect. Amazon Connect is a cloud contact center with consumption-based, pay-as-you-go pricing that is accessed via an internet browser by agents. The service includes standard contact center functionality and reporting, plus skills-based routing, voice and chat recording, transcription and AI capabilities with Contact Lens for Amazon Connect, and integration with the breadth of AWS and third parties via Lambda. [Learn more →](#)



Customer journey. Forrester interviewed six AWS customers who use Amazon Connect in contact centers ranging from 300 to 20,000 agents. These companies previously struggled with excess costs; frequent outages; roadblocks to updates, scale, and enhancements; and limited capabilities. They turned to Amazon Connect because of perceived brand trust and reliability; consumption-based pricing; fast DIY deployment; easy-to-use capabilities; and extensive ability to quickly scale, customize, and integrate.

Composite organization. This TEI analysis illustrates the financial benefits, flexibility, costs, and risks which are realized for a composite organization that is representative of the six interviewed customers. The composite organization is a global enterprise that handles 6 million annual calls with a 7-minute average handle time (AHT). It employs 600 contact center agents, or FTEs, and 50 supervisors, with up to 950 peak concurrent users. The composite organization replaces a legacy cloud solution with Amazon Connect plus AWS services. [Learn more →](#)

TOTAL ECONOMIC IMPACT FINDINGS

Quantified benefits. Forrester modeled \$14.4 million in three-year benefits for the composite organization:

- **Avoided legacy cloud technology costs of \$4.3 million.** Amazon Connect replaced legacy solutions, reducing the total annual contact center subscription and usage costs by 31%.
- **Agent labor savings from reduced call volume of \$4.6 million.** Amazon Connect reduced call volume by 8% to 24% with better routing, interactive voice response (IVR) self-help, agile IVR updates, and digital improvements informed by AI analysis using Contact Lens.
- **Agent labor savings from faster call resolution of \$1.7 million.** Amazon Connect shortened AHT by up to 15% with improved contact flows, better IVR prompts and data capture, streamlined UX, and process improvements informed by Contact Lens.
- **Agent labor savings from accelerated agent training of \$435,000.** New contact center agents were trained one week faster thanks to Amazon Connect's flow and UX improvements.



Subscription cost savings

31%

- **Supervisor labor savings from streamlined management of \$533,000.** Amazon Connect's reporting and dashboards plus AI-informed insights from Contact Lens reduced time spent on service delivery and quality by up to 20%.
- **System administrator labor savings from reduced contact center management of \$156,000.** Admins spent 60% less time managing Amazon Connect than the legacy contact center.
- **Agent and IT labor savings from improved dependability of \$82,000.** Switching to Amazon Connect virtually eliminated user-impacting downtime that plagued legacy systems.
- **Increased operating income by \$2.6 million with enhanced customer experience.** Amazon Connect improved CX, boosting revenue by 2% and reducing refunds and replacements by 15%.

“ I look at our ROI from three perspectives: we reduced our per-member, per-month cost by 40%, we no longer pay for unused seats, and we reduced telecommunications costs by about 50%. **Our ROI is great.** We made significant savings compared to renewing our existing contract. ”

– Senior director of cloud engineering, healthcare services

“ Amazon Connect will be **30% to 50% cheaper** than our on-premises solution would have been this year. ”

– CIO, healthcare services

Unquantified benefits. Amazon Connect enhanced employee experience, aided decision making, improved cash flow, scaled costs directly with usage, accelerated contact flow updates, reduced risk of lost recordings, enhanced call quality, and strengthened contact center and customer interaction security.

Flexibility. Customers gained future opportunities to: deploy and integrate additional AWS services; quickly scale usage; quickly update flows and prompts; quickly launch or move contact center sites; and support work-from-home agents and supervisors. Amazon Connect can help ensure business continuity, as organizations used Amazon Connect during the COVID-19 pandemic to accommodate significant spikes in call volume, ensure reliability, and adapt to new customer needs with speed.

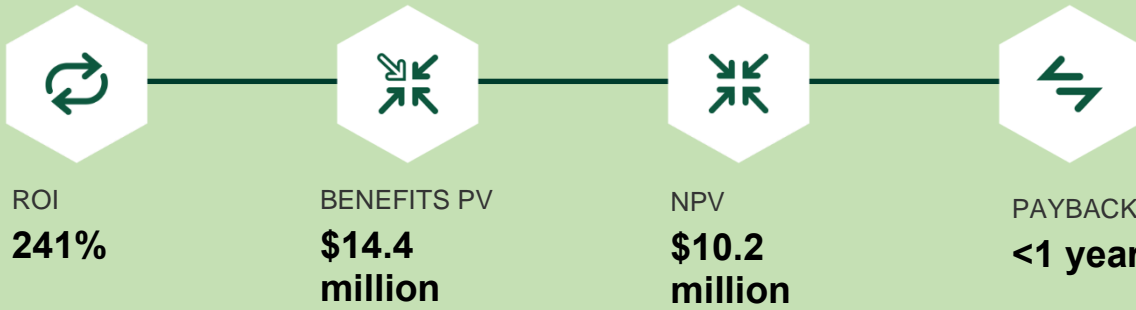
Costs. Forrester modeled \$4.2 million in three-year costs for the composite organization. These are qualified by the following cost categories:

- **Consumption fees of \$2.5 million** for Amazon Connect usage plus third-party integration data accesses using AWS Lambda, call recording storage in Amazon S3, and an IVR with natural language processing powered by Amazon Lex.

- **Consumption fees of \$953,000** for transcription and AI analysis of all voice calls using Contact Lens for Amazon Connect.
- **Internal labor worth \$351,000** for implementation.
- **Internal labor worth \$323,000** for management.
- **Internal labor worth \$111,000** for training.

Risks. Forrester has integrated an evaluation of risks and variability into all calculations in this financial analysis. The organizational scale, variety and complexity of use cases, IT estate complexity, and region and broader market forces may either hamper the realization of benefits or cause price, labor, or timeline overages.

Synopsis. Forrester’s risk-adjusted financial analysis for the composite organization shows \$14.4 million in benefits versus \$4.2 million in costs over three years by switching from a legacy cloud solution to Amazon Connect, adding up to a net present value (NPV) of \$10.2 million and an ROI of 241%. The composite organization reduces annual licensing and consumption costs by 31% from \$2.1 million to \$1.5 million for 950 users.



\$187 per user, per month for legacy cloud solution

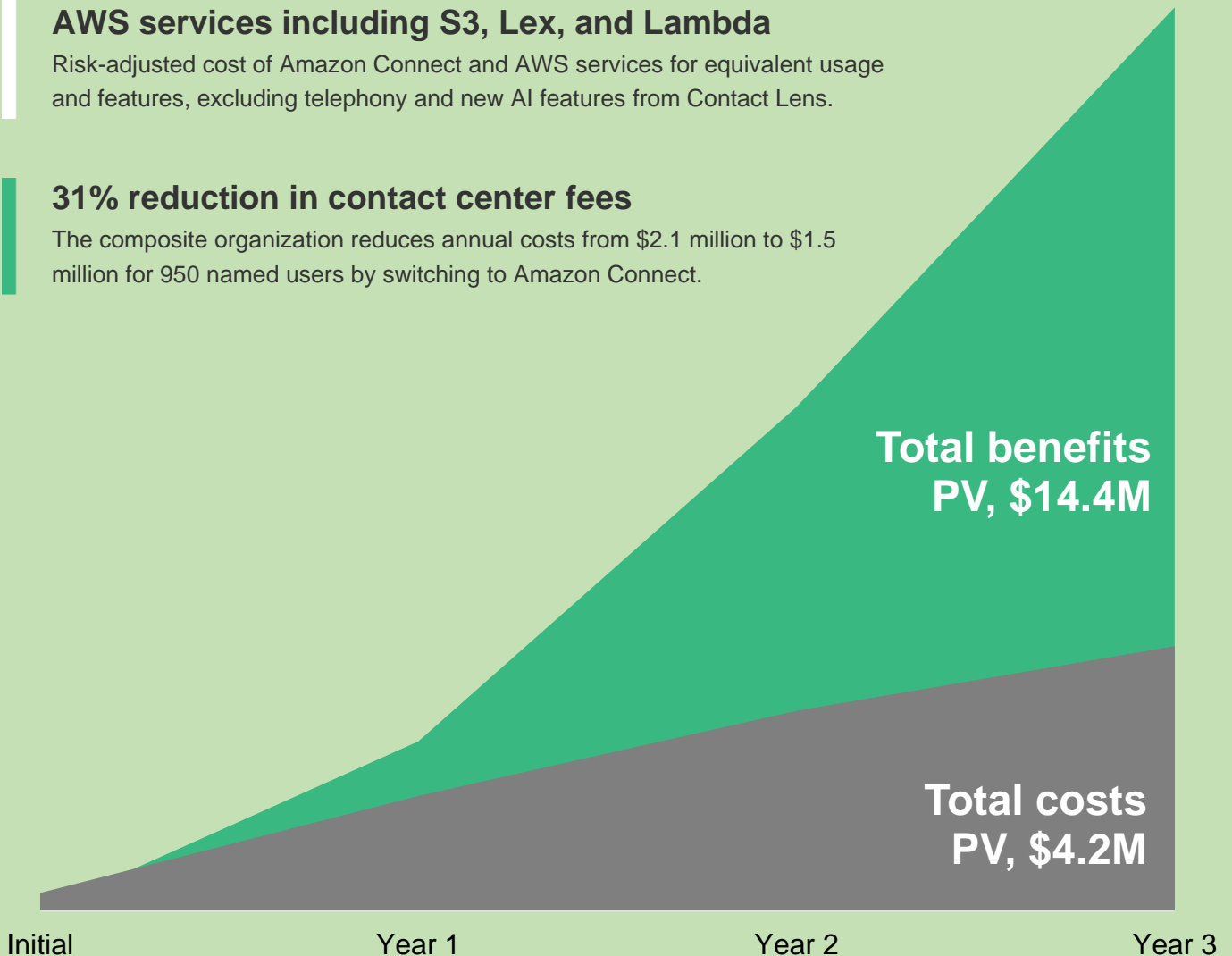
Risk-adjusted subscription and overhead costs for the legacy voice-only contact center, excluding telephony and related technologies (such as CRM).

\$129 per user, per month for Amazon Connect and AWS services including S3, Lex, and Lambda

Risk-adjusted cost of Amazon Connect and AWS services for equivalent usage and features, excluding telephony and new AI features from Contact Lens.

31% reduction in contact center fees

The composite organization reduces annual costs from \$2.1 million to \$1.5 million for 950 named users by switching to Amazon Connect.



TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ (TEI) framework for those organizations considering an investment in Amazon Connect.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that the Amazon Connect can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Amazon 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 the Amazon Connect.

Amazon 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.

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



DUE DILIGENCE

Interviewed Amazon stakeholders and Forrester analysts to gather data about the Amazon Connect investment.



CUSTOMER INTERVIEWS

Interviewed six organizations using Amazon Connect 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 market factors and issues and concerns of the interviewed organizations.



CASE STUDY

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

The Amazon Connect Customer Journey

Drivers leading to the Amazon Connect investment

Forrester Interviewed Six Amazon Connect Customers					
Industry	Region	Revenue	Agents in Connect	Former contact center solution	Interviewee
Telecommunications	Asia Pacific	\$10B+	300 users	Multiple legacy on-premises solutions	Technology lead
Utility	Asia Pacific	\$100M to \$500M	500 users	Legacy cloud solution	IT operations director
Healthcare services	North America	\$100M to \$500M	700 users	Legacy on-premises solution	Chief information officer
Healthcare services	North America	\$100M to \$500M	750 users	Legacy cloud solution	Senior director of cloud engineering
Financial services	Global	\$1B to \$10B	750 users	Legacy cloud solution	Voice systems engineer
Financial services	Global	\$25B+	20,000 users	Multiple legacy on-premises solutions	Senior director

KEY CHALLENGES

Interviewed companies faced common pressures:

- Legacy cloud and on-premises solutions were too expensive, due to the underutilization of user subscriptions, ongoing integration costs, expensive upgrades, and other factors.
- Changes took too long, requiring calls, contracts, and waiting for the vendor to scale, make updates, add, or remove users, change contact flows, update functionality, or scale.
- Frequent outages caused lapses in service, and ultimately lost revenue and wasted labor.

- Customer sentiment and call trends needed to be understood, but firms lacked the AI to do so.
- Integration with other systems was often expensive, difficult, and sometimes impossible.

“We were experiencing a number of very painful outages, so reliability was our biggest reason to look for a new solution. The bottom line is that [our customers] need to be able to reach us consistently and with good quality.”



*Voice systems engineer,
financial services*

“We needed an army of [our vendor’s staff] to make any changes, because their cloud security prevented us from making simple changes.”



*Senior director of cloud
engineering, healthcare services*

“We had a period where we had some significant outages. Our voice experience was carried by about 12 core applications, and a whole bunch of hardware and infrastructure — some of which is also beyond its expiry date. It was causing us quite a lot of grief.”



*Technology lead,
telecommunications*

INVESTMENT OBJECTIVES

Interviewees searched for a solution that could:

- Be used in the cloud as a software-as-a-service (SaaS) model.
- Be deployed and updated quickly — in days and weeks, not months and years.
- Reduce total costs and improve cash flow.
- Gain immediate scalability and customization.
- Provide greater control and speed without reliance on vendor conversations and actions.
- Improve reliability, dependability, and call quality.
- Provide flexibility and control over data for storage and integrations.

“We like the usage-based model because we’re not paying for what we don’t use. With a per-user or per-seat license, you constantly need to go through and curate the number of seats or licenses. If you don’t have a modern framework that automatically cleans up licenses when employees are onboarded or offboarded, your operational costs will be higher than they should be.”



*Voice systems engineer,
financial services*

VENDOR SELECTION

Interviewed organizations evaluated a range of options with RFPs, business case analyses, feature comparisons, and pilots of leading contenders. They chose Amazon Connect due to:

- Perceived brand trust and reliability from Amazon, based on interviewees’ past experiences with other AWS services.
- Cloud-based service with consumption-based pricing, lack of a contract, and lower costs for equivalent usage of other considered options.

- Easy DIY deployment, with the ability to experiment for free, avoiding the need for professional services expenses.
- Extensive ability to scale, customize, and integrate using AWS services, especially S3 storage, Lambda for integration, and Contact Lens for transcription and AI.

“One reason we selected Amazon Connect was the global footprint, scale, and reliability of AWS. It gave us a more stable platform and economies of scale. Another reason was that Amazon Connect gave flexibility to customize the pieces that we wanted, while at the same time, let us move rapidly. Migrating an entire contact center in one quarter is, in my experience, almost unheard of.”



*Voice systems engineer,
financial services*

CONTACT CENTERS DURING GLOBAL CRISIS

During the COVID-19 pandemic, many organizations have shifted at least some, if not all, of their contact center workforce to work from home. These agents are facing unique challenges, from social isolation to poorly suited living conditions for work.²

Contact center agents are dealing with new, complex interactions with customers, new workflows, and higher than normal customer frustration. Several customer interviews were performed as the pandemic took hold. With contact volume way up, these organizations found that Amazon Connect helped to quickly address increased volume, update contact flows, and create self-service options.

As the world moves past the pandemic, and regardless of whether or not agents return to brick-and-mortar locations or stay working from home, Forrester recommends that businesses treat this crisis as an opportunity to design the ideal remote workforce, workflows, and interaction channels.³

COMPOSITE ORGANIZATION

Key assumptions. Forrester aggregated findings from the six interviewed customers to design a composite organization and an associated ROI analysis. The composite organization is a global enterprise based in North America that:

- Earns \$500 million per year with a 12% operating profit margin.⁴ It forfeits 1.5% of revenue for credits, restocking, and replacements.
- Operates three domestic contact centers handling inbound customer calls.
- Answers 6 million calls per year with a 7-minute average handle time (AHT) and 4 minutes of average total IVR and wait time.

Monthly call volume deviates by 25% from average with seasonality, requiring 540 to 900 monthly active agents from low to peak season. Total hours are equal to 600 year-round FTEs.

- Agents are logged in 75% of the time, excluding paid time off, breaks, training, and admin work.
- Agents in the queue operate with a 75% occupancy rate (connected to customers).
- Seventy percent of agents are full time, while 30% are part time at 24 hours per week.
- Agents earn \$18 per hour in fully burdened salaries (including benefits and other costs).

The composite organization also employed the following staff before and after the investment:

- Fifty contact center supervisors with a ratio of one supervisor per 12 agent FTEs, earning \$28 per hour in fully burdened salaries.
- Five system administrators that manage a variety of solutions including the contact center, earning \$58 per hour in fully burdened salaries.
- Four developers that support a variety of solutions including the contact center, earning \$65 per hour in fully burdened salaries.

Key assumptions:

- 6 million annual calls**
- 7-minute AHT**
- 75% occupancy rate**
- 50 supervisors**
- 600 agent FTEs**
- 30% of agents are part time**
- 900 peak concurrent agents**



Deployment:

Replaces a legacy cloud solution with Amazon Connect and AWS services.

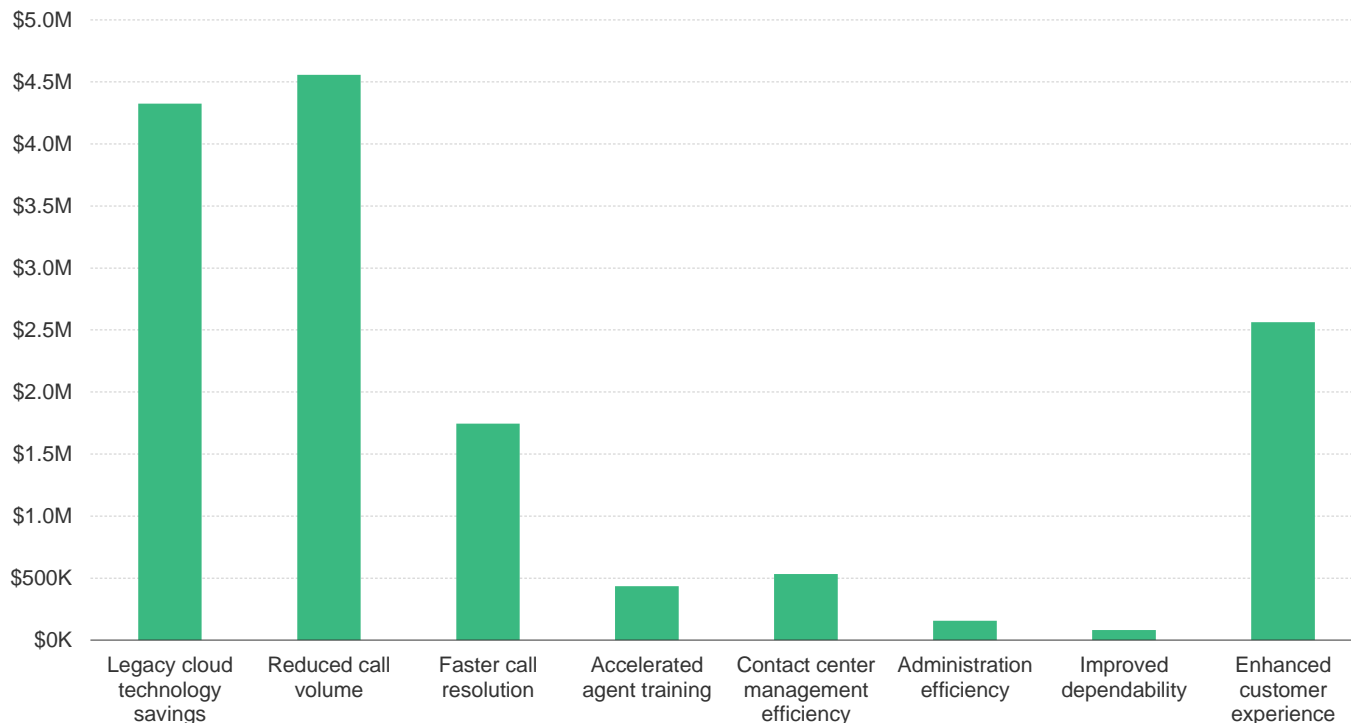
Modeled deployment. The composite organization replaces a legacy cloud solution with Amazon Connect (some interviewees replaced on-premises solutions, but cloud solutions are increasingly likely to be the baseline state). It pilots, builds, integrates, and tests Amazon Connect over four months and then deploys, trains, and switches teams from the legacy solution to Amazon Connect on a team-by-team basis. All teams switch to Connect within six months. The composite organization also deploys:

- Amazon Lex for its IVR system using natural language processing.
- AWS Lambda for accessing and storing data in its CRM and other tools.
- Amazon Contact Lens for transcribing and analyzing call recordings with AI.
- Amazon S3 storage for call recordings (12 month retention) and transcripts (permanent retention).

Analysis Of Benefits

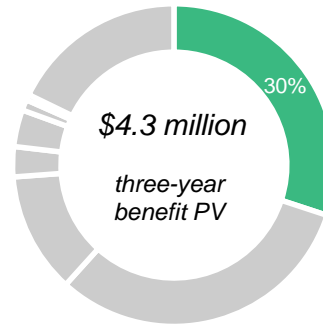
■ Quantified benefit data as applied to the composite organization

Total Benefits						
Ref.	Benefit	Year 1	Year 2	Year 3	Total	Present Value
Atr	Legacy cloud technology savings	\$1,064,048	\$2,128,095	\$2,128,095	\$5,320,238	\$4,324,941
Btr	Reduced call volume	\$907,200	\$2,041,200	\$2,721,600	\$5,670,000	\$4,556,448
Ctr	Faster call resolution	\$298,080	\$664,200	\$1,231,200	\$2,193,480	\$1,744,926
Dtr	Accelerated agent training	\$174,960	\$174,960	\$174,960	\$524,880	\$435,100
Etr	Contact center management efficiency	\$131,040	\$262,080	\$262,080	\$655,200	\$532,627
Ftr	Administration efficiency	\$62,640	\$62,640	\$62,640	\$187,920	\$155,776
Gtr	Improved dependability	\$32,789	\$32,789	\$32,789	\$98,366	\$81,541
Htr	Enhanced customer experience	\$300,000	\$1,080,000	\$1,860,000	\$3,240,000	\$2,562,735
Total benefits (risk-adjusted)		\$2,970,756	\$6,445,964	\$8,473,364	\$17,890,084	\$14,394,094



LEGACY CLOUD TECHNOLOGY SAVINGS

Evidence and data. By replacing legacy cloud and on-premises solutions with Amazon Connect, organizations reduced annual costs by an average of 31%, and in some cases, up to 50%.



Legacy cloud technology savings: 30% of total benefits

“Amazon Connect reduced the IT budget by \$2.5 million every year — it was the biggest portion of our budget, and now it isn’t.”



Senior director of cloud engineering, healthcare services

Modeling and assumptions. Factors impacting savings for the composite organization include:

- Legacy subscriptions were required year-round for the peak number of agents and supervisors, and those subscriptions were paid year-round, even when underused or unused.
- The legacy system and Amazon Connect overlap for the first six months during switchover.
- Interviewees’ legacy monthly subscriptions cost an average of \$150 per user, per month.
- Interviewees incurred additional contracted costs for recording, storage, integrations, professional

services, support, and import/export of data — with 31% average overhead above subscriptions.

- Telephony is excluded from both cost savings and costs in this TEI analysis.⁵

Risks. Forrester uncovered low risks that may impact legacy cloud technology savings, including:

- Actual cost savings will depend on the prior solution’s pricing model and usage.
- Diligent user management or more flexible legacy pricing could prevent excess user subscriptions outside of peak seasons, reducing legacy costs.
- Longer deployment time could delay savings.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year, risk-adjusted PV of \$4.3 million.

Legacy Cloud Technology Savings

Ref.	Metric	Calculation	Year 1	Year 2	Year 3
A1	Peak concurrent users (agents and supervisors), baseline	D1+E1	950	950	950
A2	Legacy license per user, per month	Interview data	\$150	\$150	\$150
A3	Months of licensing avoided	Interview data	6	12	12
A4	Annual user licensing fees	A1*A2*A3	\$855,000	\$1,710,000	\$1,710,000
A5	Overhead for integrations, recording, storage, and support	Interview data	31%	31%	31%
At	Legacy cloud technology savings	A4*(1+A5)	\$1,120,050	\$2,240,100	\$2,240,100
	Risk adjustment	↓5%			
Atr	Legacy cloud technology savings (risk-adjusted)		\$1,064,048	\$2,128,095	\$2,128,095
Three-year total:			\$5,320,238	Three-year present value: \$4,324,941	

REDUCED CALL VOLUME


Evidence and data. Interviewees used Amazon Connect to improve call routing, first contact resolution. Users also enjoyed using the improved IVR self-help capability that was driven by contact flows and Amazon Lex. Companies could quickly update IVRs with pertinent information, identify intent, route with context, and personalize experiences via Amazon Lex within contact flows. Finally, insights from Contact Lens helped companies to discover issues and common needs and proactively improve digital experiences and IVRs to increase self-help.

The financial services voice system engineer shared: “We use Lex instead of a list of voice prompts to just ask what customers are calling about. Then, we can route them more quickly into the right queue with the information from their responses and from our CRM connected to their phone number. Some of our issues can now even be done in self-help, like a simple password reset task instead of putting them into the queue and wasting everyone’s time.”

Modeling and assumptions. Factors impacting call savings for the composite organization include:

- Better routing improves first-time fix by 2% to 6%.

Agents handled **24% fewer calls** with better routing, IVR self-help, agile IVR updates, and digital improvements informed by AI.



- Improved IVR self-help and agile updates to IVR prompts deflects 5% to 10% of calls.
- Contact Lens insights are used to improve digital and IVR self-help, deflecting 1% to 8% of calls.
- The composite’s US-based contact centers normally handle 6 million calls per year with a 7-minute AHT, with agents earning \$18 per hour.⁶

Risks. Forrester uncovered moderate risks including:

- Actual implementation of AI-informed insights.
- Level of process, contact flow, and IVR redesign undertaken while deploying Amazon Connect.
- Average agent salary, especially if offshore.
- Market volatility driving drastic volume changes.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$4.6 million.

Reduced Call Volume					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
B1	Baseline annual call volume	Composite	6,000,000	6,000,000	6,000,000
B2	Percent increase in first-time fix with routing	Interview data	2%	4%	6%
B3	Deflection with better IVR and agile IVR updates	Interview data	5%	10%	10%
B4	Deflection with AI-informed digital improvements	Interview data	1%	4%	8%
B5	Percent decrease in call volume	B2+B3+B4	8%	18%	24%
B6	Annual call volume with Connect	B1*(1-B5)	5,520,000	4,920,000	4,560,000
B7	Incremental reduction in calls	B1-B6	480,000	1,080,000	1,440,000
B8	Baseline average handle time	Composite	7	7	7
B9	Agent fully burdened hourly pay	Composite	\$18	\$18	\$18
Bt	Reduced call volume	B7*B8/60*B9	\$1,008,000	\$2,268,000	\$3,024,000
	Risk adjustment	↓10%			
Btr	Reduced call volume (risk-adjusted)		\$907,200	\$2,041,200	\$2,721,600
Three-year total:			\$5,670,000	Three-year present value: \$4,556,448	

FASTER CALL RESOLUTION

Evidence and data. Agents enjoyed a simpler, improved UX using Amazon Connect, as compared to prior solutions. This, in turn, helped them to be more productive. Customization and integrations helped further streamline the experience, based on the custom needs of each organization.

“We’ve been able to avoid rehiring 10% to 15% of our workforce after attrition [with Amazon Connect].”



IT operations director, utility

Improved contact flows, better IVR prompts and data capture, and process improvements informed by Contact Lens insights all helped to streamline calls. Ultimately, many interviewed organizations were able to reduce AHT and/or improve agent utilization as a result, driving efficiencies of up to 15%.

Modeling and assumptions. Factors impacting call speed for the composite organization include:

- After call deflection (Table B), agents handle 5.5 to 4.6 million total calls per year with a 7-minute AHT, earning \$18 per hour.⁷

- Process and UX improvements, combined with better IVR data collection and systems integration, reduce AHT by 3% to 15%.

Risks. Forrester uncovered moderate risks that may impact faster call resolution, including:

- Level of customization to the user interface.
- Degree of integration with other IT systems.
- Usage of dashboards and Contact Lens to identify issues and deploy proactive training.
- Level of process, contact flow, and IVR redesign deployed with Amazon Connect.
- Average agent salary, especially offshore.
- Market volatility (including from the pandemic) driving drastic call behavior and volume changes.

“Our agents can service more customers with Amazon Connect.”



Senior director of cloud engineering, healthcare services

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$1.7 million.

Faster Call Resolution					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
C1	Annual call volume with Amazon Connect	B6	5,520,000	4,920,000	4,560,000
C2	Baseline average handle time (AHT), in minutes	B8	7	7	7
C3	Reduction in AHT	Interview data	3%	7%	15%
C4	AHT with Amazon Connect, in minutes	$C2 * (1 - C3)$	6.8	6.5	6.0
C5	Incremental decrease in AHT, in minutes	$C2 - C4$	0.2	0.5	1.0
C6	Agent fully burdened hourly pay	B9	\$18	\$18	\$18
Ct	Faster call resolution	$C1 * C5 / 60 * C6$	\$331,200	\$738,000	\$1,368,000
	Risk adjustment	↓10%			
Ctr	Faster call resolution (risk-adjusted)		\$298,080	\$664,200	\$1,231,200
Three-year total:			\$2,193,480	Three-year present value: \$1,744,926	

ACCELERATED AGENT TRAINING

Evidence and data. Interviewed organizations found that Amazon Connect was easier for new agents to learn. Agents benefited from process and contact flow redesign implemented using Amazon Connect and informed by AI insights from Contact Lens. They valued the simplified user experience, saving time and frustration. Customization and integration of Amazon Connect enabled agents to more cleanly handle calls alongside their other important tasks during a call with reduced friction. As a result, new agents could ultimately be trained faster (saving labor costs) on the technology and processes they needed to learn than with the legacy environment.

Modeling and assumptions. Factors impacting training time for the composite organization include:

- The composite organization employs 900 full- and part-time agents during peak season with 30% turnover.
- Agents earn \$18 per hour in fully burdened salaries.⁸
- Process and contact flow redesign, simplified user experience, and better customizations and enhancements reduce agent training by one week.

Amazon Connect accelerated agent training by one week.



Risks. Forrester uncovered moderate risks that may impact training agent savings, including:

- Level of customization to the user interface and degree of integration with other IT systems.
- Usage of dashboards and Contact Lens to enhance training processes.
- Level of process, contact flow, and IVR redesign deployed with Amazon Connect.
- Average agent salary, especially if offshore.
- Market volatility (including disruption from the COVID-19 pandemic) forcing significant process and training changes.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$435,000.

Accelerated Agent Training					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
D1	Peak concurrent agents, baseline	Composite	900	900	900
D2	Agent churn rate	Composite	30%	30%	30%
D3	Number of new agents per year	D1*D2	270	270	270
D4	Hours of training saved per agent	Interview data	40	40	40
D5	Agent fully burdened hourly pay	B9	\$18	\$18	\$18
Dt	Accelerated agent training	D3*D4*D5	\$194,400	\$194,400	\$194,400
	Risk adjustment	↓10%			
Dtr	Accelerated agent training (risk-adjusted)		\$174,960	\$174,960	\$174,960
Three-year total:			\$524,880	Three-year present value: \$435,100	

CONTACT CENTER MANAGEMENT EFFICIENCY

Evidence and data. Interviewed organizations found that Amazon Connect includes simple, powerful, and easy-to-share reporting and dashboards that help supervisors meet service delivery and quality goals. AI-powered insights from Contact Lens further enhanced decision-making ability and speed, saving additional time. Supervisor productivity increased by up to 20% with Amazon Connect.

“Reporting is more transparent in Amazon Connect compared to other designs. It reduces confusion.”



CIO, healthcare services

Modeling and assumptions. Factors impacting management for the composite organization include:

- The composite organization employs 50 supervisors at a ratio of one supervisor per 50 full-time equivalents, earning \$28 per hour in fully burdened salaries.
- Supervisors save one day per week once Connect is fully deployed by using and sharing reporting, dashboards, and AI insights.
- Supervisors may be salaried rather than hourly. Forrester assumes only 50% of time saved is recaptured for business value, as some hours may be wasted or have been unpaid overtime.⁹

Risks. Forrester uncovered moderate risks that may impact management efficiency, including:

- Level of customization to the user interface and degree of integration with other IT systems.
- Usage of dashboards and Contact Lens to streamline monitoring, share reporting, and enhance decision making.
- Level of process, contact flow, and IVR redesign deployed with Amazon Connect.
- Average supervisor salary, especially offshore.
- Market volatility (including disruption from the COVID-19 pandemic) leading to significant changes in trends, usage, workflows, and business needs.

“We can see the status of the call center and easily share it across the business. It simplifies workforce planning and management. We can do dynamic workforce planning with our team focused on the big picture.”



IT operations director, utility

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$533,000.

Contact Center Management Efficiency					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
E1	Number of contact center supervisors	G1/12	50	50	50
E2	Hours saved for monitoring, reporting, and planning per week	Interview data	4	8	8
E3	Productivity recapture rate	Forrester	50%	50%	50%
E4	Manager fully burdened hourly pay	Composite	\$28	\$28	\$28
Et	Contact center management efficiency	$E1 \times E2 \times 52 \times E3 \times E4$	\$145,600	\$291,200	\$291,200
	Risk adjustment	↓10%			
Etr	Contact center management efficiency (risk-adjusted)		\$131,040	\$262,080	\$262,080
Three-year total:			\$655,200	Three-year present value: \$532,627	

ADMINISTRATION EFFICIENCY

Evidence and data. Interviewed organizations were able to reduce system administration of the contact center by up to 60% by switching to Amazon Connect. Admins found they saved time coordinating with the vendor, managing licenses, working on updates and integrations, and setting up or running reports. With the time saved, teams could build new functionality that drives further benefits for their organizations, rather than focusing on maintenance.

“We’re doing fewer operational tasks like managing licenses, T1 trunks, ISDN lines, capacity, redundancy, failover, etc. We used to do constant upgrades and maintenance. A lot of that went away. Now we can be more of an engineering team than an operational team — a team that builds things the business needs.”



*Voice systems engineer,
financial services*

Modeling and assumptions. Factors impacting administration for the composite organization include:

- Five system administrators support the contact center, earning \$58 per hour in fully burdened

salary. One is located in each of the three contact centers, and the other two are in central offices.

- Administrators previously dedicated one week per month to managing the legacy solution. With Connect, they only dedicate two days per month. All time saved is shown here, as Connect administration is modeled in the cost section.
- Forrester assumes 50% of time saved by salaried admins will be recaptured for business value, as some hours may not be used productively.¹⁰

Risks. Forrester uncovered moderate risks that may impact administration efficiency, including:

- Decommissioning timeline for legacy systems.
- Potential need to retain legacy system for other uses not included with Amazon Connect.
- Level of customization, integration, and process complexity of the contact center technology.
- Average system administrator salary.
- Market volatility (including disruption from the COVID-19 pandemic) that may require significant updates or impact switchover and deployment.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$156,000.

Administration Efficiency					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
F1	Number of system administrators	Composite	5	5	5
F2	Hours saved per month by decommissioning legacy solution	Interview data	40	40	40
F3	Productivity recapture rate	E3	50%	50%	50%
F4	Recaptured labor hours	$F1 \times F2 \times 12 \times F3$	1,200	1,200	1,200
F5	System admin fully burdened hourly pay	Composite	\$58	\$58	\$58
Ft	Administration efficiency	$F4 \times F5$	\$69,600	\$69,600	\$69,600
	Risk adjustment	↓10%			
Ftr	Administration efficiency (risk-adjusted)		\$62,640	\$62,640	\$62,640
Three-year total:			\$187,920	Three-year present value: \$155,776	

VOICE OF THE CUSTOMER: EFFICIENCY

“With Amazon Connect, 80% of the reporting was right out of the box. It used to take a lot of work for users, managers, and directors to create their own reports — and they would turn to IT staff, who sometimes even needed a consultant to create the report.”

CIO, healthcare services

“Developers working on our contact center tools really like the Amazon framework. They can broaden their horizons beyond just a contact center technology. They can upskill and have a better employee experience.”

Technology lead, telecommunications

“We have a more modern framework to communicate via APIs than our previous platform. For the same [deployment cost], we built a platform using [Amazon Connect] that is much more specific and customizable to all our company’s use cases.”

Voice systems engineer, financial services

“We were able to make one dynamically changing call flow with dynamic menus, without having to set up each separate flow. It reduces the risk of screwing up, especially when you have [over 500] prompts.”

Senior director of cloud engineering, healthcare services

VOICE OF THE CUSTOMER: DEPENDABILITY

“We trialed another solution, which had a major outage during the pilot. Amazon Connect has been very stable — we have the greatest trust in AWS for stability.”

CIO, healthcare services

“We had 15- to 20-minute outages at least once or twice per month, and outages lasting 5 hours or more at least once per quarter. The contact center is priceless for us, it’s the lifeblood of our business. We had to fix it. . . . I haven’t had one [outage] yet [with Connect].”

Senior director of cloud engineering, healthcare services

“We weren’t getting the reliability we needed with our old contact center. We were having constant issues. When there was an issue, we’d drop 30, 50, or more active calls. That’s a massive negative impact to our brand and customer loyalty. It makes it hard to upsell. But with Amazon Connect, we’ve had at most 10 minutes of outage in over two years. It’s incredible at our scale.”

IT operations director, utility



IMPROVED DEPENDABILITY

Evidence and data. Most interviewed organizations faced frequent, severe outages with their legacy contact center solutions. Outages typically occurred at least once per month, often more frequently, and lasted anywhere from 30 minutes to multiple days. These outages damaged CX, wasted labor for agents and system admins, and ultimately drove a potent form of change. Conversely, interviewees found Amazon Connect to be extremely reliable, experiencing nearly 100% uptime and performance.

Amazon Connect delivered 99.998% to 100% uptime performance, compared with 99.6% to 99.95% in legacy solutions.



Modeling and assumptions. Factors impacting dependability for the composite organization include:

- The composite organization avoids 1.5 downtime incidents per month, each lasting 30 minutes.¹¹

- Six hundred agent FTEs work in three contact centers (yearly average, varies with seasonality).
- Half of the agents, per site, are on shift at any given time and cannot work during the downtime.
- Five system admins previously dedicated one day per incident for remediation and coordination.

Risks. Forrester uncovered moderate risks that may impact improved dependability, including:

- Legacy contact center dependability will vary based on the specific solution and its complexity.
- Significant customization or integration dependencies could cause downtime.
- Incident severity, length, and scale will dictate both the number of affected users, callers, and admins and the amount of time they may save.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted PV of \$82,000.

Improved Dependability					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
G1	Agent FTEs	Composite	600	600	600
G2	Agents affected per incident	Composite	16%	16%	16%
G3	Avoided incidents per year	Interview data	18	18	18
G4	Average downtime length in minutes	Interview data	30	30	30
G5	Agent hours saved	$G1 \times G2 \times G3 \times G4 / 60$	864	864	864
G6	Agent fully burdened hourly pay	B9	\$18	\$18	\$18
G7	Prevented lost agent hours	$G5 \times G6$	\$15,552	\$15,552	\$15,552
G8	Number of system administrators	F1	5	5	5
G9	Hours of remediation per incident	Interview data	8	8	8
G10	Productivity recapture rate	E3	50%	50%	50%
G11	System admin fully burdened hourly pay	F5	\$58	\$58	\$58
G12	Prevented lost DevOps hours	$G3 \times G8 \times G9 \times G10 \times G11$	\$20,880	\$20,880	\$20,880
Gt	Improved dependability	$G7 + G12$	\$36,432	\$36,432	\$36,432
	Risk adjustment	↓10%			
Gtr	Improved dependability (risk-adjusted)		\$32,789	\$32,789	\$32,789
Three-year total: \$98,366			Three-year present value: \$81,541		

ENHANCED CUSTOMER EXPERIENCE

Evidence and data. Contact centers are crucial to earning and retaining customers. Long wait times, ineffective flows and routing, and poor service can irrevocably damage CX and cause customer churn. Further, poor experiences and common errors can lead to excess refunds and replacements.

Amazon Connect significantly improved CX for the interviewed organizations by providing better status visibility, call quality, availability, and routing — ensuring that customers were quickly connected to agents for fast and effective resolution. AI insights were used to improve planning, digital self-service, IVR self-service, contact flows, and even products themselves. Insights were also used to identify agents and use cases with subpar experiences or excessive errors and refunds to fix issues and prevent future ones. Ultimately, CX improvements helped to win and retain customers while reducing the amount of refunded revenue and wasted costs.

The financial services voice systems engineer shared: “We have a platform that’s more stable and allows us to connect the customer with the right agent. We can use data to customize flows and screens to help customers as quickly as possible. And then you layer on all the efficiencies, and you have all these building blocks to make the experience better. It definitely improves brand image.”

Similarly, the healthcare services CIO explained: “We’ve reduced abandonment rates and queue length. We used to get many complaints.”

Modeling and assumptions. Factors impacting enhanced CX for the composite organization include:

- The composite organization earns \$500M in annual revenue. It typically forfeits 1.5% of revenue to errors, replacements, and credits.
- Amazon Connect boosts revenue by up to 2%. Revenue is subject to 12% operating margin.
- Amazon Connect reduces lost revenue and excess costs by 5% to 15%. No margin is needed as costs of sales have already been incurred.

Risks. Forrester uncovered very significant risks that may impact revenue from enhanced CX, including:

- Company size, industry, business model, pricing, margin, and contact center scale and use case will affect the revenue impact of improved CX.
- Accurately measuring, attributing, and proving the impact to topline revenue is challenging.
- Market factors beyond an organization’s control may impact sales in an unavoidable way.

Synopsis. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted PV of \$2.6 million.

Enhanced Customer Experience					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
H1	Annual revenue	Composite	\$500,000,000	\$500,000,000	\$500,000,000
H2	Increased revenue with Amazon Connect	Interview data	0%	1%	2%
H3	Operating margin	Composite	12%	12%	12%
H4	Increased operating income with improved CX	H1*H2*H3	\$0	\$600,000	\$1,200,000
H5	Percent of revenue typically forfeited	Composite	1.5%	1.5%	1.5%
H6	Avoided refunds, credits, and errors with Amazon Connect	Interview data	5%	10%	15%
H7	Reduced lost revenue with improved CX and processes	H1*H5*H6	\$375,000	\$750,000	\$1,125,000
Ht	Enhanced customer experience	H4+H7	\$375,000	\$1,350,000	\$2,325,000
	Risk adjustment	↓20%			
Htr	Enhanced customer experience (risk-adjusted)		\$300,000	\$1,080,000	\$1,860,000
Three-year total:			\$3,240,000	Three-year present value: \$2,562,735	

UNQUANTIFIED BENEFITS

Interviewed organizations discussed other benefits they had experienced but could not yet quantify:

- Improved decision making with real-time data, dashboards, and AI insights.
- Improved employee experience for agents, supervisors, admins, and developers.
- Amazon Connect was faster and easier to deploy and maintain than other considered technologies.
- Amazon Connect could be deployed without expensive professional services.
- Improved cashflow by paying at end of month, rather than at the beginning of the month or year.
- Reduced risk of “being on the hook” for contracted volume, if calls drop off during a major disruption, such as the COVID-19 pandemic.
- Reduced cost and time to record new prompts and revise workflows.
- Enhanced call, recording, and transcript quality.
- Reduced risk of losing recordings, with a reported 100% recording rate — helping handle difficult situations and avoid noncompliance.
- Improved contact center security, including core platform, integrations, and data storage.
- Enabled security capabilities for callers such as voice biometrics and two-factor ID — reducing risk, shortening AHT, and improving CX.

IMPACT OF SCALE

Interviewees discussed how benefits and costs could impact organizations of different sizes:

- Interviewees found that reliability and quality scaled to meet the needs of their global workforces (regional availability varies).
- Complexity is unsurprisingly higher for very large companies; as a result, implementation across teams and use cases takes longer and requires more cost and labor.

“Recording quality has drastically improved, which means translation and transcription accuracy has gone way up. We haven’t had any reports of poor call quality since launch. In the past, we would have days where we didn’t get any recordings due to technical issues. We haven’t had any recording errors with Amazon Connect.”



Senior director of cloud engineering, healthcare services

- Smaller organizations are more likely to deploy a complete contact center replacement, whereas large organizations are more likely to integrate with other solutions and interfaces at first.
- Larger organizations may not achieve the same level of savings for agents, as agents are likely using more systems and capabilities already. In some cases, larger organizations may have such a complex and customized environment that agents may not actually notice the change to Amazon Connect — hampering savings.
- Due to both this higher complexity and the costs incurred by a large organization, the percent ROI would likely be lower, but the benefit’s dollar values would likely be higher. Larger investments of any type typically have lower ROI percentage.
- Although ROI may appear lower for large organizations, they can more easily gain access to the agility and flexibility enjoyed by smaller organizations at scale with Amazon Connect.

“It used to take a month to get a contract, review it, confirm scope understanding, and sign. [Amazon] Connect is very quick and straightforward, and there’s no contract.”



CIO, healthcare services

“We’ve proved that with Amazon Connect we can augment the digital experience with voice capabilities that are more efficient, cost effective, and secure.”



*Technology lead,
telecommunications*

FLEXIBILITY

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.

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Amazon Connect and later realize additional uses and business opportunities, including:

- Innovate the contact center quickly, easily, and cheaply using the breadth of AWS services such as machine learning, databases, and analytics.
- Make updates and changes immediately, rather than relying on a vendor and waiting for contracts.
- Launch or move contact center sites faster and with lower expenses than before.
- Scale up or down as needed without advance notice to meet changing business needs — without risk of downtime or excess user licensing.
- Support work-from-home contact center agents and managers, opening job opportunities for people with accessibility needs and providing flexibility during pandemics and disasters.

Flexibility would also be quantified when evaluated as part of a specific project.

BUSINESS CONTINUITY

Interviewed customers found that Amazon Connect helped them accommodate significant spikes in call volume, ensure reliability, and adapt to new customer needs with speed in ways legacy solutions could not have handled as the COVID-19 pandemic took hold.



“Amazon Connect has given us the speed to make changes. In the first few days since the pandemic started to hit our regions, we made numerous customer messaging and call routing changes. We shifted agents pretty seamlessly and easily. Things that would have taken a week before took an hour.”

“We’ve had our highest ever concurrent call volume during the pandemic. Amazon was able to increase our capacity with one call, instead of 3-6 months of negotiation or performance issues with dead air or dropped calls. Amazon Connect handled the unexpected spike with no performance impact.”

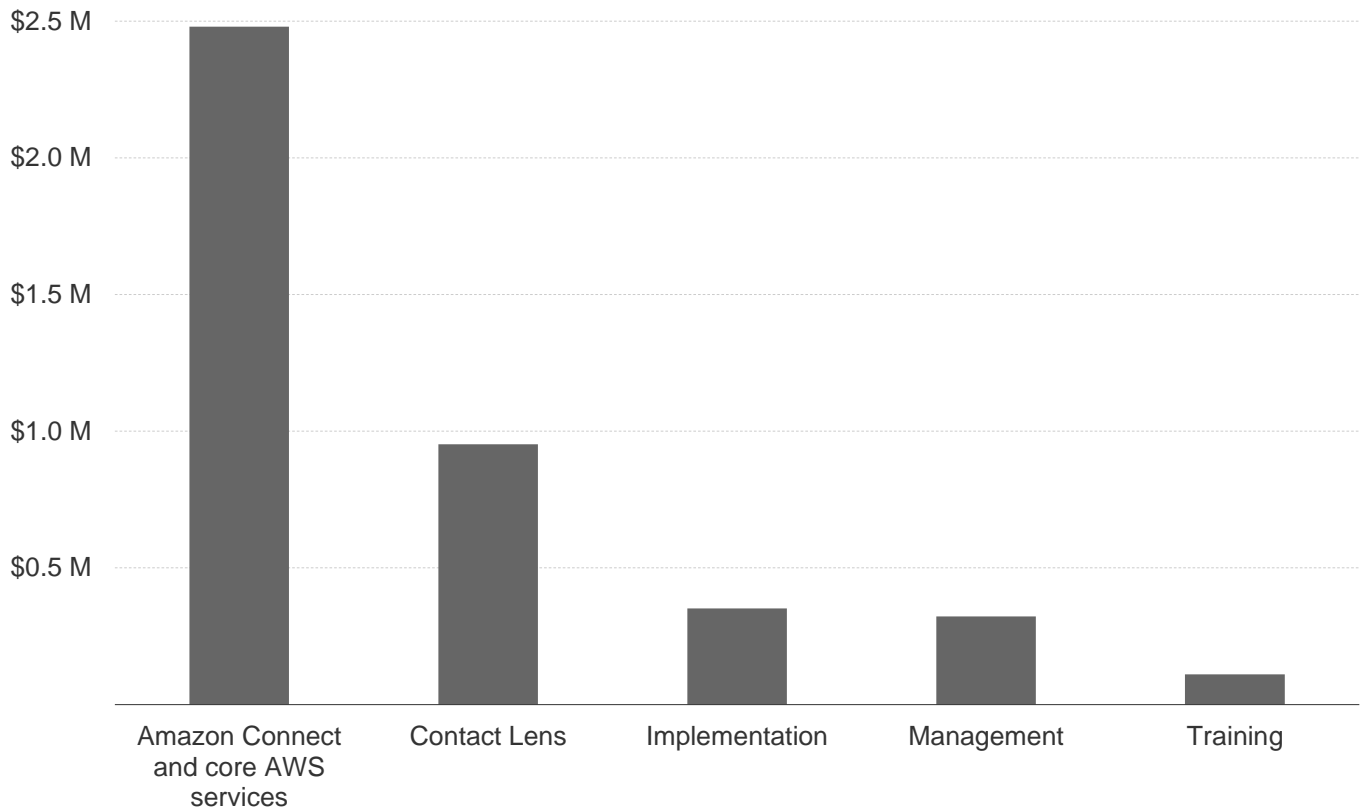
“We’re still working through our systems, but we’re hoping to relax our work-from-home policy. Our contact center technology is no longer an inhibitor with Amazon Connect. There’s still more we need to figure out, but this is helping us get there.”



Analysis Of Costs

■ Quantified cost data as applied to the composite organization

Total Costs							
Ref.	Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
Itr	Amazon Connect and core AWS services	\$0	\$1,047,203	\$1,067,469	\$858,806	\$2,973,478	\$2,479,442
Jtr	Contact Lens for Amazon Connect	\$0	\$369,495	\$419,738	\$359,100	\$1,148,333	\$952,592
Ktr	Implementation	\$211,341	\$154,070	\$0	\$0	\$365,411	\$351,405
Ltr	Management	\$0	\$129,888	\$129,888	\$129,888	\$389,664	\$323,012
Mtr	Training	\$75,240	\$0	\$22,572	\$22,572	\$120,384	\$110,853
Total costs (risk-adjusted)		\$286,581	\$1,700,656	\$1,639,667	\$1,370,366	\$4,997,269	\$4,217,304



AMAZON CONNECT AND CORE AWS SERVICES

Evidence and data. Interviewees selected Amazon Connect in part due to its consumption-based pricing model which helped control costs and improve cash flow. They no longer needed to manage named user licenses or negotiate contracts. Instead, they paid for only what they used. Any necessary scaling, dependent on seasonality or external factors, was able to take place with relative ease.

The voice systems engineer for a financial services firm shared: “It was a constant operational battle to curate seats with our old platform. But with Amazon Connect, we don’t care. We could put in 1,000 extra people, it wouldn’t matter. We only pay for the minutes our customers are connected to us and the associated platform cost to run it for those minutes.”

The IT operations director for a utility organization shared: “We initially picked a different contact center provider. We consolidated on that for six months — and realized we had made a mistake. We were paying hefty licensing charges. We decided to move to Amazon Connect, and even though we were pre-committed to licenses with the other platform, our total costs ended up being the same for that financial year.”

Modeling and assumptions. Amazon Connect and AWS services pricing is based on consumption:

- The composite organization initially handles 6 million calls with a 7-minute AHT and a 4-minute average wait and IVR time. Over three years,

Amazon Connect is able to reduce call volume to 4,560,000 calls per year, AHT to 6 minutes, and wait and IVR time to 2 minutes.

- Amazon Connect costs \$0.018 for every minute the customer is connected to the system (both wait/IVR time and when connected to the agent).
- Amazon Lex costs \$0.004 per utterance with an average of eight utterances per call.
- AWS Lambda costs \$25.22 per 1 million innovations, assuming 3 seconds and 512 MB for each.
- S3 storage costs \$0.023 per gigabyte, with 512 call minutes per gigabyte and 512 transcript words per kilobyte.
- Telephony is excluded from both cost savings and costs in this TEI analysis.¹²

Risks. Forrester uncovered low risks that may impact the consumption costs, including:

- Cost to use additional AWS services if desired.
- Consumption levels impacted by scale, use case, and market conditions.
- Regional pricing variation and potential for future pricing changes.

Synopsis. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted PV of \$2.5 million.

Amazon Connect And Core AWS Services					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
I1	Annual hours of voice usage	Composite	745,200	779,000	608,000
I2	Amazon Connect cost	AWS usage	\$804,816	\$841,320	\$656,640
I3	AWS services fees for Lambda, S3, and Lex	AWS usage	\$192,520	\$175,317	\$161,270
It	Amazon Connect and core AWS services	I2+I3	\$997,336	\$1,016,637	\$817,910
	Risk adjustment	↑5%			
Itr	Amazon Connect and core AWS services (risk-adjusted)		\$1,047,203	\$1,067,469	\$858,806
Three-year total:			\$2,973,478	Three-year present value: \$2,479,442	

Legacy versus Amazon Connect cost comparison.

The modeled cost calculation measures Amazon Connect’s costs using Amazon’s public AWS fees and projected usage by the composite organization. The cost model incorporates reduced call volume, reduced AHT, and reduced IVR and wait time, as discussed earlier in this study.

However, to accurately distill how the pricing models compare, the service costs of the legacy solution versus Amazon Connect must be compared without any assumption of reduced usage. At the baseline of 1.1 million hours of voice usage, Amazon Connect would have cost \$1,188,000 per year plus \$198,417 for AWS Lambda, AWS S3, and AWS Lex for a total of \$1,403,398. Including the 5% risk adjustment, total costs would have been \$1,473,567. In comparison, the modeled legacy cloud solution’s risk-adjusted cost was \$2,128,095 per year.


See the below chart for a comparison of the two pricing models with equivalent usage for the composite organization. Note that this is not a direct comparison to a specific solution, but a comparison with a blended version of subscription models for the interviewees’ legacy solutions, as shared by interviewed customers.

Legacy: \$187 per user, per month
Risk-adjusted subscription and overhead costs for the legacy contact center, excluding telephony.

Amazon Connect: \$129 per user, per month
Risk-adjusted cost of Amazon Connect and AWS services for equivalent usage and features, excluding telephony and Contact Lens.

31% reduction in contact center fees
The composite reduces annual costs from \$2.1 million to \$1.5 million for 950 named users by switching to Amazon Connect.

“When you offshore resources, you usually need to have more agents. If you have a per-user subscription, you end up paying more for the higher number of employees and it offsets the savings of offshore resources.”

 *CIO, healthcare services*

User Subscription And Consumption-Based Cost Model Comparison

Category	Legacy solution	Amazon Connect
Peak number of users	950 peak users	950 peak users
Annual call volume	6,000,000 calls	6,000,000 calls
Annual hours of voice usage	<ul style="list-style-type: none"> 700,000 hours connected 400,000 hours IVR and wait time 	<ul style="list-style-type: none"> 700,00 hours connected 400,000 hours IVR and wait time
Core service pricing	\$150 per named peak concurrent user, per month	\$0.018 per minute of voice usage
Additional costs	<ul style="list-style-type: none"> 21% overhead Account-level contracted charges for integrations, recording, and support 	<ul style="list-style-type: none"> 18.1% overhead Usage fees for number of Lex and Lambda calls and gigabytes of S3 call storage
Risk adjustment	↓5%	↑5%
Total risk-adjusted annual cost	\$2,128,095	\$1,473,567
Cost per user, per month	\$186.68	\$129.26
Cost per hour of usage	\$1.93	\$1.34

CONTACT LENS FOR AMAZON CONNECT

Evidence and data. Contact Lens for Amazon Connect transcribes contact center calls to create a searchable archive and surface customer insights with machine learning (ML), natural language processing (NLP), and speech-to-text from AWS.

Interviewees had custom-built equivalent features using AWS Transcribe and Comprehend; now, these capabilities are pre-packaged, optimized, and enhanced for the contact center in Contact Lens — no longer requiring custom development.

Interviewed organizations used these capabilities to:

- Create a permanent directory of call transcripts for auditing of customer or compliance issues.
- Analyze sentiment, trends, and risks across conversations to identify risks and opportunities.
- Identify agents and contact flows with subpar CX to proactively train agents and refine processes.
- Identify opportunities to improve IVR contact flows, digital self-service capabilities, and broader product offerings and support customer experience, drive sales, and deflect calls.

Modeling and assumptions. Contact Lens costs for the composite organization assume the following:

- Amazon Contact Lens costs \$0.0125 per minute of analyzed recordings can be applied to any segment of recordings.
- The composite organization transcribes and analyzes all call recordings with Contact Lens.

“We’ve started using [Contact Lens] to analyze and transcribe our calls. We do quality scoring, measure CSAT per agent, and flag calls that need to be investigated or have an issue. This helps train agents better and identify and remediate poor agent experiences.”



Senior director of cloud engineering, healthcare services

- The composite organization stores transcripts permanently for future auditing needs using S3; this capability was included, but it has a very minimal cost due to small file size of text.
- The composite organization uses NLP and speech-to-text via Contact Lens to identify risks, issues, and opportunities — helping train subpar agents and make enhancements to self-service, flows, and products themselves to deflect calls, improve routing, and shorten AHT.

Risks. Forrester uncovered low risks that may impact the Contact Lens costs, including:

- Actual minutes of calls being analyzed.
- Potential specialized or advanced uses requiring custom development or other AWS services.
- Potential need to translate calls.
- Potential for future pricing changes.

Synopsis. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted PV of \$953,000.

Contact Lens For Amazon Connect					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
J1	Hours of voice usage with agent and customer connected	Composite	469,200	779,000	608,000
J2	Contact Lens costs	AWS list pricing	\$351,900	\$399,750	\$342,000
Jt	Amazon Contact Lens	J2	\$351,900	\$399,750	\$342,000
	Risk adjustment	↑5%			
Jtr	Amazon Contact Lens (risk-adjusted)		\$369,495	\$419,738	\$359,100
Three-year total:			\$1,148,333	Three-year present value: \$952,592	

IMPLEMENTATION

Evidence and data. Interviewed organizations found that Amazon Connect was surprisingly fast, easy, and affordable to deploy. Customers built fully functional pilots at no cost in anywhere from a couple of hours to a couple of days, which was months faster than with other solutions they were being considered. Full deployment timelines depended on deployment scale, the variety and complexity of use cases, the degree of process and flow redesign, and the desired level of customization and integration.

Interviewees shared their deployment experiences:

- The IT operations director for a utility organization explained: “It was incredibly easy to design our call flows, use voice recording, and train agents for the cutover. We planned to test it over a month, and after a week, our team — who wasn’t even technical — had everything set up for our first program. What seemed like it would be just ‘quick and dirty’ turned into actual business value with real-time reports right away. Before we had time to make a business case, other groups were asking when they could move to Amazon Connect. It sounds too good to be true, but it was real — it’s ridiculous.”
- The technology lead for a telecommunications company described: “What we’ve achieved at building with Amazon Connect and AWS services is a significant step forward, at half the cost of building just what we had before. We spent as much as we have on this for a previous attempt that didn’t even deliver working software. . . . We built, tested, and launched a production-grade biometrics voice experience using Amazon Connect and AWS services in only six weeks with only one developer. It would have taken tens of people, for longer, with any other solution.”
- The CIO for a healthcare services company stated: “Amazon Connect seemed to be the simplest solution to get a reliable cloud-based service with the least implementation friction.”

“[Deploying Amazon Connect] was incredibly easy. . . . It sounds too good to be true — it was ridiculous.”

– IT operations manager, utility

Modeling and assumptions. Implementation costs for the composite organization assume a DIY approach led by current employees, rather than relying on professional services:

- Four months to fully pilot, test, customize, and deploy Amazon Connect including AWS services such as Contact Lens, Lambda, Lex, and S3.
- Six months of crossover between the legacy solution and the new Amazon Connect environment, with go-live occurring on a team-by-team basis to prevent disruption and implement change management for updated flows.
- Five system admins support the contact center as a portion of their role. Each devotes 50% of their time to the four-month build and 25% of their time to the staggered six-month rollout of Amazon Connect.
- Four developers help design, customize, and integrate Amazon Connect to meet the organization’s unique needs, spending 50% of their time during the four-month build period.
- Two of the four developers stay with the six-month staggered rollout, spending 25% of their time on additional updates and changes as Amazon Connect is deployed to all agents.

ANALYSIS OF COSTS

- Six supervisors (two per contact center site) support deployment with helping plan, design, and test flows, spending three days per month during the four-month build phase.
- The six supervisors dedicate one day per month during the six-month staged rollout to help the admins drive adoption of the new services.
- System admins earn \$58 per hour, developers earn \$65 per hour, and supervisors earn \$28 per hours in fully burdened salary.
- No professional services were needed or utilized during the deployment process. Some companies may wish to use professional services instead, replacing labor with outsourcing costs.
- Complexity of contact flows and use cases.
- Level of desired customization.
- Degree to which processes and flows are redesigned during the Amazon Connect deployment.
- Specific company requirements necessitating other third-party vendor technology be used alongside Amazon Connect (true for three interviewees).
- Scale of the contact center.
- Lack of control over offshore or outsourced people, processes, or technology.

Risks. Forrester uncovered moderate risks that may impact implementation costs and timeline, including:

- Complexity of existing IT environment to be replaced and integrated.

Synopsis. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted PV of \$351,000.

Implementation

Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
K1	Months to deploy Amazon Connect including AI and other services	Interview data	4	6		
K2	System administrator FTEs	F1	5	5		
K3	Hours per system admin, per month	Interview data	80	40		
K4	System administrator hourly pay	Composite	\$58	\$58		
K5	System administration costs	$K1 * K2 * K3 * K4$	\$92,800	\$69,600		
K6	Developer FTEs	Interview data	4	2		
K7	Hours per developer, per month	Interview data	80	80		
K8	Developer hourly pay	Composite	\$65	\$65		
K9	Developer costs	$K1 * K6 * K7 * K8$	\$83,200	\$62,400		
K10	Supervisors supporting deployment	Interview data	6	6		
K11	Hours per manager, per month	Interview data	24	8		
K12	Contact center manager hourly pay	E4	\$28	\$28		
K13	Contact center manager costs	$K1 * K10 * K11 * K12$	\$16,128	\$8,064		
Kt	Implementation	$K5 + K9 + K13$	\$192,128	\$140,064	N/A	N/A
	Risk adjustment	↑10%				
Ktr	Implementation (risk-adjusted)		\$211,341	\$154,070	N/A	N/A
Three-year total: \$365,411			Three-year present value: \$351,405			

MANAGEMENT

Evidence and data. As with any solution, organizations needed to support, refine, and customize Amazon Connect as customers' needs evolved, as use cases changed, and as new innovations or updates became available. They also needed to report on success, manage user access, and interface with AWS support, as needed.

However, organizations shared that the management and development efforts were much lower than they were with their legacy solutions by consuming Amazon Connect as a cloud service, by using AWS microservices, and by using the no-contract DIY approach instead of relying on professional services. The modeled savings are assuming the legacy solution was offered via the cloud. Savings from an on-premises environment are likely to be larger.

Modeling and assumptions. Management costs for the composite organization assume the following:

- Five system admins support Amazon Connect as part of their role. Each devotes two days per month to management. Each previously devoted five days per month to managing the legacy contact center.

- Two developers support and continually integrate and enhance Amazon Connect as a portion of their role. Each devotes one week per month to updates, integrations, and enhancements. Developers also previously helped integrate and enhance the legacy contact center.
- System admins earn \$58 per hour and developers earn \$65 per hour in fully burdened salary.

Risks. Forrester uncovered moderate risks that may impact management costs, including:

- Number of administrators and developers.
- Number of supported contact centers, agents, calls, and uses cases.
- Level of complexity and variety of use cases.
- Level of complexity and integration with broader contact center, CRM, and database environment.
- Level of customization to Amazon Connect.

Synopsis. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted PV of \$323,000.

Management					
Ref.	Metric	Calculation	Year 1	Year 2	Year 3
L1	System admins supporting Connect	F1	5	5	5
L2	Hours per admin, per month	Interview data	16	16	16
L3	System admin fully burdened hourly pay	Composite	\$58	\$58	\$58
L4	System administration costs	L1*L2*12*L3	\$55,680	\$55,680	\$55,680
L5	Developers supporting updates and enhancements	Interview data	2	2	2
L6	Hours per developer, per month	Interview data	40	40	40
L7	Developer hourly pay	Composite	\$65	\$65	\$65
L8	Developer costs	L5*L6*12*L7	\$62,400	\$62,400	\$62,400
Lt	Management	L4+L8	\$118,080	\$118,080	\$118,080
	Risk adjustment	↑10%			
Ltr	Management (risk-adjusted)		\$129,888	\$129,888	\$129,888
Three-year total:			\$389,664	Three-year present value: \$323,012	

TRAINING

Evidence and data. Interviewed customers found that Amazon Connect offered a simple, out-of-the-box user interface for agents and supervisors. Alternatively, it could be completely customized or integrated into other contact center technologies.

The most impactful deployments sought to not just replace the back-end system with Amazon Connect, but to also improve the agent-facing tools using its out-of-the-box capabilities and customization as desired.

However, agent-facing changes do lead to a need for additional training and change management. They also power agent productivity savings as measured earlier in this TEI study.

Modeling and assumptions. Training costs are modeled for the composite organization assuming:

- Peak concurrent users include 900 agents and 50 supervisors.
- Employees are paid \$18 per hour in fully burdened salary.
- All employees are trained during the deployment process (during the “Initial” period).

- Employee turnover is 30% per year; by Year 2, therefore 30% of the workforce are new users and must be trained on the solution.
- Conservatively, up to four training hours are dedicated per employee. Training is purposed to introduce the new solution capabilities and user interface, along with training on broader changes to processes and flows that occurred alongside the Amazon Connect deployment. Time spent actively learning the service interface, time spent scheduling and joining trainings, and time spent on change management to show new flows and processes and observe correct usage are all relevant (as with any investment).

Risks. Forrester uncovered moderate risks that may impact the required training, including:

- Size of workforce.
- Amount of solution integration and customization.
- Level of process and contact flow changes deployed alongside the new technology.

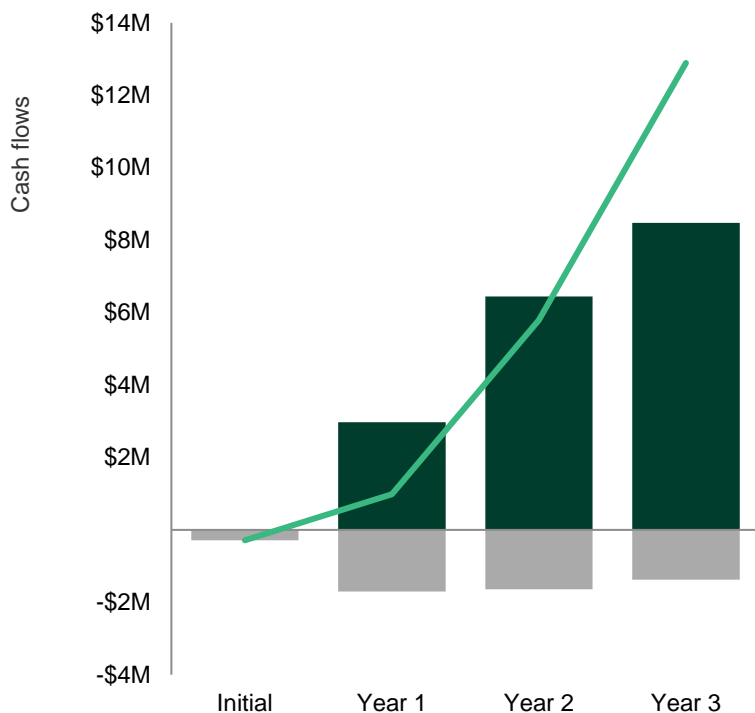
Synopsis. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted PV of \$111,000.

Training						
Ref.	Metric	Calculation	Initial	Year 1	Year 2	Year 3
M1	Number of peak concurrent users (agents and supervisors), baseline	A1	950	950	950	950
M2	First-time Amazon Connect users	Composite	100%	0%	30%	30%
M3	Number of trainees	M1*M2	950	0	285	285
M4	Training hours per user for solution and associated processes	Interview data	4	4	4	4
M5	Blended hourly pay	B9	\$18	\$18	\$18	\$18
Mt	Training	M3*M4*M5	\$68,400	\$0	\$20,520	\$20,520
	Risk adjustment	↑10%				
Mtr	Training (risk-adjusted)		\$75,240	\$0	\$22,572	\$22,572
Three-year total:			\$120,384	Three-year present value: \$110,853		

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Total costs
 Total benefits
 Cumulative net benefits



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 for the composite organization. Forrester assumes a yearly discount rate of 10% for this analysis.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	(\$286,581)	(\$1,700,656)	(\$1,639,667)	(\$1,370,366)	(\$4,997,269)	(\$4,217,304)
Total benefits	\$0	\$2,970,756	\$6,445,964	\$8,473,364	\$17,890,084	\$14,394,094
Net benefits	(\$286,581)	\$1,270,100	\$4,806,297	\$7,102,998	\$12,892,815	\$10,176,790
ROI						241%
Payback period						<1 year

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."



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

“AI And Automation Will Upend The Customer Service Workforce,” Forrester Research, Inc., January 3, 2020.

“Design Your Contact Center To Be Customer-Centric,” Forrester Research, Inc., September 25, 2019.

“Forrester’s 30-60-90-Day COVID-19 Response Plan For Customer Service,” Forrester Research, Inc., April 21, 2020.

“Hire For New Profiles That Expand The Notion Of A Contact Center Agent,” Forrester Research, Inc., January 6, 2020.

“Many Firms Damage CX By Mismanaging Call Center Staffing And Performance,” Forrester Research, Inc., February 19, 2020.

“Plan For The Work-At-Home Contact Center You Want, Not The One You Were Forced To Build During This Pandemic,” Forrester Research, Inc., April 21, 2020.

“Predictions 2020: Customer Service,” Forrester Research, Inc., November 25, 2019.

“Prepare For The Downstream Effects Of The Contact Center Labor Shift,” Forrester Research, Inc., January 7, 2020.

“Roles Within The Contact Center Will Adapt To Partnering With AI,” Forrester Research, Inc., January 3, 2020.

“Vendors Battle For The Heart Of The Contact Center,” Forrester Research, Inc., November 15, 2019.

“Work-At-Home: Just The First Step In Contact Centers’ Response To COVID-19,” Forrester Research, Inc., April 9, 2020.

Appendix C: Endnotes

¹ Source: “Design Your Contact Center To Be Customer-Centric,” Forrester Research, Inc., September 25, 2019.

² Source: “Forrester’s 30-60-90-Day COVID-19 Response Plan For Customer Service,” Forrester (<https://www.forrester.com/fn/LV1a13igk5X2IIny7VD7k>).

³ Ibid.

⁴ Average total market pre-tax, pre-stock compensation operating margin is 11.78%. Source: “Margins by Sector (US),” Stern at NYU, January 2020 (http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/margin.html).

⁵ Telephony costs vary significantly depending on the volume of inbound, callback, and outbound calls, the region, the number of direct inward dialing (DID) and toll-free numbers, and the usage of those numbers. Not all interviewees switched telephony providers when adopting Amazon Connect. Ultimately, interviewees shared that telephony pricing was comparable between Amazon and other service providers. After evaluating the financial model with telephony excluded, Forrester ultimately has chosen to exclude both new telephony costs and legacy telephony cost savings as the net impact was marginal at best and highly dependent on specific company needs otherwise.

⁶ Hours saved for agents are recaptured as greater value per dollar as more calls are handled per-agent-hour, resulting in reduced hours for variable-hour employees and avoided hiring after attrition.

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⁸ Hours saved for agents are recaptured as greater value per dollar as more calls are handled per-agent-hour, resulting in reduced hours for variable-hour employees and avoided hiring after attrition.

⁹ Recaptured supervisor productivity allows for greater work output per hour and reduced hiring after attrition.

¹⁰ Recaptured administrator hours enabled employees to complete more work per hour, managing additional tasks and driving further development and innovation, also helping reduce hiring after attrition.

¹¹ Hours saved for agents are recaptured as greater value per dollar as more calls are handled per-agent-hour, resulting in reduced hours for variable-hour employees and avoided hiring after attrition. Recaptured administrator hours enabled employees to complete more work per hour, managing additional tasks and driving further development and innovation, also helping reduce hiring after attrition.

¹² Telephony costs vary significantly depending on the volume of inbound, callback, and outbound calls, the region, the number of DID and toll-free numbers, and the usage of those numbers. Not all interviewees switched telephony providers when adopting Amazon Connect. Ultimately, interviewees shared that telephony pricing was comparable between Amazon and other service providers. After evaluating the financial model with telephony excluded, Forrester ultimately has chosen to exclude both new telephony costs and legacy telephony cost savings as the net impact was marginal at best and highly dependent on specific company needs otherwise.

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