The Forrester Tech Tide™: Contact Center Technologies For Customer Service, Q1 2021

Twenty Technologies Underpin Customer Service

by Kate Leggett, Ian Jacobs, Art Schoeller, and Vasupradha Srinivasan January 19, 2021

Why Read This Report

Customer service is increasingly critical to firms' ability to win, serve, and retain their customers. To accelerate their performance in customer service, companies are evaluating and adopting a range of contributing technologies. This Forrester Tech Tide™ report presents an analysis of the maturity and business value of the 20 technology categories that support customer service. Customer service leaders should read this report to shape their firm's investment approach to these technologies.

Key Takeaways

Digital Channels Continue To Mature And Expand

Customer service organizations must be agile enough to react to customers' changing expectations for service. Firms are improving digital channels by broadening the actual number of channels supported and adding more capabilities like asynchronous messaging.

Automation And Al Infuse Customer Service Applications

Customer service technologies are increasingly embedding AI and automation to streamline and optimize operations. This allows agents to focus on complex work and nurture customer relationships.

Workhorse Technologies Persist — And Overlap

Eight of the 20 technologies in this Tech Tide are mature and foundational to customer service operations. Yet vendors continue to evolve these technologies, often growing their feature sets into adjacent technology categories.

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Related Research Documents

The Forrester New Wave™: Digital-First Customer Service Solutions, Q2 2020

The Forrester Wave™: Contact Center Interaction Management For Midsize Contact Centers, Q3 2016

The Forrester Wave™: Workforce Optimization Suites, Q3 2016

The Three Customer Service Megatrends In 2020: Fuse Al And Agents To Drive Better Experiences



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Leverage Contact Center Technologies For Customer Service Success

Ease, effectiveness, and emotion are what drive great customer service. For many companies, these are the cornerstones of their customer experience strategy. And while good customer service helps control costs, it's the potential for sustainable top-line growth and customer loyalty that really interests company executives.

Customer service leaders know that great customer service isn't just about making current operations more efficient. Instead, it's a systematic reinvention of established technology, data, design, and operations — leveraging automation, data, and agents together to exploit each of their unique strengths. Customer service organizations must be agile enough to react to customers' changing expectations for service. They need to:

- Meet customers' demands for anywhere, anytime service. Customers are increasingly using self-service tools as a first point of contact.² Customer service organizations must support customers over a broad array of voice, digital, visual and social channels. They must make interactions as frictionless as possible; for example, by suggesting a video chat to see a product defect instead of listening to the customer describe the issue. They must also support customers in their end-to-end journeys without loss of context as customers transition between channels.
- Add Al to automation to improve operations. Customer service organizations must leverage Al and automation to offload repetitive work from agents. This allows operations to manage the rising tide of customer inquiries and preserve customer satisfaction without the need to add agent headcount. For example, Al-powered automation and routing improves agent performance by reducing errors, improving quality and speed, and in some cases, realizing outcomes that go beyond human capabilities.³
- Humanize operations to enhance the customer experience. Customers typically use live agent support for more complex issues like a claims dispute or product error that requires diagnosis.
 These inquiries take longer to resolve and require skilled agent resources to solve the issues and temper customer frustration after having tried and failed to self-serve. Customer service leaders must make these human moments matter, as, in an increasingly digital world, there are few opportunities to build positive emotional experiences in customer relationships.
- Transform their workforce to future-proof their operations. Automation and AI will affect all jobs within the contact center. AI will peel off routine tasks, with agents dedicated to customer exceptions and escalations. These agents will be more highly skilled and better tuned for empathy, better trained, and better compensated. Lower-tier agents will be repurposed to manage automation for example, supervising the learning of chatbots or creating self-service content. In addition, new jobs are appearing, such as conversational designers to script automated dialogs and data scientists and engineers to implement and tune AI algorithms.



Curate A Set Of Technologies That Enable Customer Service

Forrester surveyed technology decision-makers, suppliers, and other subject-matter experts in our search for the most important customer service technologies. Each of the technology categories analyzed in this Forrester Tech Tide meets three criteria and:

- Is an important contributor to customer service. Contact center technologies allow enterprises to deliver service consistently across communication channels, enable agents to follow consistent processes, and comply with policy. They embed automation and AI, which allow enterprises to make workforces more productive and to deliver service in line with customer expectations, garnering their satisfaction and brand loyalty.
- Is commercially available at enterprise scale. The vendors that offer these 20 technologies vary in size, regional focus, and market approach, but enterprises can deploy them across their global operations. The vendors that support these technologies either have or can support enterprisewide deployments.
- Has (or will have) market traction. Some technologies in this report have a long legacy of
 enterprise adoption, while others are emerging. The technologies with market traction have strong
 vendor and user ecosystems. They solve key business challenges around queuing and routing of
 incidents, optimizing agent workforces, and enabling organizations to deliver consistent service
 across communication channels. We expect that the emerging technologies will have similar
 ecosystems and solve similar challenges over time.

Select Customer Service Technologies That Offer High Business Value

The central 2x2 graphic offers a summary of the state of the technology categories that make up customer service (see Figure 1).4



FIGURE 1 Tech Tide™: Contact Center Technologies For Customer Service, Q1 2021

TECH TIDE

Contact Center Technologies For Customer Service Q1 2021

High business value	INVEST Conversational AI Digital adoption platforms (DAPs) Field service Interaction analytics Messaging Proactive outbound Robotic process automation (RPA)	MAINTAIN Case management Chat Contact center interaction management (CCIM) Interactive voice response (IVR) Knowledge management Outbound dialing Quality management Workforce management (WFM)
Low business value	EXPERIMENT Cobrowse Cognitive search Customer journey analytics Video	DIVEST Email response management
	Low maturity	High maturity

Evaluate Business Value And Maturity For Each Customer Service Technology

We plot the categories on two dimensions:

- Business value. This is the expected business return on technology investment over the reasonable lifetime of the technology. Some customer service technologies are common "utilities," such as quality management or interactive voice response (IVR), that don't require much business case development. The value of other technologies, such as video or messaging, is harder to quantify, as they require targeting specific agent roles or use cases to help build the case for investment.
- Maturity. This is the current state of the technology in the category, characterized by variables like rate of product innovation, nature of the dominant vendors in the market, adoption by enterprise customers, and other relevant indicators of the readiness or ripeness of the technology.

Determine Strategies For Service Technology Based On Business Value And Maturity

The business value and maturity dimensions, in turn, position each category in one of four quadrants:

- **Experiment.** Low maturity and low business value characterize technologies in the Experiment zone. Most enterprises should limit their exposure to these technologies to bounded experiments, waiting for the expected business value of these newer categories to improve before investing.
- **Invest.** Low maturity and high business value characterize technologies in the Invest zone. These new technologies have ripened to the point where enterprises can confidently invest.
- Maintain. High maturity and high business value characterize technologies in the Maintain zone. These are the bread-and-butter technologies that most enterprises rely on to run their business. They're generally stable, well-understood technologies that continue to have high returns to the business. Most enterprises should maintain their installations and usage of these technologies.
- Divest. High maturity and low business value characterize technologies in the Divest zone.
 These older technology categories have reached a point where their business value has dropped.
 Most enterprises should be looking for newer, higher-value replacements and divesting from these categories.

Invest In And Maintain Service Technologies With High Business Value

Al and machine learning continue to be the driving forces behind the changes in all aspects of customer service technology. They help streamline inquiry capture and resolution; automate repetitive, onerous tasks that kill agent productivity; and fuel automated customer conversations. Al-infused technology optimizes agent schedules and makes field operations more efficient. It extracts useful information from voice and digital conversations, images, and machine-to-machine communications to surface trends, issues, and customer sentiment that may affect customer retention and loyalty.



In mapping the futures of the technology in the customer service ecosystem, we found that:

- New channels are adopted, but old ones refuse to die. The pandemic has fueled the deployment of synchronous and asynchronous digital channels for customer service as firms attempt to offload spikes in voice calls. On the other hand, legacy channels, such as email, remain in wide use, even though more immediate communication channels offer better experiences.
- Automation does best when connected to humans. Automation and AI require supervision. Today, they adequately handle routine tasks. But agents need to be involved in all steps of automation, from helping train models to supervising their performance and handling escalations when automation fails. This isn't yet common. Organizations must leverage the strengths of automation and agents together to deliver differentiated experiences. AI without humans isn't actually intelligent, and humans sans AI are hobbled in their efforts to provide empathetic service at enterprise scale.
- Workhorse technologies hang in there. Many of the technologies in the Maintain quadrant form the backbone of contact center operations. These include contact center interaction management (CCIM), workforce management, IVR, quality management, and case management. Although these technologies are mature, vendors invest in evolving them, often growing their feature set into adjacent technology categories.
- Cloud is a given, not an option. Enterprise concerns about the security, reliability, and scalability of cloud solutions are in the rearview mirror. Enterprises that demand on-premises solutions are now the exception rather than the rule. Every vendor in this Tech Tide offers cloud or hosted technology solutions.



Experiment With Cobrowse, Search, Journey Analytics, And Video

Four customer service technologies fall into the Experiment quadrant of the Tech Tide, with low maturity and low current business value. These technologies don't have wide adoption yet, but we expect them to grow for three reasons: 1) Better search improves customer and agent experiences; 2) immersive technologies like cobrowse and journey analytics provide outside-in perspectives; and 3) video makes certain customer interactions more effective.

Cobrowse

Modern cobrowse solutions that work on computing devices, including mobile, have increased appeal in pandemic times, where digital-first engagement dominates (see Figure 2). Cobrowse solutions are typically part of a broader digital engagement suite that allows agents to share documents and navigate complex experiences with customers. However, respondents to our Tech Tide survey had mixed opinions about the business value of this technology, with concerns about its integration into older technology and its ability to work on mobile devices.5

FIGURE 2 Experiment: Cobrowse



EXPERIMENT

MATURITY

↓ Low

BUSINESS VALUE

↓ Low

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

eGain; Genesys; Glance Networks; Glia; LivePerson; LogMeln; Nuance Communications; Oracle; Pegasystems; Unblu

Cobrowse

De nition

Cobrowse enables a customer service agent to share a web page with a customer using the customer's web browser. Cobrowse allows annotations and field masking to protect personally identifiable information.

Maturity rationale

Cobrowse has existed for decades with little traction. However, the COVID-19 pandemic, along with new cobrowse versions that function on the web and mobile apps without software downloads, has made visual engagement more compelling.

Business value rationale

Cobrowse can remove friction from an inquiry, help guide customers with visual cues, and mask personal information. Not every customer interaction requires it; however, agents can use it to guide a customer to the right purchase or help them learn new software, complete a loan application, or submit a claim.



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Cognitive Search

Cognitive search solutions help customers and agents find the right information about products and services (see Figure 3). They overlay knowledge bases, content stores, ticketing systems, and defect tracking databases and use indexing, text analytics, and AI technologies to surface relevant, related data. These solutions require attention and investment, but if properly managed, they deliver real business value, as 74% of our Tech Tide survey respondents confirmed.⁶ They appeal to complex, data-rich customer service scenarios. For example, Lenovo uses cognitive search to help customers in 180 markets, spanning 60 different languages to find relevant content.⁷

FIGURE 3 Experiment: Cognitive Search



MATURITY

↓ Low

BUSINESS VALUE

↓ Low

LIFECYCLE COST

\$\$\$

Squirro

SAMPLE VENDORS

Attivio; Coveo; IBM; IHS Markit; Lucidworks; Micro Focus; Microsoft; Mindbreeze; Sinequa;

Cognitive search

De nition

Cognitive search uses varied AI technologies, such as natural language understanding, machine learning, and deep learning, to ingest, understand, organize, and query digital content from multiple data sources and deliver relevant information to the customer service agent or the customer.

Maturity rationale

Cognitive search is evolving in the contact center and often complements knowledge management solutions. Top vendors use more and more varied AI technologies, coupled with advances in indexing and text analytics, to boost information understanding and relevancy.

Business value rationale

Cognitive search helps customers and agents find relevant and related information to make smarter decisions and complete tasks faster



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Customer Journey Analytics

Customer journey analytics leverages advanced analytics to better understand the paths consumers take to improve customer experience; identify opportunities for contextually relevant service; and optimize sequencing of service, sales, and marketing touchpoints (see Figure 4). This technology requires a vast array of digital and offline consumer-level touchpoint data to be truly valuable. Few customer service organizations have ready access to all this data; success with customer journey analytics will likely require collaboration with marketing teams.

FIGURE 4 Experiment: Customer Journey Analytics



MATURITY

↓ Low

BUSINESS VALUE

↓ Low

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

CallMiner; inQuba;

Kitewheel; NICE; Pointillist; Roojoom; Teradata; Verint

Customer journey analytics

De nition

Customer journey analytics combines quantitative and qualitative data to analyze customer behaviors and motivations across touchpoints and over time to optimize customer interactions and predict future behavior.

Maturity rationale

Customer service leaders struggle with the value and application of journey analytics. The tools are more mature for marketing use cases; customer service is often a black box. The wealth of available data will only prove valuable when customer service organizations can access it across all channels and touchpoints.

Business value rationale

The true value of customer-service-focused journey analytics remains unclear today due to conflicting insights and optimization approaches, including touchpoint- and channel-specific analytics.



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Video

Video is a powerful and succinct communication medium (see Figure 5).8 It allows agents and customers to easily understand each other and enables customers to show their issues rather than describe them. It also helps agents connect emotionally with customers during, for example, high-value purchases like a mortgage or an insurance policy. BluCurrent Credit Union increased cross-sells by 20% using video to help with advisor coaching.9 The insurance provider Endsleigh settles low-value claims that could otherwise take up to five days.10 These attributes are especially key in healthcare, as the COVID-19 pandemic has dramatically boosted the demand for telemedicine.11

FIGURE 5 Experiment: Video



MATURITY

↓ Low

BUSINESS VALUE

↓ Low

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS
CafeX; Cisco; Glance
Networks; Librestream;
LogMeln; ScreenMeet;

Stryng; TechSee; Vidyo

Video

De nition

Video allows agents and customers to see each other — or for customers to show agents what they see with their mobile phones. Most systems today use the WebRTC standard to connect agents and customers. Many vendors couple video with cobrowse.

Maturity rationale

Video is an emerging technology that's slowly gaining customer acceptance. It's seeing traction in select industries. Contact centers must integrate it with current queueing-and-routing infrastructure, and they must invest in agent training to achieve cultural acceptance.

Business value rationale

Industries such as financial services, retail, and healthcare provide faster issue resolution and claims processing and better experiences over video. The COVID-19 pandemic has boosted telemedicine use cases.



Invest In AI, RPA, Analytics, Digital Adoption, Messaging, And Others

Seven customer service technologies fall into the Invest quadrant of the Tech Tide, with low maturity and high current business value. They're quickly becoming indispensable. Conversational AI spans voice and text interactions, messaging allows a direct connection to your agents, and field service is the most intimate way to represent your brand to your customer. Interaction analytics surfaces customer sentiment and churn parameters, and robotic process automation (RPA) offloads repetitive tasks from agents, allowing them to better connect with customers.

Conversational Al

Conversational AI has rapidly evolved, with growing capabilities such as natural language processing, integration with transactional systems, speech-based deployments, and the ability to tackle more sophisticated tasks, such as helping with not just customer service but also sales (see Figure 6). For example, auto insurer AA Ireland worked with ServisBOT to create a conversational AI system to help with conversion. AA saw an 11% increase in quote conversions as well as a 40% decrease in handle time for human agents.

FIGURE 6 Invest: Conversational Al



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST \$\$\$

SAMPLE VENDORS

[24]7.ai; Ada; Avaamo; Cognigy; Haptik; Interactions; IPsoft; Kasisto; Kore.ai; Netomi; Nuance Communications; Rulai; Verint

Conversational Al

De nition

Conversational AI is comprised of software services that use natural language processing and AI to provide automated assistance by simulating two-way conversations with customers (or contact center agents) via speech or text.

Maturity rationale

Conversational AI is no longer in its infancy, but interest from brands remains white-hot. While thousands of brands still have simple, deterministic conversational experiences, they're increasingly looking to construct dynamic, personalized experiences atop true natural language understanding.

Business value rationale

Simple, targeted deployments create rapid value from deflection. More complex approaches automate processes or solve thornier customer issues. While cost reduction benefits are real today, ambitious brands want to create compelling new experiences with conversational AI. That will still take a few more years.



Digital Adoption Platforms

Digital adoption platforms (DAPs) are simple, intuitive interfaces that offer interactive interventions to help new agents gain familiarity with their everyday systems of work (see Figure 7). These platforms promote better usage of systems of record and work, cut down new-hire onboarding timelines, and automate tasks to reduce dependency on help desk and support teams. BMO Financial Group and Walgreens use WalkMe to improve adoption of self-service and automate routine activities, improving user experience. DAPs will become critical for customer service teams as they adapt and navigate post-COVID-19 customer-support operations.

FIGURE 7 Invest: Digital Adoption Platforms



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Appcues; Apty; Pendo; Toonimo; Userlane; WalkMe; What x

Digital adoption platforms

De nition

Digital adoption platforms automate systems training, onboarding, and customer education programs. They integrate with other digital tools and platforms to promote self-service and enable guided onboarding and remote training — as well as improve ongoing usage of customer service technologies like CRM, knowledge bases, websites, and enterprise resource planning systems.

Maturity rationale

DAPs began as product adoption tools but quickly transformed to serve more comprehensive use cases for customer service. Their customer- and agent-facing utilities, coupled with automation and Al, make them great platforms for remote customer service operations.

Business value rationale

DAPs are simple to implement and user friendly, and they provide valuable insights to support progressive learning. They will be a valuable addition to the customer service tech stack in the new normal.



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Field Service

Enterprises use field service technologies to empower service technicians with the full view of the customer and their assets (see Figure 8). In addition, enterprises can collect data from connected devices to monitor product performance and preemptively intervene to minimize downtime. For example, Stanley Healthcare empowers technicians with hospital asset status information, which translates into delivering better patient care. ¹⁴ Constant monitoring of connected equipment also helps transform companies from product based to service based, driving new revenue streams through increased levels of service.

FIGURE 8 Invest: Field Service



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST \$\$\$

SAMPLE VENDORS

ServicePower

FieldAware; IFS; Microsoft; Oracle; OverIT; Pegasystems; Praxedo; Salesforce; SAP; ServiceMax; ServiceNow;

Field service

De nition

This software manages the scheduling and performance of field service technicians and assets. Capabilities include incident management, parts management, service-level agreement management, scheduling, route management, technician empowerment, customer self-service, maintenance agreement management, warranty and claims management, reverse logistics, and depot repair.

Maturity rationale

This technology is core to delivering differentiated service experiences for asset-based companies and/or companies with mobile workforces.

Business value rationale

Modern field service technologies empower mobile workforces as frontline brand ambassadors every time they interact with customers. These interactions are the most personal channel for customer engagement and have a large impact on customer relationships.



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Interaction Analytics

Interaction analytics for contact centers was formerly the near-exclusive domain of teams focusing on customer service quality. The past two years and a heaping helping of AI have changed that: Forrester now sees a growing number of companies leveraging interaction analytics to identify fraud, compliance errors, and sales opportunities; proactively trigger customer retention workflows; and provide agents with real-time assistance during interactions (see Figure 9). Vendors continue to package the technology to focus on specific use scenarios; several vendors use the same natural language understanding engines to power both interaction analytics and conversational AI products.

FIGURE 9 Invest: Interaction Analytics



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Calabrio; CallMiner; Clarabridge; Genesys; Gridspace; NICE; Sestek; Spitch; Stratifyd; Uniphore; Verint

Interaction analytics

De nition

Interaction analytics enables automatic methods of searching, categorizing, and analyzing both voice and digital interactions. It includes keyword matching, topic clustering, interaction categorization, phonetic indexing, speech-to-text transcription, speaker separation, and emotion and sentiment detection. The analytics can be historical (batch mode), real time, or both.

Maturity rationale

The infusion of Al into analytics is refreshing more mature elements of this technology, and adoption is growing. Most companies today use interaction analytics to measure interaction quality, but uses such as product ideation and competitive analysis are starting to catch on.

Business value rationale

Forrester reports a high ROI for interaction analytics, especially when organizations target it at solving for a specific business pain point. Real-time uses have just started to pay off.



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Messaging

Consumers love messaging, at least when it comes to keeping in touch with friends and family. ¹⁵ But brands have lagged in offering asynchronous messaging conversations with their customers: 37% of firms we surveyed use chat on their own mobile website or app (i.e., synchronous messaging), but only 19% use asynchronous messaging on third-party platforms. ¹⁶ These asynchronous communication channels, however, have the potential to be game-changers, as they make it easy for customers to effortlessly engage with a brand, stop and restart interactions, and carry context across interactions (see Figure 10).

FIGURE 10 Invest: Messaging



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

[24]7.ai; Conversocial; Glia; Helpshift; Khoros; LivePerson; LogMeIn; Nuance Communications; Quiq; Sparkcentral

Messaging

De nition

Messaging solutions are cross-platform services that support continuous asynchronous conversation threads between customers and the company (e.g., SMS, Facebook Messenger, WhatsApp, and in-app messaging).

Maturity rationale

The push for rapid digitization of customer service along with massive customer adoption of messaging have driven brand interest in asynchronous communications.

Business value rationale

Customer service representatives can often handle four to six messaging sessions at once. That level of concurrency provides sharp value for resource-strapped organizations. Messaging, especially through third-party messaging platforms, allows brands to interact via the channel that customers use most in their daily lives.



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Proactive Outbound

In a Forrester Analytics survey, 66% of telecommunications decision-makers who are significantly involved in contact centers say they expect digital to significantly increase their outbound or proactive volumes in the next two years.¹⁷ Many vendors have built expertise in a number of vertical markets. Each vertical has key business processes, such as flight schedule changes, that lend themselves to benefiting from proactive outbound (see Figure 11). Contact-center-as-a-service (CCaaS) vendors like Genesys and NICE integrate it into broader suites. Communications-platform-as-a-service vendors like Bandwidth, Plivo, and Twilio offer notifications over messaging channels.

FIGURE 11 Invest: Proactive Outbound



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

[24]7.ai; Aspect; Avaya; Bandwidth; Convergys; FICO; Genesys; LiveVox; Nuance Communications; Twilio; West

Proactive outbound

De nition

Proactive outbound technology informs and notifies customers via voice and digital communications of key events of interest (e.g., flight schedule changes, bank balance changes that exceed a certain threshold, package shipment status). Systems allow customers to indicate consent to receive messages, which messages they want to receive, and on what channel they want to receive them.

Maturity rationale

Proactive outbound is a mature technology, yet it has moved into a high-growth phase. The growth of digital support helps drive the demand for notifications over messaging channels.

Business value rationale

Proactive outbound helps deflect inbound traffic and consumer demand for support from a live agent. Vendors that understand the key transactions in a particular vertical (e.g., package shipment notification for B2C firms) can help drive additional ROI.



Robotic Process Automation

Nearly one-third of data and analytics decision-makers say their firm will use RPA in 2020.¹⁸ Customer service organizations use RPA together with other automation technologies to make agents more efficient and effective.¹⁹ RPA offloads repeatable tasks from agents, enforces process and policy compliance, and allows agents to focus on work that matters — all of which translate to higher quality-of-service measures. RPA also has a clear ROI, which makes it an attractive technology in challenging times (see Figure 12). RPA plugs gaps in legacy systems and serves as a stop-gap measure for larger, more expensive transformations of processes and technology.

FIGURE 12 Invest: Robotic Process Automation



MATURITY

↓ Low

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Another Monday; AntWorks; Appian; Automation Anywhere; Blue Prism; EdgeVerve; Kofax; NICE; Pegasystems; SAP; UiPath

Robotic process automation

De nition

RPA software "robots" perform routine business processes and make simple decisions by mimicking the way that agents interact with applications through a user interface. They work in an unattended and/or an attended mode.

Maturity rationale

Contact centers increasingly use RPA to automate repeatable agent tasks. RPA is evolving to include text analytics, conversational interfaces, and machine-learning-based decisioning. RPA solutions include central orchestration and governance to scale deployments.

Business value rationale

Customer service teams can automate tasks or end-to-end processes and reap quantifiable returns. Results include standardizing agent work, increasing compliance, improving employee and customer experiences, and better access to business insights.



Maintain Case Management, Chat, IVR, And Others

Eight customer service technologies fall into the Maintain quadrant of the Tech Tide, with high maturity and high current business value. In this quadrant are the contact center utility technologies, the core technology assets of a contact center. CCIM technologies, integrated with the IVR, route and queue inquiries to the right agent. Agents resolve inquiries using case management and access knowledge management (KM) for standardized resolutions. Supervisors use workforce management to optimize labor. Outbound dialing and chat make service more effective.

Case Management

Case management is one of earliest and most successful technologies in the extended customer service technology ecosystem (see Figure 13). It's an imperative technology to enable organizations to provide differentiated service and meet the current cost pressures of today's economic climate. Buyers and user organizations that Forrester surveyed report that case management is critical to their future success, yet they often struggle to decide whether this is a buy-versus-build decision.²⁰

FIGURE 13 Maintain: Case Management



MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Amdocs; Freshworks; Infor; Microsoft; NetSuite; Oracle; Pegasystems; Salesforce; SAP; ServiceNow; SugarCRM; Verint; Zendesk

Case management

De nition

Service agents use case management solution software to create and manage an incident or ticket (case) in response to a customer inquiry.

Maturity rationale

Demand for case management solutions is steady. These solutions are mature, yet they're evolving to incorporate new technologies like Al and automation.

Business value rationale

Effective and efficient management of customer inquiries is core to delivering differentiated experiences. Case management solutions capture customer interaction history to allow organizations to better personalize engagement.



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Chat

Chat reduces web self-service abandonment rates, improves conversions, and drives customer satisfaction and inquiry resolution. Chat quickly connects customers with agents, who can handle multiple chats concurrently in a personal way. In fact, 74% of Tech Tide survey respondents said that chat yielded significant business value.²¹ However, chat solutions are commoditized. Chat is also expensive, meaning that operations must grow via automation and integration with chatbots. In addition, messaging is taking off, which will ultimately erode chat volumes (see Figure 14).

FIGURE 14 Maintain: Chat



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

[24]7.ai; Comm100; eGain; Genesys; Glia; Khoros; Kustomer; LivePerson; LogMeIn; Nuance Communications; Oracle;

Powerfront; Zendesk

Chat

De nition

Chat applications allow a customer to communicate in real time with a customer service agent via a web, mobile web, or mobile app interface.

Maturity rationale

Chat is a mature technology that's being subsumed within digital engagement suites, which include automation and support a broad swath of synchronous and asynchronous digital channels. Demand for chat is steady, especially in B2C sectors like telecommunications, retail, and financial services.

Business value rationale

Chat can connect customers to the right agent. Agents can quickly resolve questions; handle multiple concurrent chats; and leverage customer, journey, and behavior data to provide contextual experiences that drive customer satisfaction, conversion, and revenue.



Contact Center Interaction Management (CCIM)

The industry has now shifted this capability to multitenant cloud solutions (CCaaS), part of the larger CCIM category, that orchestrate the connection of customer service queries to agents over voice and digital channels (see Figure 15). While the installed base is still mostly CCIM on-premises systems, the migration to cloud is largely a given.²² CCaaS suites have also expanded to include native workforce optimization (WFO), with many capabilities enhanced by embedded AI (e.g., routing and quality monitoring). CCaaS vendors also integrate and manage the flow from conversational AI solutions.

FIGURE 15 Maintain: Contact Center Interaction Management



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Amazon Web Services; Aspect; Avaya; Cisco; Five9; Genesys; NICE; Talkdesk

Contact center interaction management

De nition

CCIM solutions queue, route, and report on customer interactions to contact center agents across voice and digital channels. Some vendors focus more on voice, while others focus more on digital channels.

Maturity rationale

CCIM is mature and foundational to customer service. It's now evolving to be a cloud-based solution, such as contact center as a service (CCaaS), with support for digital channels.

Business value rationale

CCIM solutions are at the heart of enterprise contact centers. When properly deployed, they optimize the task of matching a customer with the right agent. ROI is based on ensuring the even distribution of customer contacts to the best available agents in real time and reporting the results.



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Interactive Voice Response (IVR)

IVR routes and automates transactions, deflecting them away from agents using touch-tone or speech recognition (see Figure 16). These solutions also help determine customer intent, allowing better routing of requests to agents. But many customers are now shifting to conversational AI to increase the level of automation of voice- and text-based queries as well as even better intent determination. Customers need to study whether the shift to conversational AI will increase automation and make better routing decisions versus continuing to optimize their existing IVR systems.

FIGURE 16 Maintain: Interactive Voice Response



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Aspect; AT&T; Avaya; Cisco; Convergys; Genesys; Interactions; Nuance Communications; SmartAction; Verint; Verizon; West

Interactive voice response

De nition

IVR applications automate voice-based inquiries and transactions with either touch-tone input or speech recognition. They can determine the type of call for proper routing in the case of an escalation to an agent.

Maturity rationale

IVR is transitioning to cloud-based conversational AI, but its lower cost and its utility continue to support its market position as a technology anchor in contact centers.

Business value rationale

Using automation to offload the cost of live agents is the primary business value of IVR. While customer satisfaction rates are low compared with other channels, IVR provides excellent ROI. Enterprises are transitioning to conversational AI, but the lower cost and simple value proposition of touch-tone IVR still permeate the market.



Knowledge Management (KM)

KM helps agents personalize interactions, increase customer satisfaction, reduce handle times, ensure compliance, and increase operational efficiencies. Customer service operations increasingly invest in knowledge management solutions — many times coupled with chatbots for intent discovery — to help fuel self-service operations and for broader digital transformation efforts. These solutions will continue to be attractive as they incorporate broader machine learning capabilities to improve search and the findability of content (see Figure 17).

FIGURE 17 Maintain: Knowledge Management



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Astute; Bloomfire; eGain; Guru; iAdvize; Khoros; KMS Lighthouse; Knowmax; LogMeln; Microsoft; MindTouch; Oracle; Salesforce; ServiceNow; Verint; Zendesk

Knowledge management

De nition

Knowledge management solutions identify, create, review, publish, and maintain curated content that allows customer service agents to answer customer questions and customers to find answers via a self-service portal or within an application.

Maturity rationale

Knowledge management solutions are mature, but they're experiencing a resurgence because of the rise of customer self-service and advances in Al and chatbots.

Business value rationale

Knowledge management is foundational to successful customer service outcomes, as it empowers both agents and customers with relevant answers to customer inquiries. It deflects customer inquiries from contact centers; increases agent productivity; ensures compliance with regulatory and company policies; and drives customer satisfaction, engagement, and retention. These tools are more powerful when coupled with case management solutions.



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Outbound Dialing

Outbound dialing has been buffeted with further restrictions and regulations due to the impact of robocalling, but it still provides value for many brands wishing to contact customers and prospects over the phone to collect bills, raise funds, conduct surveys, and sell products and surveys (see Figure 18). Dialing systems import campaign data, launch calls, and then direct completed calls to agents. The main value proposition is the large productivity gains of agent time. Standalone outbound dialing solutions have largely become a component of CCaaS suites.

FIGURE 18 Maintain: Outbound Dialing



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Aspect; Avaya; Five9; Genesys; LiveVox; Noble Systems; Serenova

Outbound dialing

De nition

Dialing applications automate the processes of making calls and determining whether a person answers the phone. Support is available for multiple dialing methods (predictive, progressive, and preview). Systems typically integrate with CRM for campaign management. Leading systems provide integrations with dialing rules for regulatory compliance (do-not-call list, TCPA) and best time to call.

Maturity rationale

This market is in the midst of a migration to cloud and integrated contact-center-as-a-service (CCaaS) suites. Increasing regulations and consumer avoidance due to robocalling are putting downward pressure on this technology.

Business value rationale

Outbound dialing typically boosts contact center agent productivity by 200% to 300% compared with agents making calls themselves.



Quality Management (QM)

QM is essential technology for feedback and insights to improve agent performance, identify coaching needs and process gaps, and manage compliance at scale. These platforms ingest and analyze large volumes of data from disparate sources to give customer service operations insights on quality of service across all channels. Organizations are now placing a greater emphasis on quality-management platforms that leverage speech and text analytics and enable real-time interventions to not only triage customer-affecting defects but also ensure adherence to compliance standards (see Figure 19).

FIGURE 19 Maintain: Quality Management



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Ameyo; Aspect; CallMiner; Enghouse Interactive; Five9; Genesys; NICE; Observe.Al; Playvox; Serenova; Talkdesk; Verint

Quality management

De nition

Quality management applications allow recording and assessment of contact center interactions and agent screen capture for ongoing quality and compliance management. Advanced quality management systems leverage analytics (speech, text, data, and desktop) and predictive modeling to analyze larger interaction volumes and scale quality monitoring beyond sample-based assessments.

Maturity rationale

Quality management is mature. Organizations focused on excellent customer service have relied on these systems for more than a decade and are now increasingly looking to automate and infuse the technology with intelligence.

Business value rationale

Quality management solutions are critical to customer service ecosystems for ensuring consistent levels of service, compliance, and proactive performance management.



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Workforce Management (WFM)

Modern workforce management technologies bring together decades of forecasting, staffing, scheduling experience, automation, and Al-enabled utilities for omnichannel contact centers. From helping their customers migrate to cloud-based services to building models for remote employee scheduling and intraday staffing management, WFM platforms have been a critical component of enterprise business continuity plans during the pandemic. As emerging trends blur the lines between WFM and quality management, WFM technologies are vital for customer service operations (see Figure 20).

FIGURE 20 Maintain: Workforce Management



Strategy: **MAINTAIN**

MATURITY

↑ High

BUSINESS VALUE

↑ High

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Agyle Time; Aspect; Avaya; Calabrio; Enghouse Interactive; Five9; Genesys; NICE; RingCentral; Talkdesk; Verint; Vonage

Workforce management

De nition

Workforce management technologies optimize agent staffing and scheduling by forecasting the volume and type of tasks that agents must address in a set time interval. These include inbound, outbound, midoffice, and back-office tasks over voice and digital channels.

Maturity rationale

WFM is very mature but continues to evolve into broader contact center performance management platforms that go beyond staffing and scheduling. Mature WFM platforms blend quality management, desktop monitoring, and speech analytics to create a single pane of glass for agents and supervisors in the contact center.

Business value rationale

WFM solutions are must-haves for customer service organizations with more than 50 agents. They allow for shift management, scheduling, leave management, staffing optimization, and service-level compliance.



Divest From Email Response Management

One customer service technology falls into the Divest quadrant of the Tech Tide, with high maturity and low current business value. Usage scenarios for email still exist; however, it's been subsumed within more immediate communication options or bundled within greater product suites.

Email Response Management

Customer service is moving away from email. Apple, for example, has never offered email as a channel for customer service, Nike removed this channel in 2015, and Target has buried email as a service channel on its website. Why? Customers expect faster response times and show higher affinity for channels like chat and messaging. As more volume shifts into digital customer engagement, email remains viable only for outbound notifications of purchase, billing, and transaction status reporting (see Figure 21).

FIGURE 21 Divest: Email Response Management



Strategy: **DIVEST**

MATURITY

↑ High

BUSINESS VALUE

↓ Low

LIFECYCLE COST

\$\$\$

SAMPLE VENDORS

Aspect; Astute; Avaya; Cisco; eGain; Eptica; Genesys; Liveops; Oracle; Salesforce; SAP; Verint; Zendesk

Email response management

De nition

Email response management software manages the queuing, routing, and answering of customer emails using a combination of agent input and automation technologies like autosuggestion and autoresponse. Customer input can come through an actual email or a form on a brand's website.

Maturity rationale

This technology is mature. Most customer service organizations that manage customer email already have email response management systems in place. The major contact center interaction management vendors have consolidated these capabilities into their suites.

Business value rationale

Email remains the third most popular channel after web and mobile self-service and phone. However, contact centers are starting to move away from this channel as more real-time, digital communication types, such as chat and messaging, provide better customer experiences.



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Supplemental Material

Survey Methodology

Forrester fielded its Forrester's Q4 2020 Global Customer Service Tech Tide™ Survey to 124 global technology experts, vendors, and leading-edge users of customer service technology. However, only a portion of survey results are illustrated in this document. For quality assurance, we screened respondents to ensure that they met minimum standards in terms of technology knowledge.

The online survey was fielded from July 2020 to August 2020. Respondent incentives included a summary of the survey results. Survey respondents were asked to identify the technologies they were familiar with and were not shown questions about technologies they said they were not familiar with.

Respondents were readers of Forrester's research reports on the topics of CRM, contact centers, customer service, and collaboration technologies, as well as industry experts, and are therefore not random. This data is not guaranteed to be representative of the population, and, unless otherwise

noted, statistical data is intended to be used for descriptive and not inferential purposes. While nonrandom, the survey is still a valuable tool for understanding where users are today and where the industry is headed.

Methodology

The purpose of the lists of sample vendors we include in the figures about each category is to further clarify the nature of the category — not to serve as a vendor selection shortlist for readers seeking to choose a vendor in that category. The fact that a vendor isn't included in a list doesn't indicate that Forrester believes it isn't worth considering. For guidance about vendor selection, Forrester publishes separate research (Now Tech and Forrester Wave™ reports) in which Forrester analysts offer customized advice to our clients.

Endnotes

- ¹ The ideal customer experience isn't just good for customers it has to deliver revenue for the business, too. Forrester's Customer Experience Index (CX Index™) measures the fundamentals of a great experience: effectiveness, ease, and emotion. See the Forrester report "Improving CX Through Business Discipline Drives Growth."
- When engaging with customer service, 64% of survey respondents prefer to use self-service tools rather than immediately engage with an agent. Source: "Global State of Customer Service," Microsoft Dynamics 365 (https://info.microsoft.com/ww-thankyou-global-state-of-customer-service.html?lcid=en-us).
- ³ For more information, see the Forrester report "How AI Will Transform Customer Service."
- ⁴ In the table figures (for this category and all others), the purpose of the lists of sample vendors is to clarify the nature of each category, not to serve as a shortlist for guiding vendor selection decisions. Forrester offers other, more indepth research to guide vendor selection. See the Methodology section of this report for more detail about this.
- ⁵ Source: Forrester's Q4 2020 Global Customer Service Tech Tide™ Survey.
- ⁶ Source: Forrester's Q4 2020 Global Customer Service Tech Tide™ Survey.
- ⁷ Source: "Customer Stories: Lenovo," Lucidworks (https://lucidworks.com/customers/Lenovo).
- 8 See the Forrester report "Visual Engagement Drives Relationships And Revenue For Customer Service."
- ⁹ Source: "Quick Guide: Vidyo for Credit Unions," Vidyo (http://www.cunastrategicservices.com/files/cunacss/1/file/Vidyo/Vidyo%20Quick%20Guide.pdf).
- ¹⁰ Source: "Endsleigh Insurance," LogMeIn (https://www.logmeinrescue.com/customer-stories/endsleigh).
- 11 See the Forrester report "The Forrester New Wave™: Virtual Care Solutions For Digital Health, Q2 2019."
- ¹² Source: "Insurance Chatbot Case Study," ServisBOT (https://servisbot.com/ai-case-study/).
- ¹³ Source: "BMO Financial Group Drives Customer Adoption of New Features While Reducing Support Burden with WalkMe's In-App Guidance," WalkMe (https://www.walkme.com/customer-stories/bmo/) and Lia Ciner, "Walgreens Champions a Digital Adoption Platform to Support Global Change Management," WalkMe Blog, March 1, 2020 (https://blog.walkme.com/walgreens-champions-a-digital-adoption-platform/).
- ¹⁴ "What if newborn babies wore an infant monitoring system inside hospitals that linked them to their mothers and other care providers? What if the hospital staff used Wi-Fi tracking and alerts to know exactly where infants were at all times, keeping them safe and sound? And what if medical equipment like refrigerators alerted the staff when they



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required maintenance or when operating conditions changed unexpectedly, jeopardizing life-saving medications?" Source: "Stanley Healthcare moves closer to its customers, saving both money and lives." Salesforce (http://www.salesforce.com/eu/customer-success-stories/stanley-healthcare/).

- ¹⁵ For more information about the role of asynchronous messaging in customer service, see the Forrester report "The Case For Asynchronous Messaging: Apple Business Chat, Messenger, WhatsApp."
- ¹⁶ Source: Forrester's Global Emerging Technology Executive Survey (October 2018 to February 2020).
- ¹⁷ Source: Forrester Analytics Business Technographics® Networks And Telecom Survey, 2020.
- ¹⁸ Base: 3,399 global data and analytics decision-makers. Source: Forrester Analytics Business Technographics Data And Analytics Survey, 2020.
- ¹⁹ See the Forrester report "The Top Five Best Practices For RPA In Customer Service."
- ²⁰ Source: Forrester's Q4 2020 Global Customer Service Tech Tide™ Survey.
- ²¹ Source: Forrester's Q4 2020 Global Customer Service Tech Tide™ Survey.
- ²² See the Forrester report "The Forrester Wave™: Contact-Center-As-A-Service (CCaaS) Providers, Q3 2020."





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