The Total Economic Impact™ Of IBM Services And Watson Cognitive Customer Care Solutions

Cost Savings And Business Benefits Enabled By Cognitive And Virtual Banker Solutions For Regions Financial Corporation

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Key Benefits

331K calls handled end to end through cognitive self-service

27-second targeted reduction in average call handle time

6-minute reduction in average wait time

Executive Summary

Artificial intelligence (AI) lies at the core of customer service transformation, enabling businesses to boost agent capabilities and improve the economics of delivering differentiated customer experiences at scale. With nearly 50% of consumers already engaging with intelligent personal assistant technologies, the use of cognitive solutions to assist or automate repetitive, predictable tasks is gaining traction in customer service organizations globally.[1] In fact, four in 10 contact center decision makers are exploring the use of AI to automate routine tasks and enhance agent skill sets, freeing up capacity to handle higher-value customer interactions that help nurture profitable customer relationships.

IBM commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study to examine the potential return on investment (ROI) financial service organizations may realize by using IBM Services, Watson's customer care solutions, and other IBM technologies to build virtual assistant solutions to streamline and optimize customer service delivery. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of IBM's cognitive customer care solutions on their businesses.

To better understand the benefits and risks associated with this investment, Forrester interviewed Regions Financial Corporation (Regions) who had a year of experience using IBM to transform its customer care center's operations. Specifically, Regions deployed three Watson solutions for its customer care organization: cognitive self-service virtual agent, cognitive banker assist, and cognitive recordings analyzer, which are described in more detail later in this study.

Prior to working with IBM Services and using Watson to transform its customer care center, Regions leveraged a legacy document management and storage solution along with business process reengineering consultants to streamline information finding and problem resolution workflows. These investments led to incremental changes, catalyzing Regions to look to AI and cognitive solutions that could reduce operational costs, shorten call handle times, and increase agent efficiency. In addition, with 40% of online adults in the US preferring self-service customer service instead of speaking to live agents on the phone, Regions looked to cognitive solutions to improve its customer experience.[2]

40%
Of online adults prefer self service rather than speaking to a live person on the phone for customer service

4 in 10
Contact center decision makers are exploring the use of AI to differentiate their service

Key Findings

Quantified benefits. Regions Financial Corporation experienced the following risk-adjusted present value (PV) quantified benefits:

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Benefits PV
$5.2 million

"[Our agents] need an easier way to get answers to customers in a timely fashion in handling customer inquiries and resolving problems."

Head of Operations, Regions Financial Corporation

› **Managed 331,000 customer care calls entirely within Watson in first year of use; projecting slightly over a million customer care calls handled within Watson over three years.** By building virtual agents and conversations using the Watson platform for three common customer care inquiries, Regions enabled self-service customer care while fully automating and handling inquiries from end to end using virtual agents. By the third year of the analysis, Watson is projected to help Regions manage over 350,000 customer care calls entirely within Watson annually. The resulting risk-adjusted three-year savings from call deflections total a PV of just over $3 million.

› **Reduced average call handle times by over 57,000 hours annually.** Using Watson for long- and short-tail tagging using Watson Explorer, Regions built out a banker assist solution to expedite research for problem resolution and improve customer care knowledge management. As a result, bankers and agents have seen a 10% reduction in the 4.5 minutes they spent researching customer issues on an average call, saving an average of 27 seconds per call.

Forrester's interview with Regions and subsequent financial analysis found that the company experiences forecasted benefits of just shy of $5.2 million over three years after adjusting for risk and present value.

Improved agent productivity and capacity
41%
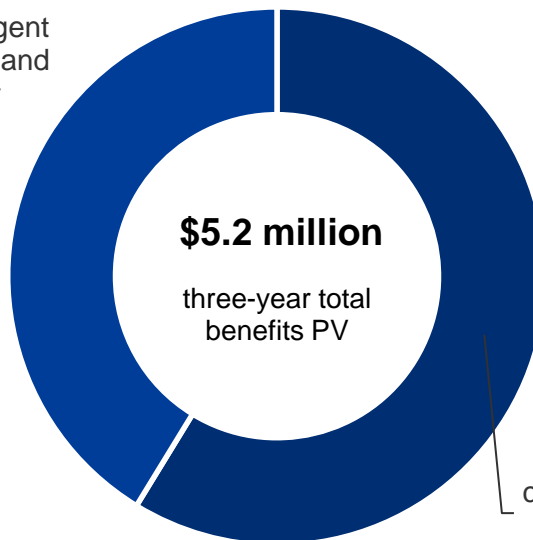
$5.2 million

three-year total benefits PV

Reduction in customer care costs
59%

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TEI Framework And Methodology

From the information provided in the interview, Forrester has constructed a Total Economic Impact™ (TEI) analysis for those organizations considering implementing IBM Services and Watson cognitive customer care solutions.

The objective of this study is to identify the benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that IBM's customer care solutions and services can have on financial services companies.

DUE DILIGENCE
Interviewed IBM stakeholders and Forrester analysts to gather data relative to IBM Services and Watson cognitive customer care solutions.

CUSTOMER INTERVIEW
Interviewed Regions Financial Corporation who was using IBM Services and Watson cognitive customer care solutions to obtain data with respect to benefits and risks.

FINANCIAL MODEL FRAMEWORK
Constructed a financial model representative of the interview using the TEI methodology and risk-adjusted the financial model based on issues and concerns of Regions.

CASE STUDY
Employed fundamental elements of TEI in modeling the business impact of IBM Services and Watson cognitive customer care solutions: benefits, flexibility, and risks. Given the increasing sophistication that enterprises have regarding financial 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.

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

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by IBM and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential business impacts 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 IBM Services and Watson cognitive customer care solutions.

IBM 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.

IBM provided the customer name for the interview but did not participate in the interview.

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Customer Care Center Transformation With Watson AI Solutions

BEFORE AND AFTER THE WATSON COGNITIVE CUSTOMER CARE INVESTMENT

Interviewed Organization

For this study, Forrester interviewed Regions Financial Corporation. The environment surrounding its Watson cognitive customer care implementation were as follows:

› Regions had one thousand customer care center employees, 700 of whom are on the phone. Ninety percent of customer care touchpoints came through the phone channel at the time of the interview.

› The customer care center receives approximately 10 million calls annually, 7.6 million of which are answered by bankers.

› Prior to using IBM's Watson cognitive customer care solutions, customers experienced approximately 15 minutes in total call time, with average speed to answer and call handling time ranging from 6 to 8 minutes each.

› In partnership with IBM Services, Regions deployed Watson cognitive customer care solutions across three use cases, which are explained in more detail in the sidebar.

Key Challenges And Business Objectives

Prior to working with IBM, Regions spoke of several challenges and pain points hampering its customer care transformation initiatives and negatively impacting its customer experience:

› **Long hold times and inadequate customer problem resolution capabilities.** While Regions prided itself on its overall customer satisfaction, with relatively few problems per customer, it strived to improve success with problem resolution. The need to rapidly research and resolve customer issues stretched agent capacity, causing long call hold times and lessening its customer experience. The head of operations explained: "Our wait times weren't getting better. When customers got on the phone, they might not have had a great experience because the agent couldn't answer the question quickly, making the customer even more frustrated."

› **High customer care center operational costs.** Regions had a mandate to improve customer care center cost management and efficiencies. Previous business process reengineering and consulting investments had only incremental effects.

Solution Requirements

Regions searched for a solution with the following attributes:

Cognitive self-service virtual banker

Watson provides answers to customer banking inquiries using natural language interactions of the phone.

Cognitive banker assist

Watson provides bankers and agents short-tail answers on customer inquiries from a knowledge management database.

Cognitive recordings analyzer

Watson analyzes call recordings to extract key insights into call categorization and customer needs.

> "We were delivering a really good customer experience, and customers were reporting very few problems, but when a customer encountered a problem, our problem resolution processes put us in the bottom quartile in our peer group."
>
> *Head of Operations, Regions Financial Corporation*

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> › **Ability to improve agent problem resolution capabilities.** Regions wanted to empower agents and bankers with additional technologies to boost customer care function efficiency. Furthermore, Regions was looking to better collect and leverage data to gain insights on common call themes, best practices, and problem resolution pain points. The goal was to facilitate a culture of continuous improvement within the customer care function.

> › **Ability to deploy in an omnichannel way.** While the lion's share of Regions' customer care requests came through the phone channel, the organization sought the flexibility to expand its cognitive capabilities to other customer channels without massive incremental costs and development work.

Key Results

Regions revealed the following key results and business outcomes from its investment in IBM Services and Watson cognitive customer care solutions, including:

> › **Reduction in average call handle times.** If a problem required research, agents spent 75%, or 4.5 minutes, of call handle time, on average, researching customer problems and requests. Using cognitive banker assist, agents saw a 10%, or 27-second, reduction in average call handle times, freeing up thousands of hours of agent capacity.

> › **Reduction in customer care operational costs through cognitive self-service virtual banker.** Regions contained 331,000 customer care requests entirely within Watson in the first year of use, equivalent to 28 full-time equivalents (FTEs) in agent capacity.

> › **Better customer satisfaction with improved problem resolution process and accuracy.** Reductions in call wait and resolution times materially and positively impact the customer experience. Forrester's Customer Experience Index (CX Index™) research reveals that a 1-point improvement in CX Index score results in $9.82 in annual incremental revenue per customer for banks.[3]

> › **Heightened focus on growing customer relationships.** Virtual banker and banker assist use cases have helped Regions automate and streamline customer service request resolution. This allowed bankers and agents to heighten their focus on opportunities to nurture customer relationships — something increasingly rare in a digital-first world.

> "[With IBM], we have a vendor that understands the strategic investments we need to make to digitally transform the business. We intentionally went with IBM to help train, develop, and upskill our staff in machine learning and AI."
>
> *Head of Operations, Regions Financial Corporation*

> "When the banker had to do research to answer customer inquiries, 75% of customer call time was spent on research and communicating that research. By shaving 10% off [problem resolution] research time, we were looking at a conservative reduction of 27 seconds per call."
>
> *Head of Operations, Regions Financial Corporation*

$9.82

Annual incremental revenue per customer for banks that achieve a 1-point increase in their CX Index score

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Analysis Of Benefits

QUANTIFIED BENEFIT DATA

Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Reduction in customer care costs	$1,113,960	$1,253,205	$1,315,865	$3,683,031	$3,037,027
Btr	Improved banker productivity and capacity	$818,758	$859,696	$902,680	$2,581,134	$2,133,015
	Total benefits (risk-adjusted)	$1,932,718	$2,112,901	$2,218,546	$6,264,165	$5,170,042

Reduction In Customer Care Costs

In the face of growing customer care center call volumes and with average speed to answer and handle times totaling 15 minutes, Regions needed a way to improve customer request and problem resolution process efficiencies. In doing so, the organization sought to reduce its operational costs while concurrently providing needed improvements to its customer care experience; long hold times and poor knowledge management materially impacted its customer care center experience scores.

By building virtual agents and conversations using the Watson platform in partnership with IBM, Regions automated common customer care inquiries including fee waiving, online banking frequently asked questions (FAQs), and credential reset; these are now handled using cognitive virtual bankers. After deploying Watson and using IBM Services to build out its cognitive self-service virtual banker solution, Regions was able to answer 1 million customer care requests using Watson within just eight months. Slightly over 20% of these customer care requests were completely contained and handled within Watson from end to end without any human intervention. Considering just the customer care requests completely contained and automated within Watson, Regions was able to fully deflect 331,000 calls within the first year of use, effectively expanding the customer care function's capacity by 28 FTE bankers.

In modeling the impact of Regions' cognitive self-service virtual banker solution on its customer care unit, Forrester assumed:

› Regions initially applied its cognitive self-service virtual banker solution to phone-based fee waiving and online banking FAQs requests, later rolling out this capability for credential resets. Over time, Regions intends to roll out the cognitive self-service virtual banker solution in an omnichannel way, while rolling out additional applications, including card ordering, activations, and other use cases.

› Regions managed 1.6 million calls using Watson in Year 1 of the analysis. Just over 20% of these, or 331,000 calls, were automated and handled from end to end in Watson, which reflects the run rate provided by the interviewee. While all calls handled by Watson undoubtedly would save agent time, time savings from calls not completely contained within Watson were not accounted for in our analysis due to the conservative nature of this study.

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, Regions expects risk-adjusted total benefits to be a PV of nearly $5.2 million.

Number of banker hires avoided using Watson Virtual banker, by year
Year 1: 28 agents
Year 2: 30 agents
Year 3: 30 agents

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- The percentage of calls managed entirely within Watson grows from 20% to 22% by Years 2 and 3 of the analysis, consistent with the run rates provided by Regions.

- Based on inputs from Regions, each banker handles, on average, just under 12,000 customer care requests per year. As a result of call deflections, the number of additional FTE banker hires avoided as a result of Watson grows from 28 bankers in Year 1 to 30 bankers by Year 3.

- Based on industry data on annual salaries, inclusive of 30% benefits overhead, the average salary for a customer care center banker is $41,878. This figure was used in Year 1 of the analysis and grows at 5% year-over-year in subsequent years of the analysis.

The volume of calls handled using the cognitive self-service virtual banker solution may vary over time as customer service preferences evolve. Furthermore, average annual salaries for customer care bankers will vary across regions and by skill set. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of just over $3.0 million.

> 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.

Reduction In Customer Care Costs: Calculation Table

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Total number of calls handled using Watson, annually		1,600,000	1,600,000	1,600,000
A2	Percentage of calls handled from end to end within Watson		20.69%	22.00%	22.00%
A3	Number of calls handled within Watson, per year	A1*A2	331,000	352,000	352,000
A4	Number of calls handled per banker, per year	$A3_{Y1}/A5_{Y1}$	11,821	11,821	11,821
A5	Number of bankers saved, per year	Finding	28	30	30
A6	Average full burdened call center banker annual salary	Assumes 5% annual growth	$41,878	$43,972	$46,171
At	Reduction in customer care costs	A5*A6	$1,172,590	$1,319,163	$1,385,121
	Risk adjustment	↓5%			
Atr	Reduction in customer care costs (risk-adjusted)		$1,113,960	$1,253,205	$1,315,865

Improved Banker Productivity And Capacity

Prior to deploying cognitive customer care solutions, Regions had long average wait times and struggled with problem resolution due to the basic knowledge management and best practices capabilities across agents and bankers.

After deployment of the cognitive banker assist solution using Watson and IBM Services, agents and bankers were empowered to quickly and consistently provide accurate resolutions to customer inquiries and problems using AI and cognitive tools. Agents and bankers reduced the 4.5 minutes they spent researching customer problems and requests on an average call by 10%, reducing average call handle times by 27 seconds per call. With 7.6 million customer care calls annually, Regions reduced average call handle times by a total of over 57,000

Reduction in average handle time:
27 seconds per call

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hours in the first year of use.

For the model, Forrester assumes that:

› Regions receives 7.6 million customer care calls in the first year of the analysis.

› Average handle times are reduced by an average of 27 seconds per call across the three-year analysis.

› An average hourly salary rate, inclusive of 30% benefits overhead, of $20.13 is used in Year 1 of the analysis, consistent with industry norms. Forrester assumes this grows at a 5% year-over-year clip in subsequent years of the analysis

› Regions only realizes 75% of banker productivity gains as demonstrated by the productivity capture rate in row B5 in the chart below.

The business value received by improving banker productivity and capacity will vary based on the fully loaded compensation for each resource and their ability to apply time savings toward improving customer care center capacity and performance. To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of just over $2.1 million.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
Improved Banker Productivity And Capacity: Calculation Table					
B1	Total annual call volume		7,610,000	7,610,000	7,610,000
B2	Reduction in average handle times using cognitive banker assist (in minutes)	27 seconds/60 seconds	0.45	0.45	0.45
B3	Total time savings (in hours)	(B1*B2)/60	57,075	57,075	57,075
B4	Hourly rate for a customer care banker (fully burdened)	Assumes 5% annual growth	$20.13	$21.14	$22.20
B5	Productivity capture rate		75%	75%	75%
Bt	Improved banker productivity and capacity	B3*B4*B5	$861,850	$904,943	$950,190
	Risk adjustment	↓5%			
Btr	Improved banker productivity and capacity (risk-adjusted)		$818,758	$859,696	$902,680

Flexibility

The value of flexibility is unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Watson cognitive customer care solutions in partnership with IBM Services and later realize additional uses and business opportunities, including:

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.

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› **Ability to build once and redeploy cognitive solutions in an omnichannel way.** At the time of the interview, approximately 90% of Region's customer care requests came through the phone channel. With that said, through its investments in Watson and other IBM technologies, Regions maintains the flexibility to enable virtual banker conversations with consumers across a variety of digital channels — e.g., click-to-chat, short message service (SMS), mobile apps — as the preferences of its customer base change over time. While this analysis is based exclusively on the business impacts of Watson on customer care requests through the phone channel, the conversations built in Watson can be deployed in an omnichannel way, allowing Regions to manage even more customer interactions using cognitive solutions without incurring massive incremental development costs.

› **Making customer service a differentiator.** A Forrester survey of global customer service business and technology decision makers found that forward-looking customer service organizations seek to differentiate through customer service. The survey found that 52% believe that improving differentiation is a high or critical priority while 63% identified addressing rising customer expectations as a pivotal priority.[4] In the face of these trends, Regions saw customer care center transformation and its cognitive center of excellence (CoE) as critical tools in improving their customer experience. Anecdotally, Regions was beginning to see fruits from its investments; Regions saw an uptick in its referral rate following its adoption of cognitive customer care solutions.

› **Implementation of new cognitive use cases across the business.** Regions built a CoE to enable new use cases for Watson both within the customer care function and across the business. While Regions initially applied its cognitive self-service virtual banker solution to phone-based fee waiving, online banking FAQs requests, and credential resets, it plans to roll out credit card activation and ordering, profile updates, transaction disputes, and other virtual customer care conversations over time. Regions also expressed interest in rolling out the cognitive banker assist capabilities outside of the customer care center into the branches and other lines of business. In both scenarios, the number of call deflections and the agent productivity gains would likely rise significantly.

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

Forward-looking customer service organizations see customer service as a differentiator

52% Report that improving differentiation in the market is a high or critical business priority

63% Consider addressing rising customer expectations as a high or critical priority in the next 12 months

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IBM Services: Overview

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

IBM Services is the professional services arm of IBM, comprised of **Global Business Services (GBS)** and **Global Technology Services (GTS).** As the trusted business and technology reinvention partner of the world's leading companies representing the cornerstones of every industry, IBM's industry, process, and IT experts apply breakthrough thinking and technology to solve IBM's clients' greatest needs to build smarter business at speed and scale.

IBM Services' Cognitive Customer Care solutions help improve customers' experiences while lowering operating costs with Watson™ AI technologies, virtual agent, and omnichannel capabilities. IBM's experts help clients across numerous industries, including banking and insurance, to create an intelligent, customer-first call center.

IBM's breadth of offerings seamlessly enable a shift from the traditional call center to a cognitive call center that's a first line of defense to prospects, customers, employees, and others. IBM offers a comprehensive portfolio of cognitive customer care solutions from transforming the people and process, to operating the environment as a service.

People And Process Transformation:
Transform existing call center processes to provide consistent, high-quality customer experiences across all channels at a reduced cost.

Enabling Cognitive Technologies:
Enabling the adoption of cognitive technologies including conversational AI through virtual agents, robotic process automation, advanced analytics, and complimentary Watson APIs.

Cognitive Care-As-A-Service:
Managed service offering to provide ongoing operational management and continued growth of the cognitive environment.

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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.

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Appendix B: Endnotes

[1] Source: "How AI Will Transform Customer Service," Forrester Research, Inc., June 16, 2017.
[2] Source: Forrester Analytics Consumer Technographics® North American Retail And Travel Customer Life Cycle Survey, Q1 2017 (US)
[3] Source: "How Customer Experience Drives Business Growth, 2018," Forrester Research, Inc., September 21, 2018.
[4] Source: Forrester Analytics Global Business Technographics Priorities And Journey Survey, 2017

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