

Hype Cycle for Customer Service and Support Technologies

Published 9 August 2021 - ID G00740455 - 98 min read

By Analyst(s): Drew Kraus

Initiatives: [Customer Service and Support Technology](#)

Investments in customer service and support technologies must be scrutinized for their ability to deliver on customer experience goals, their impact on cash reserves and the likely speed of ROI. This Hype Cycle will help application leaders assess the maturity and risks of these technologies.

Analysis

What You Need to Know

Customer service demand increased during the COVID-19 pandemic in the face of widespread tightening budgets and staffing restrictions. Work from home became the new normal, even for customer service teams that had previously determined that it would not work for them. In order to deliver a more holistic customer experience (CX), it has become increasingly critical to view the broad range of CSS technologies as an integrated ecosystem rather than as a set of separate, stovepiped systems and evaluation processes (see [Customer Service and Support Technology Primer for 2021](#)).

By January 2021, as reaction to the pandemic became more established, the top five investment priorities for customer service organizations included:

- Migrating contact volumes from assisted to self-service
- Upgrading legacy contact center technology
- Automating customer service processes
- Shifting from reactive to proactive service
- Understanding the customer experience through data

See [Strategic Trends and Priorities for Service and Support Leaders in 2021](#).

The Hype Cycle

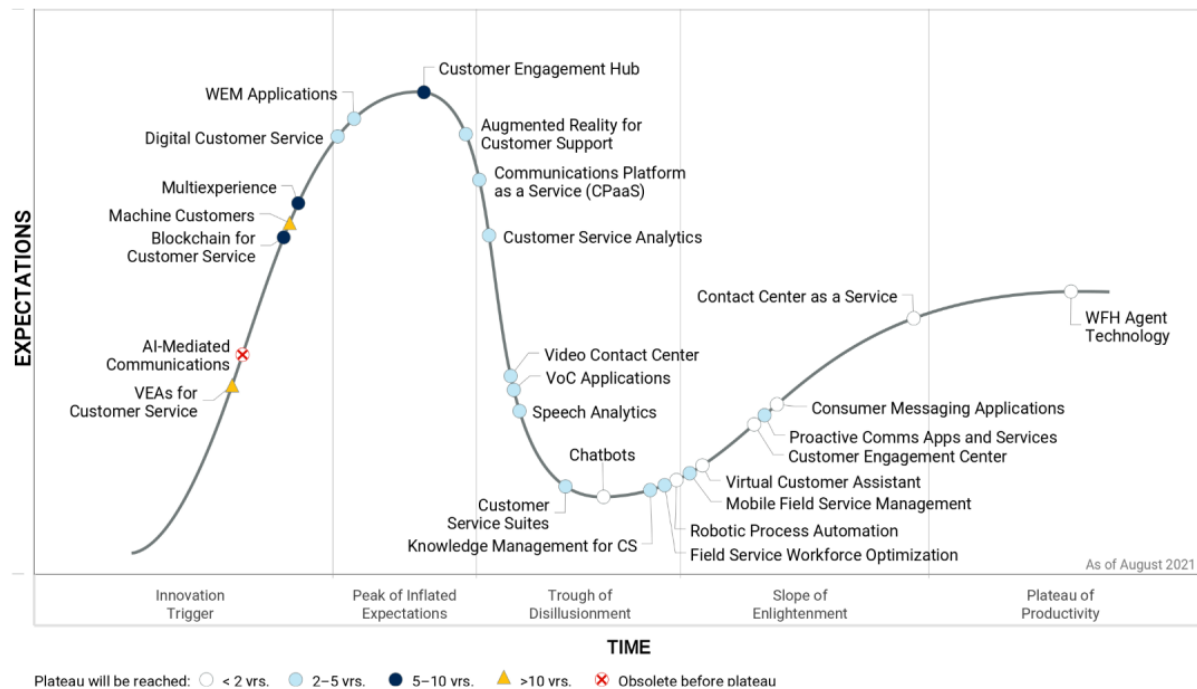
This Hype Cycle describes the most-important maturing technologies for supporting customers, and will aid application leaders seeking answers, advice and solutions to problems. This support can be delivered through a variety of interaction channels and by enabling customer-facing employees to deliver advice and solutions, as well as customer self-service interactions. We determine how hyped and how mature the selected technologies are in the second half of 2021, as well as the business value they could provide. This Hype Cycle helps buyers have realistic expectations for these technologies.

Innovation profiles in this Hype Cycle can be categorized according to the four pillars of customer service and support (CSS) technology:

- **Getting connected** — This category focuses on delivering a channel-agnostic, architected design to create customer service journeys, including intelligent self-service. Core innovation profiles include contact center as a service and work-from-home agent technology. Additional profiles include proactive communications applications and services, AI-mediated communications, consumer messaging applications, video contact center, and augmented reality for customer support.
- **Process orchestration** — This category supports increasingly complex and personalized customer engagements. Core innovation profiles include customer engagement center (CEC) and robotic process automation (RPA). Additional profiles include customer engagement hub, chatbots, virtual customer assistants (VCAs), blockchain for customer service, machine customers and multiexperience.
- **Resource management** — This category relates to the development and retention of engaged and empowered staff, based on the understanding that engaged employees power a stronger CX. Core innovation profiles include workforce engagement management solutions, mobile field service management and field service workforce optimization.
- **Knowledge and insight** — This category concerns the delivery of customer and operational insights, and the recommendation of next best actions across all functional groups. Core Innovation profiles include customer service analytics, voice-of-the-customer solutions and knowledge management for customer service. Additional profiles include customer journey analytics and speech analytics for customer service.

Figure 1. Hype Cycle for Customer Service and Support Technology

Hype Cycle for Customer Service and Support Technologies



Gartner

Source: Gartner (August 2021)

Downloadable graphic: Hype Cycle for Customer Service and Support Technology, 2021

The Priority Matrix

Clients need to balance the transformational nature of some emerging technologies with their need for application technologies that can be used beneficially during the next two years, and for technologies that will take five years or more to mature.

Consider your own organizational priorities in terms of benefits and timelines as you examine the Priority Matrix. Readers looking for technologies that can have a near-term high impact should focus their attention on chatbots and VCAs, CECs, and RPA to drive improvements across all four pillars of CSS technology.

Table 1: Priority Matrix for Customer Service and Support Technology

(Enlarged table in Appendix)

Benefit ↓	Years to Mainstream Adoption			
	Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Transformational			Multiexperience	
High	Chatbots Customer Engagement Center Robotic Process Automation Virtual Customer Assistant	Augmented Reality for Customer Support Communications Platform as a Service (CPaaS) Customer Service Analytics Customer Service Suites Digital Customer Service Field Service Workforce Optimization Knowledge Management for CS Mobile Field Service Management Proactive Comms Apps and Services Video Contact Center VoC Applications WEM Applications	Blockchain for Customer Service Customer Engagement Hub	Machine Customers VEAs for Customer Service
Moderate	Consumer Messaging Applications Contact Center as a Service WFH Agent Technology	Speech Analytics		
Low				

Source: Gartner (August 2021)

Off the Hype Cycle

The following entries in [Hype Cycle for Customer Service and Support Technologies, 2020](#) do not appear in this edition of the Hype Cycle:

- 360-degree view and emotion artificial intelligence (AI), which were subsumed into customer service analytics.
- Conversational user interfaces, which was subsumed into VCAs.
- Customer psychographics, which was subsumed into AI-mediated communications.
- Digital experience platforms, which was subsumed into customer engagement hub.

- Field service drones, which have matured to the point that they are like any other observational, calibration or testing hardware used in the field, and are no longer considered a differentiated customer service and support offering.
- Internet of Things (IoT) for customer service and things as customers, which were replaced with machine customers to consolidate our focus on the nonhuman actor making direct contact with the contact center.
- Natural language processing, which was reclassified as a foundational technology rather than a core customer service and support offering.
- Recorded video for customer service and video calling for customer service, which were combined into a single video contact center entry.

On the Rise

VEAs for Customer Service

Analysis By: Jim Davies

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

VEAs for customer service are designed specifically for the customer engagement center/contact center worker. They are intended to help across all aspects of the CEC employee work life; not just assisting with tasks and administration, but also aspects like boosting morale and well-being. They assign shifts and overtime, provide coaching and knowledge advancement, nurture careers and provide useful feedback to management to help drive change and improve the working environment.

Why This Is Important

A virtual employee assistant (VEA) for customer service has the potential to significantly impact employee performance and engagement while simultaneously elevating operational performance and the customer experience.

Business Impact

- Increase in operational performance through targeted assistance-shortening interactions and increased FCR.
- Reduction in agent onboarding time, making new agents more productive faster.
- Increase in agent well-being through automation of the mundane, guidance through the more complex, monitoring emotional status and assistance with day-to-day activities like overtime requests and vacation planning.
- Improvement in customer experience through appropriate interactions driven by an engaged employee.

Drivers

- A VEA is not just an operational performance tool tied to the desktop, helping to execute tasks and surface relevant knowledge articles for a given support interaction in a more optimal way. Through integration with workforce engagement functions (such as scheduling, coaching and evaluation), it also has a key role to play in helping to drive increasingly important human-centered considerations that are currently overlooked. These include engagement, career path development and day-to-day performance. The expansion of virtual work means agents will be more divorced from the office environment and monitoring well-being will be an objective of supervisors.
- The individual components required for a product of this nature are not uncommon, but they are rarely used to benefit the employee. For example, one component might be a productivity-monitoring function that analyses the agent's activity, determining whether their fatigue level is too high, and advising them to take a break. The VEA is authorized to overrule the workforce management schedule and place the agent on a short break.
- The VEA provides a personal benefit to the employee by better aligning their work and life activities and helping to balance these dimensions. For example, by rejecting an overtime request because the agent takes their daughter to a swimming lesson at that time, or it is their partner's birthday so they might have something else planned. This would require employee trust and integration with additional personal information sources.

Obstacles

- True commitment to this concept needs to go beyond an assessment of the operational value to look at employee well-being. This is often difficult to justify and takes a low priority.
- The cost and complexity (through associated integrations and configuration requirements) to fully realize the plethora of use cases that a VEA can be applied to is beyond the basic remit of RPA and process guidance that most contract centers will prioritize.
- Incumbent CEC/WEM/CCaaS vendors are in their infancy with regards to VEAs, necessitating the need for a best-of-breed solution. However, generic VEA vendors lack integration and configuration experience within the contact center.
- VEA optimization requires a high level of trust among agents in order for them to allow access to their personal calendar and associated "life" activities.

User Recommendations

- Audit current in-house technologies and identify key missing functions required to move toward a VEA over the next three years.
- Establish whether incumbent WEM, CEC or CCaaS vendors have a roadmap to add VEA functionality. Be wary of best-of-breed VEA viability due to limited use case experience.
- Stack rank key potential VEA use cases that will provide the most value to the employee (and the organization), and systematically expand the remit as part of a multiphase strategy.

Sample Vendors

[24]7.ai; Cogito; IPsoft; Jacada; NICE

Gartner Recommended Reading

[7 Agent-Oriented Technologies That Optimize Customer Service Costs](#)

AI-Mediated Communications

Analysis By: Steve Blood

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

AI-mediated communications (AI-MC) applied to customer services is an approach for managing interactions between customer and employees using predictive, AI-assisted routing. AI-MC uses a combination of behavioral analytics, personality and predictive modeling to orchestrate interactions between customers and advisors. Matching customers to advisors, based on factors such as personality improves customer satisfaction and lower average handling time.

Why This Is Important

Pairing customers with specific advisers in customer service is proven to reduce contact duration and improve customer satisfaction. Many organizations monitor and measure their staff for quality of interaction, including compliance with company policies, but profiling customers and matching to employees is a level of personalization that has yet to be commonly accepted. AI-MC's target market is customer service, but it could be equally as effective in scheduling more successful sales engagements.

Business Impact

- Organizations with large numbers of sales and services associates that manage complex interactions will find that aligning customers to employees using behavioral matching and predictive modeling will improve the effectiveness of the engagement.
- We can expect that with self-service as a primary driver to automate the simpler interactions, the more complex inquiries would be easier to handle if there is a good pairing between customer and advisor.

Drivers

- Using behavioral analytics to connect customers with the best-match advisor has been available for more than 15 years, though historically it has been limited to large customer service environments with thousands of employees.
- AI has fueled interest in this technology in recent years because of the advances in natural language understanding and the ability to use behavior analytics to better understand customer profiles. Access to analytics for predictive modeling and personalized data sources has introduced new methods of achieving similar results – matching customers with employees.
- The dual requirements of customer service leaders, to improve on customer experience and better optimize costs in the contact center, favor AI-MC solutions that can demonstrably assist in lowering contact durations while at the same time improve on customer satisfaction metrics of engagement.

Obstacles

- There is an increasing focus in 2021 on moving interactions from assisted service to self-service. This means that projects designed to improve the experience of customers in assisted service engagements will have a lower priority than self-service through the next few years.
- AI-MC is just one of a number of technologies that can help improve customer experience along with deeper insight from speech analytics, customer journey analytics and voice of the customer. Each additional technology investment will offer only incremental improvements in service.
- Organizations have been able to replicate this capability manually by training staff to respond using a personality framework that identifies common communications styles, reducing the need for investments in an automated process.

User Recommendations

- Organizations with very large call center environments and complex interaction requirements might consider AI-MC as a legitimate way of improving customer satisfaction.
- An effort-benefit analysis, such as implementation of speech analytics, customer journey analytics and voice of the customer, should be conducted for this and other initiatives to improve customer satisfaction.
- Explore aligning AI-MC with behavioral analytics, which are emerging in multichannel marketing hubs, as another way of targeting customer communication.

Gartner Recommended Reading

[Infographic: Artificial Intelligence Use-Case Prism for Customer Service](#)

[Case Study: Communication-Style-Based Issue Resolution \(Bradford & Bingley\)](#)

[Technology Opportunity Prism: Emotion AI Technologies](#)

Blockchain for Customer Service

Analysis By: Nadine LeBlanc

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

For customer service, blockchain technologies focus on enabling multienterprise collaboration and/or transactions that help to build trust and transparencies in low-trust environments. Blockchain technologies serve as new complementary records management systems beyond organizational boundaries, including digital assets such as contracts, health records, transcripts or Internet of Things (IoT) devices.

Why This Is Important

Blockchain technologies support new ways of delivering services and engaging with customers. Because a blockchain helps implement trust mechanisms in untrusted environments, customers and organizations of all sizes (including competitors) can benefit from it. It is the digital ecosystem itself that provides the most benefits, providing alternative ways to manage customer interactions including reducing the burden of preserving data privacy.

Business Impact

As blockchain technologies continue to mature, customer service use cases will expand to include customer onboarding, problem diagnosis, coordinated deliveries, customer surveys, asset tracking, warranty management, dispute resolution and consent management. Customer service use cases are often a common thread across blockchain early adopters. Early adopters include financial services, government, healthcare, education, manufacturing and utilities organizations.

Drivers

- Corporate innovation with blockchain is stalling as organizations struggle to adapt to challenges such as how to govern through consortia and establish common processes and data standards.
- As blockchain platforms descend into the Trough of Disillusionment on other Gartner's Hype Cycles, a small, but steady blockchain for customer service pragmatic applications are generating business value. For example, IoT adopters who also adopt blockchain are looking at generating business value such as increased trust and security within multiparty transactions, business efficiency and lower costs.
- Blockchain technology vendors have shown progress in supporting customer service during the past three years. Vendor offerings are being released, but are still limited in scope, with a primary focus on building consortia and communities.
- A submarket of decentralized applications (dapps) and applications accessing distributed ledgers enables organizations to collaborate and transact for customer service. In addition, mega-CRM vendors such as Microsoft, IBM, Oracle, Salesforce and SAP are expanding their offerings with blockchain.
- More recently, Gartner's 2020 Customer Experience Maturity and Investment Priorities Survey highlights that more organizations with higher CX maturity named blockchain among other technologies as their top investments than those with lower maturity levels (see [Survey Analysis: Customer Experience Maturity and Investment Priorities, 2020](#)).
- Blockchain technology, an infrastructure supporting decentralized applications, is still immature. However, accelerating interest in it, early adopters and its nascent ecosystems could become catalysts for better business processes, including customer service. Gartner predicts that, by 2023, 10% of large organizations will join a blockchain consortium with the specific purpose of improving their level of customer service.

Obstacles

- While the evolution of blockchain is rapid, significant business challenges and technology gaps remain to be covered before blockchain can be fully ready for widespread use. Issues of scalability, security and adherence to existing legal, regulatory and compliance standards will need to be resolved prior to seeing major commercial applications in customer service.
- Most organizations are still learning about the potential uses of blockchain, and the definition itself is evolving. In 2021, Gartner defines a blockchain as “an expanding list of cryptographically signed, irrevocable transactional records shared by all participants in a network. Each record contains a time stamp and reference links to previous transactions. With this information, anyone with access rights can trace back a transactional event, at any point in its history, belonging to any participant. A blockchain is one architectural design of the broader concept of distributed ledgers.”

User Recommendations

- Explore private, consortia and public technology frameworks as a way to decentralize your organization’s customer experience. If one of your technology providers offers blockchain as a service or blockchain technologies, take the opportunity to raise awareness and increase knowledge and skills around the application of blockchain.
- Seek to join a consortium of organizations with similar use cases and business interests to derive value from blockchain. Consider small-scale implementations while being prepared to incur migration costs until the technology matures.
- Investigate the security and privacy risks of blockchain technologies, such as the implications of handling personal customer data with blockchain technology, and the risk of unauthorized disclosures to public and/or other consortia participants or partners.

Sample Vendors

Colu; Gliding Eagle; Hyland; IBM; Loyyal; Microsoft; Oracle; Salesforce; SAP; SecureKey

Gartner Recommended Reading

[Blockchain Unraveled: Determining Its Suitability for Your Organization](#)

[How to Choose a Blockchain Consortium for Digital Business Collaboration and Acceleration](#)

Survey Analysis: IoT Adopters Embrace Blockchain

Customer-Driven Alliances Will Unlock Blockchain Potential

Machine Customers

Analysis By: Don Scheibenreif, Mark Raskino

Benefit Rating: High

Market Penetration: Less than 1% of target audience

Maturity: Emerging

Definition:

A machine customer is a nonhuman economic actor that obtains goods or services in exchange for payment. Examples include virtual personal assistants, smart appliances, connected cars and IoT-enabled factory equipment. These machine customers act on behalf of a human customer or organization.

Why This Is Important

Today there are more internet-connected machines with the potential to act as customers than humans on the planet. We expect the number of machines and pervasive artificial intelligence (AI), like virtual personal assistants, with this capability to rise steadily over time. They are increasingly gaining the capacity to buy, sell and request service. Machine customers will advance beyond the role of simple informers to advisors and, ultimately, decision makers.

Business Impact

Over time, trillions of dollars will be in the control of nonhuman customers. This will result in new opportunities for revenue, efficiencies and managing customer relationships. Digital-savvy business leaders seeking new growth horizons will need to reimagine both their operating models and business models to take advantage of this ultimate emerging market, whose numbers will dwarf the number of human customers on (and one day perhaps off) the planet.

Drivers

- According to Gartner research, both CEOs and CIOs agree on the potential of this emerging trend. Seventy six percent of CIOs and 61% of CEOs we surveyed in 2019 believe demand from machine customers will become significant in their industry by 2030. On average, these leaders believe at least 21% of their revenue will come from machine customers by 2030.
- Today, most machines simply inform or make simple recommendations. We do see some examples of machines as more complex customers emerging, such as smart grid technologies. HP Inc. embraced this future when it created Instant Ink — a service that already enables connected printers to automatically order their own ink when supplies run low. Some Tesla cars already order their own spare parts, and Walmart has patented grocery auto reordering based on home Internet of Things (IoT) sensing.
- In B2B, U.S.-based industrial supply company Fastenal uses smart vending machines that proactively place orders when stocks run low. Thinking forward, an autonomous vehicle could determine what parking garage to take its human passengers to based on criteria such as distance from destination, price, online review score, parking space dimensions, valet options, etc. In this case, it is the parking garage marketing to the car, not the humans.
- The rise of machine customers begs some important questions. These include: (1) How do you market to, sell, service and obtain feedback from a machine customer?; (2) What will get a machine customer to buy from you when its decisions are based on algorithms, not emotion?; (3) What does “customer experience” even mean for a machine customer?
- Machine customers have the potential to generate new revenue opportunities, increase productivity and efficiency, improve health/well-being and enhance security of physical assets and people. They will also result in new sources of competition, fraud, legal and taxation challenges, and operational challenges.

Obstacles

- **Trust** — Can the human customer trust the technology to accurately predict and execute? Conversely, can the machine customer trust the organization that offers the service? The complexity involved in developing a machine customer that can learn the depth and breadth of knowledge and preference trade-offs required to act on behalf of a human customer in a variety of situations is staggering.
- **Fear** — Some humans may initially be uneasy about delegating purchasing functions to machines. And, organizations will have to consider what ethical standards, legal issues and risk mitigation are needed to operate in a world of machines as customers.
- **Technology that works** — Other barriers include: complex AI technologies, privacy, security and risk, regulatory compliance issues and data sharing.

All this will mean that machine customers across industries will not reach the Plateau of Productivity for at least five to 10 years.

User Recommendations

- Create scenarios to explore the market opportunities. Initiate collaboration with your chief digital officer, chief data officer, chief strategy officer, sales leaders, chief customer officers and others to explore the business potential of machines as your customers.
- Identify specific use cases where your products and services can be extended to machine customers; and pilot those ideas to understand the technologies, processes and skills required.
- Build your organization's capabilities around digital commerce and AI over the next five years. First in machine learning, then extending to other facets involved in machine customers processing information, making informed decisions, and performing purchase transactions. Or, join other platforms that already have those capabilities if you don't have the resources to build them yourself.
- Follow examples from organizations like Tesla, Google, Amazon and HP to look for evidence of capabilities and business model impact.

Sample Vendors

Amazon; Google; HP; John Deere; Tesla

Gartner Recommended Reading

[Machine Customers: The Next Massive Emerging Market](#)

[How Customer Experience Changes When Your Customer Is a Thing](#)

[Why Machine Customers May Be Better Than Human Customers](#)

[Meet Your Machine Customers: 10 Machines That Will Drive Business Growth in the 2020s](#)

[IoT-Based Thing Commerce Requires a Differentiated Customer Experience](#)

[The Future of Customer Self-Service: The Digital Future Will Stall Without Customer-Led Automation](#)

Multiexperience

Analysis By: Jason Wong

Benefit Rating: Transformational

Market Penetration: 1% to 5% of target audience

Maturity: Emerging

Definition:

Multiexperience describes interactions that take place across a variety of digital touchpoints (such as web, mobile apps, conversational apps, AR, VR, MR and wearables) using a combination of interaction modalities in support of a seamless and consistent digital user journey. Modalities include no-touch, voice, vision and gesture.

Multiexperience is part of a long-term shift from the individual computers we use today to a multidevice, multisensory and multilocation ambient computing experience.

Why This Is Important

Multiexperience (MX) is the new “omnichannel” for a digital-first world. Through 2030, the digital user experience (UX) will undergo a significant shift in terms of how customers, partners, citizens and employees experience their environments. MX is about the shift both in UX perception and in interaction models, which leads to a multisensory, multidevice, multilocation and multitouchpoint digital journey.

Business Impact

To achieve digital business transformation, it is essential to understand and exploit multiexperience. Applying multiexperience design to digital experiences removes friction and effort for the users — both customers and employees. Adopting MX will allow organizations to be more agile — delivering positive business outcomes by serving customers and employees in ways that best suit their needs and expectations.

Drivers

- Organizations are shifting their delivery models from projects to products, but beyond products is the experience — the collection of feelings, emotions and memories. Web and mobile apps are already commonplace, but they are undergoing UX changes driven by new capabilities like progressive web apps, WebXR and artificial intelligence (AI) services. Conversational platforms allow people to interact more naturally and effortlessly with the digital world. Virtual reality (VR), augmented reality (AR) and mixed reality (MR) are changing the way people interact with and perceive the physical-digital world.
- As organizations continue to invest in customer experience (CX) and employee experience (EX), they will need to apply MX front-end architecture and technology strategies to be more agile at serving business needs and user expectations. When MX discipline is applied with great UX in support of CX and EX strategies, total experience (TX) transformation is achieved. TX requires MX to be executed with CX, EX and UX in harmony and synchronicity.
- The long-term manifestation of MX is a composable digital experience that is adaptive, seamless, collaborative, consistent, personalized and ambient. This will happen over the next five years — and has already been accelerated by the COVID-19 pandemic, which has increased reliance on digital touchpoints and no-touch modes of interaction. In this new decade, MX is needed to deliver transformative and memorable experiences for customers, employees and all users of your digital products and services.

Obstacles

- Privacy concerns may dampen the enthusiasm and impact of MX adoption. Users will need to consent to sharing their location, accepting notifications and being tracked across their devices.
- On the technical front, the fragmentation of many consumer devices and the inconsistency of interoperability standards are enormous barriers to seamless MX integration of front-end technologies.
- The skills needed for MX development, such as immersive interaction design, are still lacking in most enterprise software engineering teams.
- Don't expect automatic plug-and-play of off-the-shelf devices, applications and services for MX. Instead, proprietary ecosystems of MX solutions will exist in the near term.

User Recommendations

Application and software engineering leaders should:

- Identify three to five high-value, proof-of-concept projects in which MX design can lead to more effortless, compelling and transformative experiences.
- Use personas and journey mapping to address the requirements of diverse business use cases. Use external-facing and internal-facing scenarios to support a unified digital experience.
- Collaborate with UX design teams to create a design system that spans desired MX touchpoints and modes of interaction. This ensures that MX development teams can accurately and consistently apply visual, behavioral and written guidelines.
- Establish a multidisciplinary fusion team including (but not limited to) IT, product managers, UX designers and business stakeholders.
- Focus on understanding how unified digital experiences impact the business, and use evolving MX technologies to create targeted solutions for customers or internal constituencies.

Gartner Recommended Reading

[How to Apply Design and Architecture to Multiexperience Application Development](#)

Transcend Omnichannel Thinking and Embrace Multiexperience for Improved Customer Experience

Multiexperience Will Be the New Normal for Consuming Analytics Content in the Augmented Era

At the Peak

Digital Customer Service

Analysis By: Nadine LeBlanc

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Emerging

Definition:

Digital customer service offerings focus on seamless conversation orchestration across digital channels. Vendors in this emerging market focus on end-to-end customer engagement, using digital channels and intelligent automation to sustain continuous conversations across functions, without necessarily being a system of records.

Why This Is Important

The proliferation of digital engagement channels has only reinforced customers' expectations of instantaneous, seamless and effortless service experiences. The customer's need for self-service, combined with the emergence of conversational AI, has led to an evolution of most engagement models. As such, Gartner sees the emergence of a new area of customer care referred to as "digital customer service."

Business Impact

Customer-centric organizations embrace digital customer service to empower and support employees beyond the customer service function in going the extra mile to help customers. At one extreme, customer service becomes a competency of the entire workforce. This approach is taken with the intent of reaping the benefits of customer satisfaction, loyalty and advocacy, as well as mitigating the risk of disconnected conversations with less procedural structures leading to distrust and churn.

Drivers

- Vendors delivering digital customer service have various technology heritage; each offering its own perspective on the emerging market of digital customer service solutions. More than a decade ago, companies like eGain, RightNow Technologies (now Oracle), goMoxie, Parature (now Microsoft) and KANA (now Verint) were offering a set of applications and technologies that enable organizations to provide customer service through web-based service channels (e.g., live chat, virtual assistant).
- Since then, digital service channels have evolved into CRM CEC, engaging customers through their preferred communication channels and handling their requests in the most effective way by using case management functionality. Contact center and contact-center-as-a-service (CCaaS) offerings have also expanded from traditional voice to multichannel customer interaction management.
- As the level of intelligent automation maturity grows, first-contact resolution will improve, making room for an increase in continuous conversations. Organizations that provide services that do not require a lot of workflow throughout the organization will be the most suitable candidates to adopt digital customer service.

Obstacles

- Customers have high expectations about how they want to interact with organizations. However, too often, customer service has been focused on individual channels or applications in addition to traditional voice and IVR, overlooking the aggregate impact of the customer experience across the customer journey.
- Customers don't think about what channel they are in; they just want great customer service to get things done, on whatever digital touchpoint is most convenient and whatever modality is most effortless. Increasingly, customer service will become a cross-departmental function that requires coordination and opportunities to move from cases to conversations for certain use cases.
- This profound transformation can't happen without a deep level of organizational collaboration across functions like sales, marketing, finance, HR and product development. New key performance indicators will need to be created, and will rely heavily on voice of the customer (VoC) and customer journey programs.

User Recommendations

- Build customer service design around continuous orchestration and continuous activities in a digital-first world. Invest in technology supporting a blend of digital engagement channels, including digital voice. These technologies will form part of a next-generation customer engagement strategy.
- Assess how to marry and integrate the incumbent CRM CEC investment (which focuses on case management) with the new digital customer service options. This will create opportunities to shift from case management activities into digital conversations.
- Sustain continuous conversations at scale by establishing a robust self-service and automation approach that is supported by AI. This approach should include machine learning (ML), continuous intelligence (that is, real-time data and advanced analytics) and knowledge management.

Sample Vendors

eGain; Genesys; Glia; Gladly; Kustomer; LivePerson; NICE inContact; Salesforce; Zendesk

Gartner Recommended Reading

[Market Guide for Digital Customer Service and Support Technologies](#)

[Transcend Omnichannel Thinking and Embrace Multiexperience for Improved Customer Experience](#)

[Quick Answer: Distinguishing Multi-, Omni- and Dynamic Channel Strategies](#)

[Innovation Insight for Continuous Intelligence](#)

WEM Applications

Analysis By: Jim Davies

Benefit Rating: High

Market Penetration: 1% to 5% of target audience

Maturity: Adolescent

Definition:

Workforce engagement management (WEM) applications expand on the already mature workforce optimization (WFO) market by accommodating complementary technologies — such as interaction assistance and voice of the employee — that help drive employee engagement. The underpinning WFO component is the result of the unification of quality monitoring, workforce management, e-learning, performance management and speech analytics tools, which have helped drive operational performance over the past decade.

Why This Is Important

WEM brings a much needed additional dimension to the management of contact center employees:

- Employee needs and expectations are evolving rapidly. Incumbent management philosophies and technologies focused on operational performance enhancement fail to address these ambitions.
- The increase in gig and freelance workers are putting pressure on customer service departments to ensure a high perception of employee experience, without which securing their commitment will be increasingly challenging.

Business Impact

Customer service leaders need to appreciate:

- Incumbent WFO applications focus on delivering employee efficiency and effectiveness gains. The extension of this to WEM helps improve operational performance but also elevates employee well-being and engagement.
- As societal shifts begin to force a change in how contact center managers handle their workforce, traditional operational management techniques will increasingly fail over the next few years.

Drivers

- COVID-19 has accelerated the work-from-anywhere business model. The shift to hybrid contact centers (mix of WFH and physical contact center) has resulted in the need to refine onboarding, scheduling, evaluation and coaching capabilities, previously optimized for a contact center environment.
- As AI and automation continue to remove the more mundane interactions, agents will increasingly deal with the remaining more complex and often emotional interactions. This will necessitate the need for a positive working environment in order to attract the right caliber of employee.
- The ability for advisors to apply for jobs and work remotely, from outside the traditional office commuter zone, combined with ability to assess an employer through review sites such as Glassdoor, will place a greater emphasis on employee experience.
- CCaaS and CEC vendors are turning to WEM as a must-have complementary function, but many are still at least a year away from having a viable solution, complicating procurement of a WEM suite.
- Technologies that help drive engagement (and performance) through interaction assistance (such as those associated with next best action recommendations, unified desktops, and process guidance and automation) have become an essential dimension of WEM, beyond traditional agent management functions.
- Adoption of SaaS-based solutions has accelerated. These solutions account for the majority of new deployments.
- Mobile application support for agents has increased, but adoption remains modest. Most solutions lack capabilities beyond the obvious WEM-focused ones, such as the ability to view schedules and make shift-change requests.
- VoE is an important mechanism for understanding both the drivers and barriers to the agent experience that impacts frontline engagement and performance. Some vendors have diverse offerings, but many remain rudimentary in their capabilities.

Obstacles

- The lack of maturity within many CCaaS and CEC vendors, which is the preferred procurement route for all but the most sophisticated organizations.
- Many contact centers still prioritize operational performance over employee well-being, resulting in a WFO vs. WEM mindset to application procurement.
- COVID-19 has fundamentally changed the frontline environment and possesses its own unique set of challenges to engagement and productivity (e.g., work-life balance, right fit for WFH, feelings of lack of support and networking and perception that reps in the physical contact center are viewed by management as higher performers). As such the software market needs additional time to further refine their applications according to the future likely status quo.

User Recommendations

- Determine the likely change to the expectations of future workforce in your specific industry and geography.
- Prove the correlation between how engaged an employee is, and the experience they subsequently provide to customers through targeted metrics.
- Map out how to embrace a WEM strategy that leverages current WFO functions.
- Invest in appropriate desktop tools that complement CRM and assist the agent.
- Develop more agile ways to onboard and coach employees.
- Add a robust VoE program to the contact center operations.

Gartner Recommended Reading

[Magic Quadrant for Workforce Engagement Management](#)

[Critical Capabilities for Workforce Engagement Management](#)

[Leading Engaged and Productive Work-From-Home Customer Service Teams](#)

Customer Engagement Hub

Analysis By: Don Scheibenreif, Gene Alvarez, Nadine LeBlanc

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

A customer engagement hub (CEH) is an architectural framework that ties multiple systems together to optimally engage customers. It enables contextual personalization, and both proactive and reactive communication across all channels, such as call centers, AI Chatbots and many other devices. It can also reach to and connect all departments to enable, for example, synchronization of marketing, sales and customer service processes, as well as analysis of back-end event streams.

Why This Is Important

A CEH is a core component of a digital business technology platform and an organization's CRM technology strategy. Supporting the "anytime, anywhere" customer (mobile devices, smart devices and social networks), together with the need for delivering both business and customer outcomes, should be made a priority for IT leaders. The proliferation of devices, digital touchpoints and interaction modalities requires application leaders to embrace a multiexperience strategy for digital experiences.

Business Impact

The future state of customer service and support experience is proactive and prescriptive, enabled by analytics, insights and a set of new capabilities. The resulting operating environment is designed to meet and balance revenue, retention, expense and customer experience (CX) goals. As CIOs strive to fulfill their new mandate to deliver better business and customer outcomes for their enterprises, a CEH is required to help organizations react more quickly to changing customer needs.

Drivers

- In the 2021 Gartner View from the Board of Directors Survey, the No. 1 expected outcome of investments in IT/digital business is customer engagement and customer loyalty. Gartner client interactions on CRM- and CX-related topics have increased by 15% to 30% versus the 2020 levels. A number of factors are driving the need for a more holistic view of customers and how to serve them seamlessly across the organization.

- As organizations plan to engage customers with a greater array of digital touchpoints and interaction modalities, multiexperience has become an increasingly important strategy aligned with CEH. By 2022, we estimate that 60% of large organizations will extend their CX technology and process goals by tying together disparate systems in a holistic approach focused on the needs of customers.
- Departments such as marketing, digital commerce and sales will join with IT leaders to develop plans for CEHs. Even so, by 2022, only 40% of organizations will select the correct technologies to make a CEH work, and only just over 10% of CEH architectures will include real-time event streaming, streaming analytics and continuous intelligence.
- Gartner observes that certain CRM CEC software vendors offer a blend of applications, platforms and ecosystem partners conducive to building a CEH (see [Magic Quadrant for CRM Customer Engagement Center](#)). Consolidation of customer service technologies marketplace could pave the way to a CEH offering in the next three years. Such a solution could emerge to target the large-enterprise sector with a strong focus on hybrid architecture and integration capabilities. or target the midsize-enterprise market through a cloud-only approach.
- For IT leaders, operational and technology silos will remain a norm that IT leaders must confront in large enterprises.

Obstacles

- **Most components of a CEH are not bundled as a suite.** There is a 40% likelihood that the CEH will remain a system of systems and never evolve into a product. Vendors tend to focus on what can be mass-produced and easily sold, rather than on products that can transform a business but require complex buying centers and change management. This limits the feasibility of a true CEH.
- **Siloed customer engagement efforts and processes.** These are gaining the attention of business and IT leaders, and software vendors. We expect that large CRM software vendors will introduce new capabilities to bridge capability gaps by means of acquisitions, partnerships with system integrators, and their own research and development efforts.

User Recommendations

Application leaders responsible for the CX (or for integration), and assisting chief marketing officers, digital commerce leaders and customer care directors should:

- Approach the idea of the CEH as a business strategy linked to a technology framework, rather than as a software product to be bought from the market.
- Test the robustness of CRM-/CX-oriented applications to meet the needs of the customers who are always connected and engaged.
- Examine vendors' roadmaps and readiness — as well as of their own organization — to evolve customer engagement processes and technologies.
- Identify where to apply real-time continuous intelligence in their CEH by working with marketing, sales and service leaders. The objective is to optimize real-time, cross-process, cross-business-domain and context-aware decisions, and achieve a positive ROI by closing key customer journey gaps.

Sample Vendors

Oracle; Pegasystems; Salesforce; Usermind

Gartner Recommended Reading

[3 Direct Impacts of Composable Applications on the Customer Engagement Hub](#)

[2021 Strategic Roadmap for Customer Service and Support: 10 Dilemmas](#)

[10 Steps for Planning Your Customer Engagement Hub](#)

[Survey Analysis: Executive Leaders Should Align to Board Priorities for 2021](#)

Augmented Reality for Customer Support

Analysis By: Jim Robinson

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Adolescent

Definition:

Augmented reality for customer support lays a combination of 3D graphics, video feeds, annotations and sound over the user's direct or indirect view of the physical world. It projects these onto an optically transparent surface — such as a windshield, glasses or other head-mounted display — or it superimposes them onto the feed from a tablet, phone or other camera. Customers and technicians can receive visual information or assistance without glancing away from the physical environment.

Why This Is Important

Customer service and field service organizations face pressure to improve average call completion times and first visit fix rates in order to keep pace with competitors. Workforces are increasingly composed of work at home agents, less experienced technicians and subcontractors that need visual guidance — even when remote. Also, customers are more sophisticated and want to extend previous investments in devices and communications to achieve faster results through efficient collaborations.

Business Impact

Augmented reality used in customer support use cases will:

- Optimize agents' diagnostic efforts during interactions with customers that are unable to articulate events and conditions due to barriers like language and expertise.
- Provide field technicians with "self-serve" guidance that reduces "glance away" by overlaying the work target with animated instructions.
- Reduce cost-to-serve by reducing on-site visits and using locally manufactured parts.
- Enable training that rivals a side-by-side mentor.

Drivers

Factors increasing the adoption of augmented reality for customer support include that:

- Increased safety awareness has driven an increase in the priority of nontouch collaboration.
- Organizations that use AR to annotate customers' field of view with circles, icons, arrows and gestures see increases in interaction efficiency that we estimate to be above 15% on average.

- Remote employees and customers are more likely to have a mobile digital presence now due to investments from around work at home, mobile field service management apps and customer demands.
- More complex and disparate equipment in both B2C and B2B use cases is difficult to provide guidance for over-the-phone, even with video — which increases the benefits to be derived from the ability to annotate customers' field of view.
- With equipment increasingly connected to the internet, remote operators can more confidently issue commands and perform manipulations of components because AR enables near instant, in-context feedback in the form of digital twin visualizations and 3D views of hidden components.
- Tight labor markets, margin pressure and senior staff retirements are forcing organizations to replace expert employees with subcontractors and more junior staff that are more tech savvy, but require more assistance while learning “on the job” in remote locations.
- Technical limitations — such as lack of support for multiple phone operating systems, unreliable cellular coverage and battery life — are diminishing.
- AR enables organizations to simulate equipment when training on dangerous tasks.
- Customers can self-serve instructions or understand how to use a device or machine by manipulating it virtually, while receiving instructions via text, video and voice. They are also aided by the support person annotating a remote person's field of view by drawing arrows, circles and text boxes that dock to components of a live or still image. This can lower support costs while raising client satisfaction.
- Reduced travel costs.

Obstacles

As organizations were forced to adopt digital solutions like AR in customer support to minimize physical contact for safety reasons, several key obstacles have persisted, such as:

- Developing reusable AR-enabled content has traditionally been difficult and/or expensive to produce, but tools have been democratized to some degree in midsize organizations of late.
- Head-mounted display's (HMD) battery life, capacity, internet coverage/access, lack of durability for field work, safety uncertainty (such as impact on field of view and eye strain), software cost and a lack of integration.
- Many early adopters have used phones or tablets instead of HMDs to display the combination of digital assets and the real world because of better durability, battery life, portability and connectivity. However, use cases that require hands-free operation will require better HMDs.
- IT departments find current applications somewhat difficult to extend, modify and integrate.

User Recommendations

We recommend:

- Examine AR software and associated hardware for customer support — in particular if you sell, install or maintain capital equipment or support customers that do so.
- Develop a proof of concept for a use case that requires hands-free interaction, such as in-task training or diagnosis that requires collaboration between an on-site resource and a remote expert.
- Review each vendor's AI-driven capabilities, such as natural language processing and computer vision, and use their impact on user experience as evaluation criteria. Also, compare their level of integration with other apps that your target users already use, and the potential to evolve toward a UX that has the feel of a single app.
- Determine which vendor(s) will be needed to source, curate and produce content, such as recorded video, animated overlays, etc. Consider where the repository for AR-enhanced video content will be (in the AR tool, in a knowledge management system, in other cloud infrastructure, etc.).

Sample Vendors

Deepomatic; Fieldbit; Help Lightning; Microsoft; Oracle; OverIT; PTC; Scope AR; SightCall; TechSee; TeamViewer

Gartner Recommended Reading

[Emerging Technologies: Top Use Cases for Enterprise Augmented Reality Computer Vision Will Evolve the Customer Service and Support Experience and Accelerate Self-Service](#)

[Competitive Landscape: Head-Mounted Displays for Augmented Reality and Virtual Reality](#)

[Top 10 Strategic Technology Trends for 2020: Multiexperience](#)

[Critical Capabilities for Field Service Management](#)

Sliding into the Trough

Communications Platform as a Service (CPaaS)

Analysis By: Daniel O'Connell

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Communications platform as a service (CPaaS) is a cloud-based middleware on which organizations can develop, run and distribute communication software. The platform offers APIs that simplify the integration of communication modules — including SMS, voice, messaging apps, social and video — into applications, services and business processes, complemented with development tools and documentation. A CPaaS vendor may also offer off-the-shelf modules as programmable components and complete solutions.

Why This Is Important

CPaaS is important because it provides a simple way for organizations to integrate communications into workflows via developer-friendly software APIs. Even organizations with modest IT skills now have developers that can deploy SMS, voice and 2FA for basic workflows like notifications and appointment reminders. Digital natives and larger enterprises with robust developer teams can build more complex business workflows with features such as email, video, payments, webchat and WhatsApp.

Business Impact

CPaaS will have an increasingly stronger impact on the enterprise IT landscape through 2025. The impact may not appear to be as pronounced as it actually is because CPaaS is about a new, agile way of delivering software through a DIY developer-based ecosystem of APIs, SDKs and documentation. CPaaS will not focus on any particular part of the business, but instead it will be embedded across the organization, spanning multiple products and business units. Hence its “bite” will exceed its “bark.”

Drivers

- CPaaS is highly correlated with the emerging API economy. Organizations now hire developers to leverage today's API-enabled software. Software companies open up their software to expand their total addressable market. At the same time, CPaaS provides a developer-friendly ecosystem of APIs, SDKs, IDEs and documentation to an increasingly broader mix of communications modules.
- The value proposition of CPaaS centers on its simplicity, diversity and tech runway. Basic SMS CPaaS can now be consumed by digital laggards. And as their proficiency improves, they can explore a more diverse and powerful set of communications modules like email, video, WhatsApp, Apple Business Chat (ABC), Google Rich Business Messaging (RBM), and payments. The tech runway includes the ability to build custom-made workflows like an application for a sporting event, an educational tutoring package or an insurance approval tool. Gartner projects API-enabled 5G to be available in two to three years.
- COVID-19 kick-started organizations to become more digital and operationally efficient. Low-tech organizations have a developer workforce that can connect their CRM system with CPaaS SMS for simple payment reminders, order refills, emergency alerts and the like. Many CPaaS providers now offer "visual builders" to allow non-coders to graphically build CPaaS workflows. Alternatively, new CPaaS users can hire boutique consultants to train their team on the usage of CPaaS.
- COVID-19 also accelerated CPaaS video for such verticals as healthcare, education, telejustice and consumer dating. While parallel video offerings from Cisco, Microsoft and Zoom are good to start with, the market demands an even better user experience with the video integrated into an app. With CPaaS video, a physician will also gain access to a patient's prescriptions, insurance and treatment plans within a single app. In-app video also has greater reliability, improved performance and fewer technical hurdles to connect with the patient.

Obstacles

- The greatest obstacle to CPaaS is executives understanding the importance of API software. As CPaaS is a middleware solution, it is an abstract concept that takes time for nontechnical executives to comprehend. Its complexity is furthered because it can solve such a wide range of unrelated use cases — spanning simple patient reminders, to embedded video for telehealth, to complex IoT cardiac monitoring. So it is incumbent for IT leaders to educate their C-suite on the benefits that can be derived because the C-suite controls budgets.

- A second obstacle to CPaaS deployment is developer talent. The developer workforce tends to be younger so organizations that have not been in a hiring mode recently may lack the appropriate skill sets. Some companies in this situation will hire boutique consulting teams to co-build CPaaS solutions for six months — with the goal of the existing staff picking up the CPaaS skill sets in the process.

User Recommendations

- Start the CPaaS process at the basic level and expand from there. The first implementations should focus on SMS, A2P and 2FA. Once this is mastered, it is time to leverage other communications modules. The specific modules will depend on the organization's use case. But in 2021, Gartner is starting to see greater adoption of email, video, voice calls and WhatsApp. After this group, some customers are engaging with Apple Business Chat (ABC), Google RBM, billing and omnichannel.
- Explore the benefits of CPaaS across the entire business. Often CPaaS is implemented by a single business unit, and stays there. But in most cases if the customer service BU succeeds with CPaaS, other BUs such as HR, operations, supply chain and logistics can benefit from CPaaS.

Gartner Recommended Reading

[Market Guide for Communications Platform as a Service](#)

[Quick Answer: What Are the Implications of Twilio's Investment in Syniverse?](#)

[Impact Appraisal: Cisco's Acquisition of IMI Mobile](#)

[CSPs Should Pivot Forward With CPaaS Video API for Increased Customer Engagement](#)

Customer Service Analytics

Analysis By: Steve Blood, David Norrie

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Customer service analytics is the combination of interaction analytics (desktop, speech and text), customer journey analytics and next-best-action analytics (that collectively surface real-time and historical insight). It also includes recommendations to elevate the customer experience as well as help deliver against operational goals.

Why This Is Important

Deep analysis of customer and operational data enables customer service organizations to be more agile and effective, uncover hidden trends and insights to improve customer experience, improve operational efficiencies, allow insight into interaction dynamics and increase revenue and/or savings. Analysis can operate on large stored datasets, or on real-time information flows.

Business Impact

Using analysis of customer interactions and customer journeys, organizations can understand in more detail:

- Customer experience of interactions through multiple channels, validation of journey mapping and customer sentiment indications.
- Employee experience in terms of quality of engagements, employee skills and next best action guidance.
- Operational performance improvements in terms of opportunities for automation, deflection and process improvement.

Drivers

The COVID-19 pandemic has been a key driver for organizations to understand more about how they can better serve their customers, as volumes of contacts escalated to unprecedented and unmanageable levels. Interaction analytics especially is key to enabling organizations to understand what percentage of customer communication can realistically be handled by automation and chatbots.

Understanding the customer experience through data is a top priority for organizations in 2021. The customer service environment has an overwhelming quantity of unstructured data, a combination of telephone recordings, emails and digital messages, all of which can be analyzed to drive deeper insights into customer experience, employee experience and operational performance.

Migrating customer contact from assisted service to self-service is an urgent priority for organizations in 2021 and the need to analyze current customer engagements in assisted service channels such as voice, email and chat is a key driver to achieving a successful self-service initiative.

Gartner anticipates that more organizations will take advantage of flexible working in customer services. The opportunity to recruit talent from outside the service center commuter belt, as well as offering flexible working to existing advisers, places new demands on onboarding, training and agent guidance. These learning initiatives can be bolstered by customer analytics capabilities — surfacing insights in near real time — to provide customer service managers with greater visibility of the virtual working environment.

Obstacles

The market for customer analytics is populated by best-of-breed providers focused on offering narrow but effective use cases for operational leaders.

Customer service analytics decisions are mostly made in isolation of a larger data analytics strategy, hence organizations fail to see the true value of their analysis and investments remain fragmented.

Organizations do not invest sufficient ongoing resources and effort to manage analysis sources (products, vocabularies), hence the usefulness of insights degrades over time.

User Recommendations

- Articulate the use cases relevant to your analytics project clearly
- Calculate the potential added value of an integrated analytical technology suite above and beyond siloed technologies, such as speech analytics or performance management.
- Pay particular attention to the technical architecture and ensure alignment with the organization's overall customer analytics strategy.
- Broaden the value proposition by identifying lines of business (LOBs) outside of customer service and support, such as marketing and HR.

Sample Vendors

Calabrio; CallMiner; Clarabridge; Genesys; Medallia; NICEinContact; Verint

Gartner Recommended Reading

[How to Use AI to Improve the Customer Experience Implementing Speech Analytics for Quality Assurance: Peer Lessons](#)

[Market Guide for Text Analytics](#)

[Competitive Landscape: Customer Analytics](#)
[How to Drive Value From Customer Experience Analytics](#)
[Improve Customer Self-Service Adoption by Automating Knowledge Capture and Curation](#)
[Use Speech Analytics to Optimize Contact Center Costs With Self-Service, Process Improvement and Deeper Engagement](#)

Video Contact Center

Analysis By: Drew Kraus

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Early mainstream

Definition:

Video contact center functionality includes live video streaming between customers and agents — either one-way or two-way — as well as prerecorded video training for customers. Requirements for contact center queuing, routing and reporting on video chat sessions necessitate the use of purpose-built systems that go beyond the capabilities of general enterprise video collaboration tools.

Why This Is Important

When implemented with an appropriately targeted audience such as sales, or concierge-level service for a select segment of customers, customer service video chat solutions can deliver a highly engaged customer experience.

Prerecorded videos can be used to explain complex activities to customers, offering the ability to not only experience an audio and video explanation, but also enable customers to pause, rewind and replay the explanation to implement the instructions in a step-by-step manner.

Business Impact

Customer service video chat:

- Provides a differentiated customer experience
- Leverages deeply ingrained human communication patterns
- Can be used to convey empathy and trust, and recognize moments of confusion or disconnectedness better than voice-only interactions can

Prerecorded video explanations:

- Leverage voice and image-based communication
- Allow pause, rewind and replay for more effective processing of complex concepts
- Can save money by significantly shortening call durations for agents

Drivers

Drivers of customer service video chat usage include:

- Increasingly easy-to-use video chat capabilities
- The proliferation of smartphones and tablet devices for accessing video communications
- Lowering of costs for video kiosk access points
- Pandemic-inspired use of video communications as a common communications tool for consumers
- Can be used in place of face-to-face communication in stores

Drivers of prerecorded video snippets include:

- Increased access to low-cost, high-quality video recording and editing software
- The proliferation of smartphones and tablet devices for receiving and viewing recorded videos
- Increased customer preference for self-service interactions and tools

Obstacles

For more than two decades, contact centers have struggled to rationalize, implement or maintain customer service video chat initiatives. Obstacles to customer service video chat usage include:

- Lack of established best-practices for customer service video chat operations including norms for hiring, compensation and agent appearance, among others
- Track record of not meeting organizational expectations regarding customer experience and loyalty
- Risk of an ill-timed agent eye-roll destroying years of customer loyalty in an instant
- Risk of agents lawsuits if exposed to highly improper behavior on the part of the customer
- Challenges of adding another customer service channel rather than optimizing existing ones

Obstacles to prerecorded video snippets are few, but can include:

- Expense of developing highly professional recordings
- Not all customers may have access to a device capable of viewing videos at the time they're needed
- Current low maturity of web-based self-service

User Recommendations

For customer video chat:

- Carefully scrutinize the business case.
- Ask vendors for reference customers to gauge experience and glean best practices.
- Deploy limited pilot programs with limited financial commitment and grow usage gradually.
- Determine whether video use cases can be better served with prescheduled interactions using lower-cost enterprise collaboration tools rather than being queued and routed on-demand.

For prerecorded video customer service:

- Mine agent activities to determine long and complex explanations provided repeatedly.
- Leverage explanation videos that may already be available to customers on the corporate website or in other training venues.
- Leverage new videos across other customer touchpoints such as the corporate website or accessibility via search engine.

Sample Vendors

24sessions; auvious; Enghouse (Vidyo); Glance; Kaleyra; REVE Chat; SmartVideo; Sprinklr; Streem; Tethr

VoC Applications

Analysis By: Jim Davies

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Voice-of-the-customer (VoC) applications combine multiple, traditionally siloed technologies associated with the capture and analysis of direct, indirect and inferred customer feedback. Technologies such as surveying, social media monitoring, speech analytics and customer journey analytics are integrated to provide a holistic view of the customer “voice.” The resultant customer insights are either acted on automatically or disseminated to relevant employees and managed as part of inner and outer loop interventions.

Why This Is Important

Most organizations have multiple siloed customer feedback mechanisms at a departmental level, usually based on surveying complemented by other domain-specific information sources. Few organizations have aligned these various sources to create an integrated VoC solution and, as such, are failing to fully realize the potential positive impact that feedback can have on improving the customer experience.

Business Impact

A centralized VoC solution will:

- Instill more confidence in actions taken at both individual customer level (such as a retention call) and at overarching strategic level (such as a process or product change).
- Ensure that the right insight and action gets assigned to the right employee across the enterprise at the right time, regardless of where the feedback originated from.
- Help manage brand perceptions, understand and improve the customer experience and develop future customer engagement strategies.

Drivers

Several factors are accelerating the adoption and maturity of VoC, including the following:

- The emergence of large, big name VoC vendors with revenues approaching \$1 billion causing increased visibility and awareness of VoC applications.
- Adoption by B2B and B2B2C enterprises, not just B2C.
- Entrance into the market by mainstream CRM vendors such as Salesforce and Microsoft.
- Elevated commitment to the customer experience as the primary means of market differentiation by corporate executives.
- Uncertainty caused by changes to business models as a result of COVID-19, fueling the need for better customer understanding.
- Alignment with complementary employee experience initiatives currently fashionable with HCM leaders.
- Elevated focus on value measurement of VoC.
- Better alignment of VoC with research (user and product).
- Advancements in both prescriptive (i.e., a recommended list of prioritized actions per employee) and automated (i.e., resolving the action from within the VoC solution and associated operational integrations without human intervention) actions.

- Customer wants/needs, which are changing much faster (due to several factors) than in the past. Organizations need to be more responsive to these changing needs, and require a robust VoC application.

Obstacles

VoC is far from mainstream. Organizational maturity is low and the vendor landscape is still emerging, resulting in various obstacles:

- There are over 30 vendors that have expertise spanning the diversity of feedback techniques that a holistic VoC solution encompasses. New CRM vendor entrants with currently immature but potentially long-term viable offerings further complete procurement.
- Organizations will likely continue to collect feedback through multiple applications for many more years because individual departments will be reluctant to relinquish their tools and standardize on one central application. At best, an integrated multivendor ecosystem will be achieved.
- As the number of data sources ingested continues to expand, how VoC aligns with existing single-view-of-the-customer initiatives (for example, a customer data platform/lake) is an increasingly contentious discussion topic. The upside of time to value proposed to business by VoC vendors is countered by the cost, complexity and inherent duplication perceived by IT.

User Recommendations

Ideally, VoC should fall under the remit of a central customer experience function, but if not, then a cross-department VoC committee. Once set up, do the following:

- Conduct an internal audit to assess current customer feedback capabilities and reduce duplicate technologies.
- Prioritize future initiatives that collect VoC data by balancing quality (insightfulness) with the quantity of feedback available. Strive to obtain a single, holistic view of the VoC.
- Determine the most appropriate data architecture and analytical models/techniques to extract key customer insights at both individual respondents and aggregated across the customer base levels.

- Distribute relevant insights/actions across the organization (front line and management) in a timely manner using workflow and operational integration.
- Leverage VoC in core business processes, ideally in real time — for example, using a low survey score to open a customer service case within the customer service and support application.

Sample Vendors

Confermit; InMoment; Medallia; Qualtrics

Gartner Recommended Reading

[Magic Quadrant for Voice of the Customer](#)

[Three Key Decisions to Prevent Your Voice of the Customer Strategy From Falling Into Disarray](#)

[How to Operationalize Your Voice-of-the-Customer Program](#)

Speech Analytics

Analysis By: Steve Blood

Benefit Rating: Moderate

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Speech analytics is a combination of phrase-matching, phonetic indexing and transcription technologies used to extract contextual insights from recorded and real-time voice streams. Speech analytics surface insights such as topics, categories and emotional engagement in conversations. Artificial intelligence and machine learning improve categorization and accuracy of analysis. Use cases range from customer service to workplace analytics and compliance across multiple industry verticals.

Why This Is Important

Rapid advancements in speech-to-text technologies and natural language technology in recent years, including the use of AI techniques, such as machine learning, have improved categorization and analysis accuracy. This is enabling organizations to be more confident about using insights surfaced from analyzing voice conversations for compliance, training and collaboration initiatives.

Business Impact

Speech analytics can be used to provide insights into:

- Employee performance and compliance by analyzing conversations for keywords, acoustics and talk over to highlight areas where further training could be required.
- The content of internal meetings and work sessions to identify subject matter experts and manage compliance.
- Emotional analysis to provide feedback on customer and employee sentiment, individually or in aggregate.
- Insights on conversational dynamics, topics and flows.

Drivers

- A common use case for speech analytics is found in the customer services department. These use cases focus on mining of recorded calls to surface insights into quality of customer interactions, customer satisfaction and sentiment, opportunities for employee training as well as real-time analysis for compliance and next best action.
- Just as sentiment analysis is used in determining customer satisfaction in the front office, it could also be used to determine employee sentiment as part of a broader voice of the employee initiative. Analysis of conversations in the enterprise will greatly increase the ability to monitor compliance and risk, identify areas of improvements and streamline automation of processes.
- There is an emerging set of use cases for speech analytics in the digital workplace for meetings and content management platforms. Transcription is already available with providers such as GoToMeeting, Cisco, Microsoft (Teams and Azure), Zoom and Amazon Web Services (AWS) Media Services.
- Analysis of the conversational track to surface insights from collaboration (such as Cisco's Voicea acquisition) is an important step in understanding and cataloguing the content. The opportunity to use real-time speech analytics to support meetings with real-time content and actions is the next possible step for speech analytics in the digital workplace (see [Predicts 2021: Artificial Intelligence and Its Impact on People and Society](#)).

Obstacles

- Speech analytics is fragmented across multiple operations in organizations, with little coordination for selecting a primary vendor to meet multiple business use cases. This will hamper broader scale and adoption of speech analytics as they remain discrete projects.
- Speech-to-text capabilities are progressing rapidly but understanding intent and surfacing useful insights from analysis require investment in people and time. A continual update of company-specific data is essential to uncover useful insights across the organization.
- Monitoring and analysis of conversations in the enterprise can have a positive impact on operational performance. But if not used positively, the perception of "big brother" listening to and analyzing what people say can lead to disengagement of associates and distrust of employers.

User Recommendations

- Conduct pilot projects to evaluate whether speech analytics can provide demonstrably valuable insights into customer sentiment, employee quality as well as operational excellence. Align speech analytics with other customer service analytics initiatives, such as text analytics, which is inherently more mature.
- Experiment with meeting transcription and analytics to tease out the value of surfacing insights from a series of internal meetings.
- Favor the SaaS deployment model with short-term licensing commitments or consumption-based billing to limit financial exposure as part of a trial. Ensure your data privacy and security requirements are maintained through trial into production.
- Create policies and an ethics board with employee representation for fair use of conversational data.
- Engage HR councils and workers representatives to ensure the thin line of monitoring and analysis is not overstepped. Look for positive use-case examples of analytics already in use in the organization.

Sample Vendors

Amazon Connect; Cisco (Voicea); Google Cloud Platform; IBM Watson; Intelligent Voice; Microsoft Azure; Uniphore; Zoi Meet

Gartner Recommended Reading

[Predicts 2021: Artificial Intelligence and Its Impact on People and Society](#)

[How to Harness Voice of the Employee Insights for Continuous Employee Experience Improvement](#)

[How to Use AI to Improve the Customer Experience](#)

[Use Speech Analytics to Optimize Contact Center Costs With Self-Service, Process Improvement and Deeper Engagement](#)

[Infographic: Artificial Intelligence Use-Case Prism for Customer Service](#)

Customer Service Suites

Analysis By: Pri Rathnayake

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Customer service and Support (CSS) suites are systems that align capabilities across all four pillars of customer service technology to create an integrated customer service architecture. Many of these systems are built around the customer engagement center (CEC) or contact center as a service (CCaaS) at the core, and offer extensions of capabilities into knowledge, insights and resource management.

Why This Is Important

A unified customer service and support (CSS) suite from a single vendor can simplify procurement and vendor management for the organization. At the same time, it can improve customer experience (CX) and employee experience (EX) by streamlining the orchestration of internal processes to serve external touchpoints.

Business Impact

In parallel with organizations adopting hyperautomation strategies, application leaders are faced with myriad possibilities for automating various aspects of the customer service function. These include customer self-service, agent enablement, knowledge and insights orchestration, context preservation throughout the customer journey, and creating channel-agnostic engagement experiences. Such innovative capabilities are increasingly being offered as add-ons to core CSS solutions.

Drivers

- The cost and complexity of overlapping CSS technology capabilities continues to escalate, when multiple adjacent vendor solutions are deployed instead of a single unified solution for customer service.
- Increasing customer demand for low-effort, personalized experiences throughout the service journey requires streamlined orchestration of processes at a level that is difficult to achieve via integrated systems.
- Innovations such as AI-powered customer service use-case automation makes it feasible for vendors to incorporate previously disparate capabilities into their core solution.
- Leading technology providers continue to expand their CSS portfolios through the acquisition of smaller, innovative companies that have proven their best-of-breed niche solutions in the marketplace.
- Orchestrating more efficient and effective customer journeys is lowering service costs, and encourages the use of lower cost channels.

Obstacles

- Technology providers continue to expand their product portfolios to offer capabilities that span the four pillars of great customer service. However, none of them can, as yet, offer capabilities across all four pillars as a fully realized unified CSS suite.
- CSS suites are built either around a core of a CCaaS application, or around a CEC application. This makes it challenging for most customer service organizations to choose from among overlapping capabilities when multiple vendors' solutions need to be considered to meet their customer service ambitions.
- Discrete pillar solution procurement decisions were traditionally made by separate functional departments or teams. Organizations will find it challenging to align these teams to decide on a single unified CSS suite solution.
- Current state CSS suite solutions tend to have difficulty integrating point solutions from other vendors.

User Recommendations

- Issue an RFI or RFP to representative CSS suite vendors, detailing both mandatory and optional business requirements that must be met without any third-party integrations. Evaluate the bidder responses to determine if, at a minimum, all mandatory business requirements can be met by the unified suites offered by the vendors.
- Consider implementing a CSS suite if a majority of the mandatory requirements can be met by a suite solution.
- Opt for CSS suites that favor solution architectures modeled on a unified data layer foundation, and a use-case-specific application layer built with microservices.

Sample Vendors

Genesys; Glia; Microsoft; NICE inContact (CXOne); Oracle; Pega; Salesforce; Verint

Gartner Recommended Reading

[Customer Service and Support Technology Primer for 2021](#)

[How to Decide Whether to Issue a Request for Information Prior to a Request for Proposal in CRM Evaluations](#)

[3 Direct Impacts of Composable Applications on the Customer Engagement Hub](#)

[Magic Quadrant for the CRM Customer Engagement Center](#)

[Magic Quadrant for Contact Center as a Service](#)

Chatbots

Analysis By: Magnus Revang

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Early mainstream

Definition:

Chatbots are domain-specific or task-specific conversational interfaces that use an app, messaging platform, social network or chat solution for conversations. Chatbots range in use-case sophistication from simple, decision-tree-based, to implementations built on feature-rich platforms. They are always narrow in scope. A chatbot can be text-based or voice-based, or a combination of both.

Why This Is Important

Chatbots represent the No. 1 use of artificial intelligence (AI) in enterprises. Primary use cases are in customer service, human resources, IT help desk, self-service, scheduling, enterprise software front ends, employee productivity and advisory. Offerings in the market include developer self-service platforms, managed products, middleware offerings, integrated offerings and best-of-breed approaches.

Business Impact

Chatbots are the face of AI and will impact all areas with communication between machines and humans. Customer service is an area where chatbots are already very influential and will have a great impact on the number of service agents employed by an enterprise and how customer service is conducted. The change from “the user learns the interface” to “the chatbot learns what the user wants” has implications for onboarding, training, productivity and efficiency inside the workplace.

Drivers

- Chatbots in social media, service desk, HR or commerce, as enterprise software front ends and for self-service, are all growing rapidly.
- For enterprises, the main challenge with chatbots has been scaling and operationalizing them out of the proof-of-concept phase. As COVID-19 has accelerated adoption of chatbots, vendors seem to have “cracked the code” on operationalization. Vendors are now able to deliver multiple bots for multiple use cases, with no-code environments allowing multiple roles to participate in operationalization. This is creating a market for enterprise conversational AI platforms fueling the next generation of chatbots.

Obstacles

- Scaling and operationalizing still remain a challenge in some cases, due to lack of dedicated internal teams to work on continuous improvements.
- Figuring out the composition of teams, and the methodologies to iterate effectively, are still emerging practices with strong vendor dependency.
- Technology is improving at an astounding pace, but best practices on adoption and use of these technological advancements are still trailing, resulting in a lot of trial and error for enterprises.
- Selected vendors are sometimes unable to keep pace with the technology and the market dynamics.
- The vendor landscape comprises over 2,000 vendors, despite some consolidation during 2020. However, this is composed of many subcategories, majority of which are tactical. With this many vendors, the majority of chatbots will have to switch their underlying technology in the near to midterm future. Still a category of enterprise-grade platforms has emerged, with an estimated 120 vendors. These enterprise-grade platforms are becoming suitable as a more tactical choice.

User Recommendations

- Select an enterprise-grade platform to develop multiple use cases with orchestration of the assets needed.
- Focus on operationalization of chatbots as a product, with the necessary organization and roles in place, to evolve and maintain chatbots over time.

Sample Vendors

Amazon; Amelia; Cognigy; Google; IBM; Kore.ai; Microsoft; Pypestream; ServisBOT; Uniphore

Gartner Recommended Reading

[The 3 Decisions You Must Make Before You Begin a Chatbot Project](#)

[Consolidate Your Chatbot Initiatives Into a Single Enterprise Strategy](#)

[When Should I Use Embedded Conversational Assistants?](#)

Knowledge Management for CS

Analysis By: Drew Kraus

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Adolescent

Definition:

Knowledge management (KM) for customer service (CS) includes the creation, discovery and delivery of various forms of targeted content for support agents, customers, chatbots, peer-to-peer support communities and partners. It involves the accumulation and management of a knowledge repository and other knowledge assets, and the delivery of knowledge to appropriate people via desired channels. Artificial intelligence (AI)/machine learning (ML) and social ratings are enabling advances in this field.

Why This Is Important

KM systems and programs have been in place in many organizations for years — often underutilized or left abandoned from a lack of dedicated effort to keep content updated. However, the often-underwhelming performance of chatbots and VCAs can often be traced to reliance on basic FAQ answers, and the lack of an integrated KM system capable of delivering contextually relevant and personalized responses. KM is rapidly becoming critical for driving customer and employee self-service efforts.

Business Impact

New uses of ML, combined with communication via chatbots and devices, have created new opportunities and challenges for knowledge delivery. An emerging trend is the rapid expansion of contextual content into chatbots, virtual customer assistants (VCAs) and virtual personal assistants, and its integration with all customer service channels (such as mobile, web chat, messaging, email, voice and VCAs for self-service).

Drivers

- Increasing demand for contextually relevant responses for customer self-service — whether through chatbots, VCA or web searches.
- Requirements to improve agent performance, especially for newer agents working from home.
- Increasing awareness of Knowledge-Centered Service best practices for designing and maintaining KM programs and technologies.
- Gradual maturation of intent engines, natural language understanding (NLU) and ML for automation of knowledge content creation and curation.

Obstacles

- Resource requirements for a successful KM program are often underscoped due to cost considerations, resulting in systems that are poorly indexed and don't deliver direct answers to users' questions.
- Lack of long-term resource commitments to the ongoing development and curation of KM systems cause users to lose faith in the system when returned responses are out of date or otherwise incorrect.
- Technologies designed to automatically find, create and update KM content are still in the early phases of development and may be under the control of other organizational departments.

User Recommendations

- Appoint a dedicated team of knowledge subject matter experts to keep abreast of emerging technologies and their impact on KM, as well as to continuously enhance the knowledge engine and provide feedback.
- Collaborate with your peers in data and analytics to position knowledge management automation as a business value driver within larger, enterprisewide artificial intelligence (AI) programs.
- Develop programs to ensure that knowledge repositories will be created and kept up to date voluntarily by employees who are not motivated or compelled to do so.
- Establish an “unresolved” process on a self-service website, so that a user can notify the knowledge team if his or her query has not been resolved.
- Implement an SLA of 24 hours for the knowledge team to capture a resolution of all unresolved items.
- Ensure that all channels and agents in the customer engagement center use the same knowledge repository to provide consistent and accurate responses.

Sample Vendors

Coveo; eGain; Heretto; KMS Lighthouse; NICE (MindTouch); Oracle; Panviva; Salesforce; ServiceNow; Verint

Gartner Recommended Reading

[Improve Customer Self-Service Adoption by Automating Knowledge Capture and Curation](#)

[Delivering Relevant Content and Knowledge to Customers Is Key to Great Customer Service](#)

[Servicing Explosive Customer Demand With a Remote Workforce Compels Sharper Knowledge Management Practices](#)

[Rapidly Deploy a Knowledge Management Program to Support Work-From-Home Customer Service](#)

Field Service Workforce Optimization

Analysis By: Jim Robinson

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Field service workforce optimization optimizes the planning and dispatch of complex teams of field service technicians. This is done through software algorithms and machine learning that incorporate technicians' skills, previous results, SLAs, issue severity, travel conditions, parts availability and business rules. This innovation profile is focused on field services performed on customer-owned equipment at a customer site, rather than on company-owned equipment in its physical plant.

Why This Is Important

Successful field service providers are able to respond quickly, resolve issues in the first visit, and even provide service proactively. In order to do this, humans need to focus on triaging the most difficult problems, leaving rules-driven tasks — even complex, pattern-driven ones — to machines. Also, machines can identify patterns in scheduling inputs that humans cannot — like technician-specific estimated work durations and correlations between historical problem descriptions and parts needs.

Business Impact

Some business impacts include:

- Improved first-visit fix rate (which drives profitability and customer satisfaction [CSAT]).
- Reduced travel time (which drives utilization and, ultimately, profitability).
- Improved carbon footprint due to lowered fuel consumption.
- Reduced administrative effort (which drives the ability to repurpose talented dispatchers to more value-added activities).
- Narrower appointment windows and improved on-time arrivals (which drives CSAT).
- Lower spare-part inventory levels.

Drivers

Several trends are driving adoption in more industries, geographies and use cases. Trends include:

- The need to improve equipment uptime and optimize personnel utilization, fuel, overtime, shift coverage and travel time.
- Emerging channels that generate demand such as enterprise asset management (EAM), asset performance management (APM), geographic information systems (GIS), chatbots, Internet of Things (IoT) connected devices and machine customers that are empowered to make service requisition decisions. Service providers need to respond to these digitally using automation.
- Customers and their digital peers are able to provide more useful detail about the problem, such as meter reading trends and usage patterns. These are useful for making repair-or-replace decisions and aligning the appropriate skills, parts, available time and priorities and other inputs for scheduling. However, providers need to triage, assign and respond to these requests using rule engines where possible.
- Competitors have successfully leveraged historical data and artificial intelligence/machine learning (AI/ML) to make more informed scheduling decisions based on — for example — automated predictions of work duration, parts requirements and sources, and likelihood of cancelation.
- Pressure to improve carbon footprint is growing, as is the use of field service workforce management to drive down misaligned technician assignments (who might tend to use or waste more) and fuel consumption from unnecessary travel.
- Complex scheduling requirements such as long-cycle and crew work, which are difficult to accomplish manually at scale.
- Tighter integration between field service teams and other teams (such as project, maintenance, installation and customer service).

Obstacles

Some obstacles that organizations need to overcome are that:

- Opportunities to make predictions only exist if historical data is available and “clean” — i.e., organized in a way that it can be analyzed automatically. Many organizations do not yet have a standard lexicon of jargon that is consistent across all types of work. In many niche industries, even advanced natural language processing cannot overcome this.
- Similar capabilities are often part of larger field service management suites and are not always sold separately, so some customers may need to negotiate to avoid paying for functionality that is not needed.

User Recommendations

- Document high-volume, in-day scheduling volatility, or high-complexity scheduling requirements. As examples, consider whether the organization has technician schedules that change a lot due to job duration overruns, cancellations and urgent requests. Calculate how the volume of work orders per day increases the impact of reducing travel time between jobs.
- Advances in capabilities and vendor consolidations have begun to democratize functionality, but only at a basic level. Organizations must consider whether they need capabilities like support for multiple technicians per job, task dependencies, links to GIS, long-cycle (such as multiday) work and integrations to project and ticketing systems.
- Compare functionality with the capabilities built into field service management (FSM) applications, new FSM add-ons for CRM applications, and partnership applications that may exist elsewhere in the organization — and that may already be integrated into other systems of record.

Sample Vendors

Accruent; FLS; Geotab; IFS; Oracle; ServicePower

Gartner Recommended Reading

[Magic Quadrant for Field Service Management](#)

[Critical Capabilities for Field Service Management](#)

[Market Guide for Enterprise Asset Management Software](#)

Robotic Process Automation

Analysis By: Frances Karamouzis, Saikat Ray, Melanie Alexander

Benefit Rating: High

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Robotic process automation (RPA) tools are licensed software tools for building scripts to integrate any application via the user interface and a control dashboard/orchestrator, which automates routine, repetitive, rule-based, predictable tasks using structured digital data.

Why This Is Important

RPA is important for four reasons:

1. It acts as a catalyst to improve business or IT processes (either outdated, manual, brittle or ones needing recalibration due to new business demands).
2. Its ubiquity across all business areas — coupled with its bridging of fusion teams across constituencies (business, IT, enterprise architects) for design and delivery — acts as a galvanizing force focused on results.
3. RPA serves a role as “revealer” of tacit knowledge or processes in explicit areas for standardization and quality improvement.
4. Its relatively fast cycle time for recognizing results can bring cost savings and a reduction in errors.

Business Impact

The business value of RPA implementation is often stratified into three categories: efficiency, efficacy and business agility. Examples include cost savings, cycle time reduction, error reduction, higher quality, standardization, and the ability to pivot or adjust due to changing business dynamics.

The business impact of targeted tasks or processes deemed relatively low in complexity, routine and predictable are often quick wins (measured in weeks or months) with incremental and contained risk.

The business impact on larger, more complex business or IT processes involving multiple technologies beyond core RPA is higher risk, but also higher reward.

Drivers

The growth of RPA is driven by the widespread requirement to automate business processes and access to applications, often legacy applications.

The most important drivers of success include:

- Consistent and industrialized analysis of business and/or IT processes. This analysis includes profiling the tasks, end-to-end process and the data (volume, velocity and viscosity).
- Categorizing the profiles of the process and data for each RPA initiative into a strategic portfolio.
- Architecting a portfolio of technology choices that are not siloed only to RPA, but instead include low code application platforms (LCAP), integration platform as a service (iPaaS), business process automation (BPA), multiexperience (MXDP) and several other options.
- Establishing a center of excellence for analysis, deployment and ongoing management of the hyperautomation initiatives.
- Enabling a strong adaptive governance framework that is well-understood and enforced, which is imperative to manage risk.

Obstacles

The most significant obstacles to successful use of RPA are as follows:

- Selection of RPA software tools is difficult because of a lack of normalization across product categories and vendor landscapes. Buyer choice is complex as architecture, functionality span, pricing, TCO and multiuse applicability vary widely.

- There is a significant number of new entrants and expansion of functionality of existing vendors. Microsoft, IBM, SAP, ServiceNow and many other large vendors now have offerings with different value propositions, pricing and longer architectural approach.
- Existing, long-standing vendors have extensive R&D investments to extend the core RPA functionality, but also expand into complementary categories such as intelligent document processing, process mining, machine learning, analytics and user experience.
- Governance and total cost of ownership planning have become unforgiving mistakes that begin at the high-level design and deploy stages. Buyers are realizing that the initial success stories that appear to yield cost savings or other benefits become long-term, recurring nightmares to manage and sustain. They also pose significant risks for business process continuity and security.

User Recommendations

- Focus beyond RPA. Core RPA functionality is now commonplace in many different forms. However, it only represents one element of a larger hyperautomation portfolio of technologies that must work together harmoniously and synergistically to ensure both short-term wins and longer-term results.
- Understand that the starting point for your investment and overall RPA choices needs to be at the strategic design level. More specifically, it needs to account for the overall architecture of the hyperautomation strategy, which includes a portfolio rather than one targeted technology.
- Highly enable fusion teams. A fusion team is a multidisciplinary team that blends technology or analytics and business domain expertise and shares accountability for business and technology outcomes. Instead of organizing work by functions or technologies, fusion teams are typically organized by the cross-cutting business capabilities, business outcomes or customer outcomes they support.
- Adopt a product management discipline approach to oversee a capability end to end, from strategy to delivery and continuous enhancements. Ensure the use of multidisciplinary governance and coordination across business units, IT, security, sourcing and assurance functions.

Sample Vendors

AntWorks; Automation Anywhere; Blue Prism; Kofax; Microsoft; NICE; Pega; SAP; UiPath; WorkFusion

Gartner Recommended Reading

[Top Strategic Technology Trends for 2021: Hyperautomation](#)

[Predicts 2021: Accelerate Results Beyond RPA to Hyperautomation](#)

[Fusion Teams by the Numbers: An Empirical Analysis of Digital Business Teams](#)

Climbing the Slope

Mobile Field Service Management

Analysis By: Jim Robinson

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Mobile field service management digitalizes technician mobilization, collaboration, work order debrief, site evidence capture and follow-up initiation on mobile devices.

Technicians receive information and instructions for completing work orders at a customer site, then capture the tasks completed, issues identified, time spent, parts used, new knowledge and equipment collected for depot repair, even while offline. These facilitate management of customer equipment, invoicing and agreements.

Why This Is Important

Field service providers face pressure to provide detailed and timely debriefs about work completed, parts used, time spent, etc. in order to improve invoice collectability. At the same time, the average technician's skill level has eroded due to increased use of subcontractors and junior technicians, which increases the need for enablement and support capabilities. Dispatch organizations also seek to improve two-way technician communication efficiency and awareness of progress and location.

Business Impact

Mobile field service management improves:

- Invoice collectability with better data accuracy and timeliness by collecting data as work is completed.
- Customer experience through improved communication between technicians and customers.
- First-time fix rates and delivery consistency through guided repair capabilities.
- Premium pricing justification by tracking SLAs met and detailed "before and after" site evidence.

- Upselling, because trusted advisors more easily identify additional products and services.

Drivers

Mobile apps replace paper work orders and supporting forms and also enable digital support, collaboration and visualization of digital twin and geographical information system (GIS) data. Technicians can debrief work orders (capturing time and parts used, recommendations and site evidence) and also initiate downstream workflows through quoting, parts requisition and equipment surveying functions. We estimate that over half of field service providers with over 100 technicians have adopted mobile FSM apps.

Factors increasing adoption include:

- Enhancements to platforms upon which FSM vendors build apps have improved in recent years. This has lowered the effort needed for them to offer the ability to deep link and pass data to and from their app and one built by the customer or another vendor without requiring an additional login or UI change.
- The ability to operate while disconnected from the internet and to synchronize only relevant data automatically, securely and quickly has improved.
- No-touch services and an influx of inexperienced technicians require more remote collaboration between technicians and both customers and remote experts, which is enabled by FSM mobile apps and augmented reality vendor partners.
- Most mobile FSM apps help technicians communicate location and progress with the back office, other technicians and customers. Some are more robust in handling complexities, such as task management, crews and parts sourcing.
- Field service scheduling and workforce optimization tools have improved, but are most efficient when the location of the technician is available in real time. Mobile apps typically transmit this data, which is useful if the location of their vehicle is not known or not relevant.
- Regulatory and customer requirements to capture before and after pictures and customer approval signatures are driving the need to capture data for them to review while onsite and in a format that can be shared electronically when they are remote.

Obstacles

There are also obstacles to mass adoption, such as:

- Some organizations have chosen to develop apps in-house, which has slowed the pace of development of off-the-shelf solutions to improve user experience, offline function and integration.
- The emergence of better underlying technologies has prompted many vendors to rewrite their solutions. It often takes over a year for rewritten apps to reach parity with the legacy apps they are intended to replace.
- An expense for mobile devices (usually a phone, but occasionally a tablet and/or head-mounted display) is required, and bring-your-own-device has become unpopular among technicians due to challenges with support, device-specific issues, security and privacy.

User Recommendations

Application leaders in organizations with technicians who service customer equipment should:

- Evaluate options for field service mobile apps or risk losing competitive advantage. Some complex operations, such as quoting, parts sourcing, returns and crew time entry, are not present in most mobile apps out of the box.
- Pace deployment by prioritizing use cases and measuring the impact on productivity, customer satisfaction and costs.
- Evaluate apps that integrate with the ERP and CRM systems and existing apps.
- Check each vendor's live references to evaluate the strength of low-code and no-code development tools for integration, extensibility and configuration, and the technical expertise needed to use them, especially where forms require calculations or other programmability. The ability to support custom capabilities that vary based on attributes, such as work order type and contract entitlements, will help reduce the number of apps and paper processes that each technician must endure.

Sample Vendors

IFS; Microsoft; Oracle; OverIT; Salesforce; SAP; ServiceMax

Gartner Recommended Reading

[Why Machine Customers May Be Your Service Departments' Best Advocates](#)

[Critical Capabilities for Field Service Management](#)

Virtual Customer Assistant

Analysis By: Annette Jump, Danielle Casey

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Early mainstream

Definition:

A virtual customer assistant (VCA) is an application that engages, delivers information and/or acts on behalf of an organization's customer. It consists of five elements: a conversational customer-facing user interface that receives and delivers inputs and outputs, a natural language processing engine, a dialogue manager, a search engine that traverses data repositories through enterprise integrations, and a machine learning capability.

Why This Is Important

VCAs are the most prevalent use case of VAs and are being adopted by many organizations to support customer-facing interactions. The COVID-19 pandemic has accelerated this adoption, pushing some use cases into the mainstream adoption phase, but new use cases in healthcare or brand marketing are also emerging. Many of them are advanced VAs targeting specific domains, like sales or recruitment, with enhanced conversational capabilities and improved ability to understand user context.

Business Impact

VCA is a special-purpose VA for customer service, digital commerce, sales or marketing. The top business value benefits that organizations are getting with VCA are improving operational efficiency, reducing costs and enabling 24/7 support while improving customer experience. This is enabled by moving engagements to self-support channels with faster time to resolution. VCAs can also be used for proactive advice and engagement to build loyalty and customer satisfaction.

Drivers

VCA is now the first contact point to support multiple customer interactions via digital engagement channels or within call centers. It can be a moderator of a social community, a guide on your mobile device to purchase new fitness equipment or a chat agent to help you open a bank account. The business and technology factors that are driving adoption are the following:

Business drivers:

- The need to adapt to new remote working and remote customer engagement requirements due to the COVID-19 pandemic is moving basic VCA technology further into early majority adoption.
- The requirement to support business continuity and reduce operational costs in the last 12 months is driving adoption.
- High-profile successes of VCA adoption in finance and telecommunications have extended to new verticals, such as retail, government, transportation and healthcare.

Technology drivers:

- Advancements in NLT enable enhanced conversational capabilities and improved ability to understand user context and support multimodal capabilities.
- Prebuilt connections with enterprise applications support easier integration and deployment.
- Demand for more natural interactions with customers is driving the use of voice in VCA.

VCA will have a bigger impact on the automation of customer interactions in the next two to three years.

Obstacles

There are still multiple challenges in adopting and deriving business value from VCA:

- A lack of domain-specific knowledge or lack of integration with required internal enterprise applications and knowledge databases hinders time to value for organizations.

- The current generation of VCA deployments are often not developed optimally. Many won't reach the required customer satisfaction and engagement levels without domain-specific content and training models.
- Obstacles around organizational acceptance stems from unrealistic business expectations about VAs, unsuccessful previous VA deployments or low customer awareness about technology.
- Delivering quantifiable results around value and experience is a challenge. Many low-end VCAs deliver a poor user experience, create friction and do not deliver business benefits.

User Recommendations

- Design a proactive customer service strategy by understanding and focusing on the customers' needs, with a clear valuable reason for the contact.
- Design for proactive continuous customer journeys that are responsive to continuous change.
- Find the greatest-frequency, simple conversations that constitute a complete call and that can be easily automated with a low risk of customer dissatisfaction.
- Accelerate your solution's time to market by leveraging partner capabilities (such as domain expertise or language skills) that can add value to your chosen platform to avoid building everything from the ground up.
- Build the business case to move VCA and customer service from a cost center to a profit center.

Sample Vendors

[24]7.ai; Amelia; Artificial Solutions; Boost.ai; Haptik; IBM Watson Assistant; Kore.ai; OneReach.ai; Oracle Digital Assistant; Soul Machines; Yellow.ai

Gartner Recommended Reading

[Emerging Technologies: Top Customer-Facing Use Cases for Advanced Virtual Assistants](#)

[Emerging Technologies: Top Use Cases for Advanced Virtual Assistants in Enterprise Operations](#)

[Emerging Technologies: Top Business Value Patterns in Advanced Virtual Assistant Adoption](#)

[Emerging Technologies: Conversational AI Is Most Integrated for Product Solutions but Challenges Remain](#)

[Emerging Technologies: Research Roundup for NLP and Conversational UI](#)

Customer Engagement Center

Analysis By: Nadine LeBlanc

Benefit Rating: High

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

A customer engagement center (CEC) provides customer service and support functionality by engaging intelligently — both proactively and reactively — with customers by answering questions, solving problems and giving advice. The orchestration of intelligent customer processes through a CEC application is typically built around case management but also extends to emerging approaches such as conversation-based customer engagement.

Why This Is Important

COVID-19 demanded immediate action from customer service organizations and accelerated demand for, and adoption of, CECs at scale. Customer engagement centers will become a key component of a broader customer engagement hub framework to help orchestrate consistent and intelligent experience across all customer-facing departments in order to improve resilience and achieve optimal performance.

Business Impact

Superior customer service is expected to be trusted, effortless and personalized while translating into better ROI and business outcomes. From extreme self-service to high-touch-assisted service, CEC technologies are applicable for organizations of all sizes and industries. In addition, CEC solutions can support organizations beyond the customer service function to navigate the disruption and uncertainty caused by COVID-19.

Drivers

- Over the past five years, Gartner has observed important changes in how organizations handle customer service. Whereas formerly a single department would respond to customers' needs, increasingly, customer service is now a cross-departmental function that requires coordination.
- To support these changes, we observed a leap forward in investment and acquisition by larger customer engagement center vendors in the areas of artificial intelligence (AI), conversational bot, hybrid integration, real-time continuous intelligence, identity and access management, analytics, and event streaming.
- In many cases, functional innovation has moved toward deploying first to cloud-based CEC offerings and then retrofitting toward other deployment models.

Obstacles

- The customer service technology landscape includes myriad vendors and offerings in areas such as the CEC, contact center applications, workforce engagement management (WEM) and field service management. Although a unified customer service suite spanning these domains does not yet exist, the market is gradually shifting in that direction.
- Customer service organizations are largely set up to wait for customers to engage. This reactive approach prevents organizations from identifying key requirements helping them to make sense of the overlapping application landscape that continues to grow in complexity.
- This reactive approach also results in experiences involving a high degree of effort from customers and limited self-service effectiveness and profitability, especially as customers often switch channels or use multiple channels concurrently.

User Recommendations

- Expand CEC focus beyond customer service and support use cases by prioritizing vendors offering low-code development capabilities for application UX development, additional workflows and composability support across their SaaS and other APIs.
- Shift away from reactive channel-focused capabilities toward supporting proactive customer journeys with an appropriate mix of digital touchpoints and interaction modalities (or multiexperience) by prioritizing vendors with digital engagement, automation of engagement and knowledge management capabilities.
- Invest in AI technologies that have virtual agent functionality and usability. Prioritize vendors with advanced automation of engagement paired with real-time continuous intelligence capabilities.

Sample Vendors

Freshworks; Microsoft; Oracle; Pegasystems; Salesforce; SAP; ServiceNow; Zendesk

Gartner Recommended Reading

[Magic Quadrant for the CRM Customer Engagement Center](#)
[The Future of the Customer Engagement Center](#)

[Infographic: Artificial Intelligence Use-Case Prism for Customer Service](#)

[2021 Strategic Roadmap for Customer Service and Support: 10 Dilemmas](#)

Proactive Comms Apps and Services

Analysis By: Drew Kraus

Benefit Rating: High

Market Penetration: 5% to 20% of target audience

Maturity: Early mainstream

Definition:

The term “proactive communications applications and services” refers to the use of a variety of outbound customer service communication channels to provide wholly or partly automated interactions with established and prospective clients, and other interested parties. Business rule engines, and workflow and analytics tools are typically required to execute these interactions. Developments in AI and machine learning are beginning to deliver further advancements.

Why This Is Important

As consumers are increasingly web- and mobile-dependent, they expect their preferred providers to “know” them and to anticipate their needs. Proactive communications applications and services extend beyond simple mass alerting and notification interactions to provide avenues for personalized and two-way customer service communications and transaction completion.

Business Impact

Business impacts of proactive communications applications and services include:

- Lower operational costs brought about by circumventing expensive inbound customer contacts.
- Enable faster responses to events and conditions.
- Improve sales, customer service and customer loyalty.

Some high-profile uses of the technology exist in the market today, for example:

- Flight status notification systems used by airlines.
- Potential credit card fraud alerts and authentication.
- Appointment confirmation systems for field service.
- Integration with location services (GPS) for location-based offerings.

Drivers

Drivers of adoption for this capability include:

- A strong ability to justify costs based on deflecting calls and contacts from reaching agents.

- Maturing component technologies in areas such as business rule engines, and workflow and analytics tools.
- Targeted nature of use cases requires less development of alternative user paths than would typically be required for inbound conversational interfaces.
- Proliferation of communications platform as a service (cPaaS) offerings to enable custom in-house or systems-integrator-built solutions.
- Growing awareness of vendors offering prepackaged solutions.

Obstacles

Inhibitors of adoption of this capability include:

- Often stringent regulatory compliance requirements with communications and data protection laws such as GDPR, HIPAA and PCI among others.
- Lack of awareness of industry-specific use cases.
- These solutions can be perceived as “nice-to-haves” and be lower down on customer service priority lists.

User Recommendations

Companies looking to differentiate by using innovative customer service technologies to strengthen customer loyalty, as well as looking to extend the capabilities of their customer engagement strategies while reducing customer service costs, should:

- Investigate proactive communications applications and services. These solutions tend to be a good fit for organizations with above-average digital maturity — those already using multiple channels and anticipating customer needs to achieve high levels of customer engagement.
- Develop a plan for the future of proactive communications applications and services. During the next five years, these applications and services will become more common and less of a differentiator, but their associated cost savings will help increase adoption among companies fitting the “mainstream” and “late adopter” profiles of technology adoption.

Sample Vendors

[24]7.ai; Adobe; Amazon Connect; Genesys; Intrado; NICE; Nuance; Salesforce; Selligent; Twilio

Consumer Messaging Applications

Analysis By: Sandy Shen

Benefit Rating: Moderate

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Consumer messaging applications are chat apps that enable consumers to communicate among themselves and with organizations. These apps allow organizations to increase customer satisfaction with responsive communications for marketing, sales, commerce and service.

Why This Is Important

Consumer messaging applications can be an effective platform for customer engagement and support use cases such as marketing, sales, customer service and digital commerce. Organizations can use these platforms to increase customer touchpoints that contribute to the omnichannel experience.

Business Impact

Consumer messaging applications are most used for B2C, but are increasingly being used for B2B to support direct sales and engage channel partners. More organizations will use messaging apps instead of native apps to provide better customer service, and those that successfully leverage such apps will broaden the reach to customers, generate traffic to direct channels and improve customer satisfaction and loyalty.

Drivers

- Messaging apps are among the top apps that people use on a daily basis, thus becoming effective channels for organizations to reach and engage customers.
- Messaging apps offer a range of tools for various business needs. For example, WeChat offers in-app messaging, official accounts, embedded browsers and mini programs for marketing, commerce and customer service. Facebook's Messenger and WhatsApp offer tools to enable customer profile creation, chat management and storefront setup.
- Sophisticated implementations allow traffic generation from the messaging app to branded mobile apps and websites, enabling customer acquisition and richer experience.
- Except for commerce functions, which are being piloted on most platforms, most other functions have reached mainstream and are being adopted by mainstream organizations.

Obstacles

- Organizations lack a unified experience strategy offering continuous and personalized experience beyond an omnichannel experience. They don't have consolidated customer data across all channels, or integration across applications to deep-link the experience such as service conversation, browsing experience or the purchase journey. This undermines the value of consumer messaging apps in traffic generation and unified experience.
- Most consumer messaging platforms don't offer enterprise-grade security protection. Organizations don't have control of the data created on or imported to these platforms, nor can they implement security technologies such as multifactor authentication or data loss prevention over such platforms. Some platforms support monitoring and archiving solutions but API capabilities and accessibility vary by platform, leading to case-by-case implementation and configurations.

User Recommendations

- Start by using consumer messaging applications to address the most common types of customer interactions such as account balance, order status and change notifications. Seek to develop a unified strategy beyond omnichannel to enable continuous experience across channels.
- Limit the number of items in the shop when using messaging applications for commerce, and implement additional technologies such as search and filters to make products more discoverable.
- Investigate the security practices of consumer messaging platforms and design mechanisms to fill the gaps to comply with your organization's security policies. Acknowledge the fact that some messaging platforms don't offer enterprise-grade security and you need to put in place usage policies about not sending sensitive information such as customer or pricing data over those platforms. In regulated industries such as financial services, consider implementing monitoring and archiving solutions for target messaging platforms.

Sample Vendors

Facebook; LINE; Tencent

Gartner Recommended Reading

[Updating B2C Social Messaging Strategies to Resonate With Consumers During a Crisis](#)

[Market Guide for Communications Platform as a Service](#)

Contact Center as a Service

Analysis By: Steve Blood, Drew Kraus

Benefit Rating: Moderate

Market Penetration: 20% to 50% of target audience

Maturity: Early mainstream

Definition:

Contact center as a service (CCaaS) is a cloud-based application service platform that enables customer service organizations to manage multichannel customer interactions holistically with prepackaged applications to support customers and employee engagement. CCaaS solutions are used by organizations that need to manage front-office operations such as customer service, telemarketing and employee service and support centers.

Why This Is Important

CCaaS is a growth market, fueling investment in innovation and customer service applications, surpassing the offers of legacy premises-based or server technology. Now that CCaaS is a foundation of multichannel customer service, application leaders can explore the advantages of the suite offer. They can add workforce engagement and analytics in place of stand-alone applications, offering a more integrated set of services for a lower cost of ownership.

Business Impact

- CCaaS offers an agile business model for investing in technology for engaging with customers through self and assisted-service channels — applicable to all market segments and vertical industries.
- A range of packaged applications and marketplace add-ons enable organizations to extend the services offered to customers and employees for improved experiences.
- Cloud enables organizations to focus on transforming customer experience, rather than managing the day-to-day technology needs of users.

Drivers

- Greater software agility with a lower cost of ownership has always been a key driver for investing in CCaaS. It accelerated during the 2020 pandemic as customer service organizations struggled to meet the requirements of remote working and increasing volumes of customer inquiries.
- As CCaaS providers and their partners stepped up to meet customer challenges caused by the pandemic, organizations began to experience the superior capabilities of cloud that surpass the limited investments made by legacy premises-based technology providers.
- The trend in 2021 for contact center investment is very clearly now a cloud-first approach. Customer service leaders are working with IT leaders to plan consolidating multiple instances of premises-based contact center and first generation CCaaS into a common organizational-wide platform. This is leading to greater scale of users (more than 5,000 seats is becoming typical) and broader geographical reach across multiple continents.
- Digital transformation in terms of self-service as well as shifting telephone calls to message-based channels is another key driver for customer service organizations in 2021. CCaaS providers are well-placed to manage digital as well as telephone channels, and have an agnostic approach to orchestrating customers' best preferred conversational AI technology for self-service.
- The increased focus by customer service leaders on supporting employees irrespective of work location drives adoption of CCaaS providers' native workforce engagement management tools.

Obstacles

- The ability for organizations to migrate very large numbers of users to a CCaaS platform is hampered by retraining and orientation challenges. The cost associated with migration limits the speed at which organizations can adopt CCaaS.
- CCaaS providers offer service to sub-100 seat customer service environments with less stringent needs for service uptime. As organizations grow to thousands of users, there needs to be a stronger focus on resilience and uptime. While 99.99% as a standard SLA is acceptable for most organizations, a more mature approach to service credits for non-performance and service meeting structure is necessary.
- Most CCaaS providers have been focused on replacing legacy PBX-based contact center infrastructure with a core focus on the telephone channel. As organizations adopt a digital-first strategy, the telephony-centric licensing terms may not look as attractive as offers from digital customer service technology and customer engagement center software providers.

User Recommendations

- Reduce the impacts of transitioning off legacy systems by focusing on providers with referenceable transition frameworks and methodologies for migrating from relevant on-premises systems to their CCaaS offerings.
- Focus on CCaaS solutions that leverage native functionality, or are accessed through provider marketplaces that span all four functionality pillars of great customer service — getting connected, process orchestration, knowledge and insight, and resource management.
- Place increased evaluation weighting on flexible pricing models that can accommodate plans for shifting customer demand away from live assistance and toward digital self-service, and for variability in staffing requirements associated with the coronavirus pandemic and its eventual aftermath.
- Incentivize service uptime by defining tight SLAs and service terms, and agreeing responsibilities between the CCaaS provider and the business unit for the duration of the contract.

Sample Vendors

8x8; Content Guru; Five9; Genesys; NICE (CXone); Talkdesk; Vonage

Gartner Recommended Reading

[Magic Quadrant for Contact Center as a Service](#)

[Critical Capabilities for Contact Center as a Service](#)

[How to Choose Your Best-Fit Vendor for Contact Center as a Service](#)

[How to Negotiate a Favorable Contact Center as a Service Contract](#)

[Gartner Peer Insights 'Lessons Learned': Implementing Contact Center as a Service, North America](#)

Entering the Plateau

WFH Agent Technology

Analysis By: Drew Kraus

Benefit Rating: Moderate

Market Penetration: More than 50% of target audience

Maturity: Mature mainstream

Definition:

Work-from-home (WFH) agent technology enables contact centers to station some or all of their agents at home, in other off-site locations or in small satellite centers. Solutions may include a VPN connection, via broadband, to agents' locations, as well as a thin- or web-client agent desktop interface, to provide agents with access to CRM and contact center call control features. A voice path is typically provided by voice over IP (VoIP) technology over a VPN connection or a home telephony line.

Why This Is Important

The pandemic has forced most contact centers to support WFH agents, at least temporarily. Many organizations used technologies and operational processes that were "good enough to get by" during the early stages of the pandemic. Many are now considering allowing at least some of their agents to continue working from home even after the health crisis abates, but are often reviewing technologies and processes to optimize what will become standard practice.

Business Impact

- The adoption of WFH contact center technology in response to the pandemic has organizations better prepared to maintain business continuity during future disasters.
- Integration to enterprise collaboration tools has risen in importance to help agents interact with supervisors, peers and SMEs.
- Workforce engagement management (WEM) tools have also risen in importance to more optimally staff, monitor and analyze operations while keeping agents prepared to deliver high-quality interactions.

Drivers

In addition to COVID-19 forcing the adoption of WFH agent technology, other adoption drivers and benefits include:

- WFH programs can reduce real estate costs when staffing levels grow beyond a site's physical capacity.
- WFH can support flexible working in relation to "off hours" and seasonal or other spikes in call volume.
- Some organizations can reduce real estate costs by reducing on-premises staffing requirements.
- WFH can accommodate workers with disabilities who may have difficulty commuting to work.
- WFH can also enable employees who have contagious illnesses, such as the common cold, but who are well enough to work to do so safely.
- Permission to work from home on a full- or part-time basis can be offered as a benefit to agents to reduce their costs and the amount of time they spend commuting.
- Support for home working can also enable a company to recruit agents from a wider area, which could make it easier to hire agents with scarce skills.
- Some agents will be willing to accept lower pay in order to work from home.

Obstacles

- Ensuring adequate broadband and, in some cases, telephony service for agents living in rural settings or in developing economies
- Ensuring an adequate working environment free of distractions for WFH agents
- High cost and, in some cases, poor quality of legacy premises-based contact center platforms ability to support WFH technology
- Supporting voice quality over IT's typically preferred Citrix agent desktops
- Onboarding new agents that require close initial supervision
- Providing WFH equipment such as laptops or Google Chromebooks to agents in high turnover environments

User Recommendations

Software decision makers responsible for contact center technology investments should:

- Investigate technology providers' ability to support both thin client agent interfaces and quality monitored telephony services in all relevant geographies.
- Work with contact center operations staff to determine requirements for supporting integration to enterprise collaboration tools.
- Work with contact center operations staff to reevaluate whether WEM tools meet the needs of remote agent management practices.

Sample Vendors

8x8; Aspect Software; Avaya; Cisco; Content Guru; Five9; Genesys; NICE CXone; Talkdesk; Vonage

Gartner Recommended Reading

[Delivering Customer Service During COVID-19: 3 Steps to Implement Business Continuity in the Contact Center](#)

[Toolkit: Negotiating Effective SLAs for Global Managed WAN Services](#)

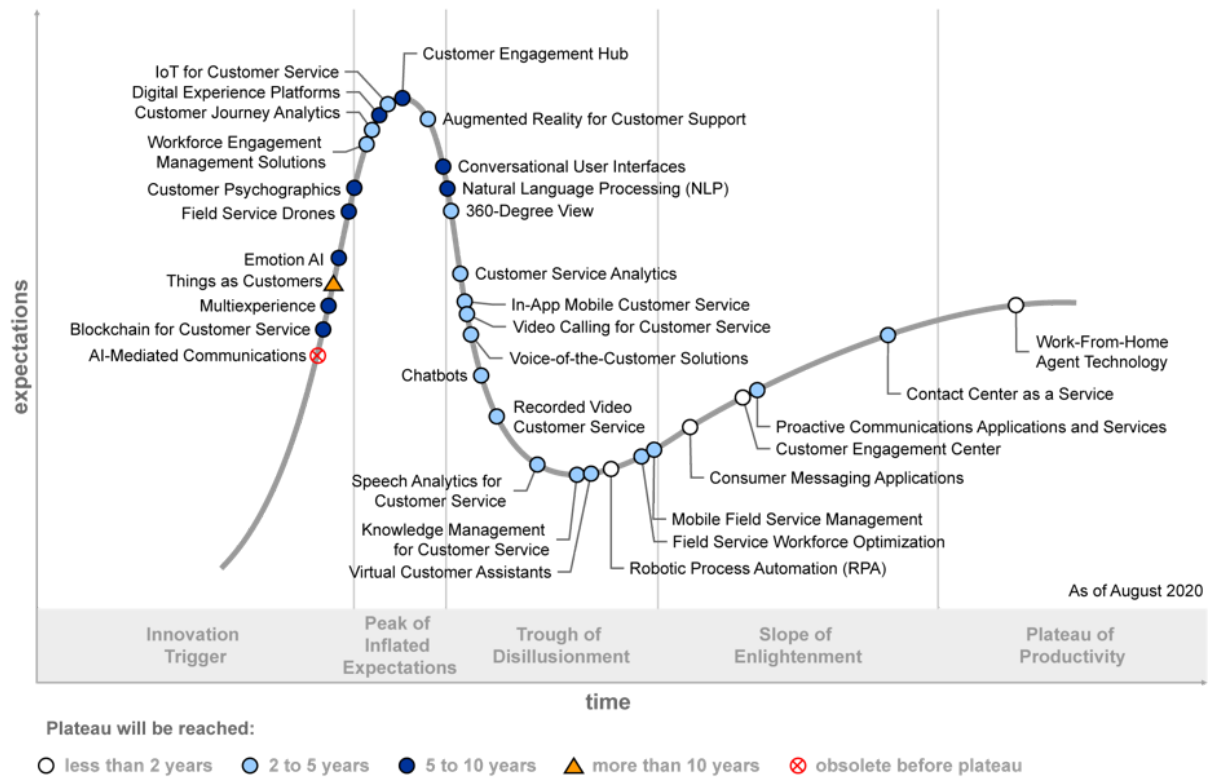
[Overcome the Top 3 Challenges to Setting Up Contact Center Agents for Remote Working](#)

[How to Optimize Microsoft Teams With Cloud Contact Center Platforms](#)

Appendixes

Figure 2. Hype Cycle for Customer Service and Support Technologies, 2020

Hype Cycle for Customer Service and Support Technologies, 2020



Source: Gartner
ID: 463595

Gartner

Hype Cycle Phases, Benefit Ratings and Maturity Levels

Table 2: Hype Cycle Phases

(Enlarged table in Appendix)

<i>Phase</i> ↓	<i>Definition</i> ↓
<i>Innovation Trigger</i>	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
<i>Peak of Inflated Expectations</i>	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
<i>Trough of Disillusionment</i>	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales
<i>Slope of Enlightenment</i>	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
<i>Plateau of Productivity</i>	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
<i>Years to Mainstream Adoption</i>	The time required for the innovation to reach the Plateau of Productivity.

Source: Gartner (August 2021)

Table 3: Benefit Ratings

<i>Benefit Rating</i> ↓	<i>Definition</i> ↓
<i>Transformational</i>	Enables new ways of doing business across industries that will result in major shifts in industry dynamics
<i>High</i>	Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise
<i>Moderate</i>	Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise
<i>Low</i>	Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (August 2021)

Table 4: Maturity Levels

(Enlarged table in Appendix)

<i>Maturity Levels</i> ↓	<i>Status</i> ↓	<i>Products/Vendors</i> ↓
<i>Embryonic</i>	In labs	None
<i>Emerging</i>	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
<i>Adolescent</i>	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
<i>Early mainstream</i>	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
<i>Mature mainstream</i>	Robust technology Not much evolution in vendors or technology	Several dominant vendors
<i>Legacy</i>	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
<i>Obsolete</i>	Rarely used	Used/resale market only

Source: Gartner (August 2021)

Acronym Key and Glossary Terms

Evidence

Strategic Trends and Priorities for Service and Support Leaders in 2021

This research was conducted through a direct survey to 81 of Gartner's seniormost customer service and support clients, across 17 different industries and consisting of 38% B2C, 27% B2B, 22% B2B and B2C and 12% B2B2C.

Recommended by the Author

Some documents may not be available as part of your current Gartner subscription.

[Understanding Gartner's Hype Cycles](#)

[Create Your Own Hype Cycle With Gartner's Hype Cycle Builder](#)

[Customer Service and Support Technology Primer for 2021](#)

[Magic Quadrant for Contact Center as a Service](#)

[Magic Quadrant for the CRM Customer Engagement Center](#)

[Market Guide for Digital Customer Service and Support Technologies](#)

[Magic Quadrant for Workforce Engagement Management](#)

[The Gartner Customer Service Technology Vendor Guide, 2019](#)

[2021 Strategic Roadmap for Customer Service and Support: 10 Dilemmas](#)

[Critical Capabilities for Field Service Management](#)

© 2021 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. It consists of the opinions of Gartner's research organization, which should not be construed as statements of fact. While the information contained in this publication has been obtained from sources believed to be reliable, Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information. Although Gartner research may address legal and financial issues, Gartner does not provide legal or investment advice and its research should not be construed or used as such. Your access and use of this publication are governed by [Gartner's Usage Policy](#). Gartner prides itself on its reputation for independence and objectivity. Its research is produced independently by its research organization without input or influence from any third party. For further information, see "[Guiding Principles on Independence and Objectivity](#)."

Table 1: Priority Matrix for Customer Service and Support Technology

Benefit ↓	Years to Mainstream Adoption			
	Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Transformational			Multiexperience	
High	Chatbots Customer Engagement Center Robotic Process Automation Virtual Customer Assistant	Augmented Reality for Customer Support Communications Platform as a Service (CPaaS) Customer Service Analytics Customer Service Suites Digital Customer Service Field Service Workforce Optimization Knowledge Management for CS Mobile Field Service Management Proactive Comms Apps and Services Video Contact Center VoC Applications WEM Applications	Blockchain for Customer Service Customer Engagement Hub	Machine Customers VEAs for Customer Service

Benefit ↓	Years to Mainstream Adoption			
	Less Than 2 Years ↓	2 - 5 Years ↓	5 - 10 Years ↓	More Than 10 Years ↓
Moderate	Consumer Messaging Applications Contact Center as a Service WFH Agent Technology	Speech Analytics		
Low				

Source: Gartner (August 2021)

Table 2: Hype Cycle Phases

Phase ↓	Definition ↓
<i>Innovation Trigger</i>	A breakthrough, public demonstration, product launch or other event generates significant media and industry interest.
<i>Peak of Inflated Expectations</i>	During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the innovation is pushed to its limits. The only enterprises making money are conference organizers and content publishers.
<i>Trough of Disillusionment</i>	Because the innovation does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales
<i>Slope of Enlightenment</i>	Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the innovation's applicability, risks and benefits. Commercial off-the-shelf methodologies and tools ease the development process.
<i>Plateau of Productivity</i>	The real-world benefits of the innovation are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. Growing numbers of organizations feel comfortable with the reduced level of risk; the rapid growth phase of adoption begins. Approximately 20% of the technology's target audience has adopted or is adopting the technology as it enters this phase.
<i>Years to Mainstream Adoption</i>	The time required for the innovation to reach the Plateau of Productivity.

Phase ↓

Definition ↓

Source: Gartner (August 2021)

Table 3: Benefit Ratings

Benefit Rating ↓

Definition ↓

Transformational

Enables new ways of doing business across industries that will result in major shifts in industry dynamics

High

Enables new ways of performing horizontal or vertical processes that will result in significantly increased revenue or cost savings for an enterprise

Moderate

Provides incremental improvements to established processes that will result in increased revenue or cost savings for an enterprise

Low

Slightly improves processes (for example, improved user experience) that will be difficult to translate into increased revenue or cost savings

Source: Gartner (August 2021)

Table 4: Maturity Levels

<i>Maturity Levels</i> ↓	<i>Status</i> ↓	<i>Products/Vendors</i> ↓
<i>Embryonic</i>	In labs	None
<i>Emerging</i>	Commercialization by vendors Pilots and deployments by industry leaders	First generation High price Much customization
<i>Adolescent</i>	Maturing technology capabilities and process understanding Uptake beyond early adopters	Second generation Less customization
<i>Early mainstream</i>	Proven technology Vendors, technology and adoption rapidly evolving	Third generation More out-of-box methodologies
<i>Mature mainstream</i>	Robust technology Not much evolution in vendors or technology	Several dominant vendors
<i>Legacy</i>	Not appropriate for new developments Cost of migration constrains replacement	Maintenance revenue focus
<i>Obsolete</i>	Rarely used	Used/resale market only

Source: Gartner (August 2021)