



# The Pathway To Contact Center Modernization

ARTIFICIAL INTELLIGENCE AND  
MACHINE LEARNING

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## EXECUTIVE SUMMARY

Ecosystem researchers find that 49 percent of executives in the Asia Pacific region consider it a critical business priority to improve their customer experience (CX) journey.

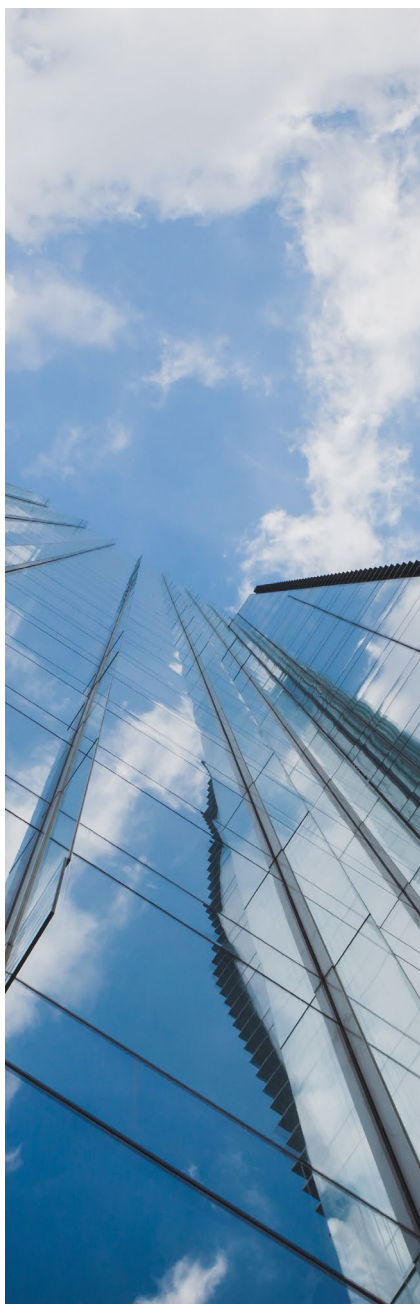
Organizational leaders realize that advancing their CX can result in better brand recognition, which can then lead to increased sales and revenue growth. As a result, many organizations rank successful CX improvement higher than overall revenue growth.

Despite this understanding, business leaders struggle to tie CX initiatives to their business goals, resulting in outcomes that are difficult to quantify. Consequently, they are often unable to identify the gaps and make required systemic improvements where they can best impact the customer journey. They struggle to finalize a strategy to automate, simplify, and modernize their contact center operations. Thus, many organizations within the Asia Pacific region remain locked in legacy architecture. The continued use of legacy technologies often leads to siloed customer information, which builds a dissatisfied customer base, driving costs higher, and distances the business from ever-evolving customer expectations.

Those customer expectations can influence an organization's adoption of cloud solutions that incorporate and rely on cutting-edge technologies, like artificial intelligence (AI) and machine learning (ML). In a world where customers are becoming increasingly tech-savvy and demand a more personalized CX, companies can significantly benefit from an improved access to data and insights that predict CX patterns and trends, provided by cloud applications. This more extensive CX technique, combined with strategic and measurable customer-centric goals, enables companies to proactively drive premium customer engagement.

This whitepaper provides best practices for achieving contact center modernization using a step-by-step approach. Data points referred to in this paper provide an Asia Pacific-centered perspective, based on findings from the global Ecosystem CX Study.





## THE DRIVE TO MODERNIZE THE CONTACT CENTER

Contact center decision makers who use legacy architecture often struggle to realize their desired CX outcomes.

These legacy limitations include:

- Expensive and time-consuming proofs of concept
- High maintenance and support costs
- Complex integration of telephony with customer relationship management (CRM), service management, and enterprise resource planning (ERP) solutions
- Difficulty in data extraction for insightful reporting
- Inability to implement AI and ML to understand customer feedback better, predict patterns, and proactively drive customer engagements

These challenges have led organizations to evaluate available cloud contact center solutions. In Asia Pacific, one-third of the organizations with a contact center use complete cloud-based solutions. Another 64 percent of organizations with contact centers use one or more cloud-based applications and could potentially accelerate a full migration to the cloud.

The COVID-19 pandemic offers an added reason to migrate customer interactions to cloud technology. It has forced many contact center operators to rapidly provision remote working options for their service agents. As the pandemic has unfolded, the efficacy of cloud-based solutions to enable remote working options for agents has become evident.

Contact center operators understand they can implement these cloud-based solutions quickly and scale them as needed. These solutions come with additional advantages, such as agility (allowing real-time changes), capacity (scaling up or down according to need), and pay-as-you-go options. These changes result in less time spent on maintenance, upgrades, and capacity management.

One of the key reasons that CX managers choose to adopt cloud contact center solutions is to mitigate disaster recovery risks and provide more options for improved business continuity planning (Figure 1). Organizations with cloud-based contact centers found that they could route their call flows easily and make their home-based agents functional within hours of deploying a work-from-home policy.

As shown in Figure 1, organizations can derive the following benefits from modernizing their contact centers and adopting cloud-based solutions:

- **Agility.** Contact centers using cloud technology can readily, quickly, and inexpensively pivot their strategies. Operations managers now have the power to edit and evolve call flows, ensuring that call center processes are quickly adapted to meet market needs. This means agents are equipped to support a new product launch in hours, not weeks or months.
- **Innovation.** With cloud applications, contact center managers can innovate within their

cloud-based framework to deliver an agile experience that exceeds customer expectations. This can look like something as simple as replacing a generic interactive voice response (IVR) with a personalized greeting, based on relevant customer data. Contact centers can innovate further to predict consumer intent, based on real-time access to connected customer information, like reservation and ticketing systems. Managers find that they can be in charge of innovation because they are not reliant on IT departments that are often overwhelmed.

- **Deep insights.** Cloud solutions make customer records and activity logs easily accessible to approved managers. Business

Intelligence (BI) and analytics tools provide flexibility to customer interactions by delivering data-driven insights faster and in real-time, with scenario-based modeling options. These insights will further empower executives, managers, and agents to address bottlenecks and continue innovating on their success.

- **Better resource allocation.** The scalability afforded by cloud solutions can help contact centers redistribute resources according to demand. With this capability, the CX operations team can better manage resource allocation and take ownership of the technology, thus improving productivity while reducing overreliance on internal IT.

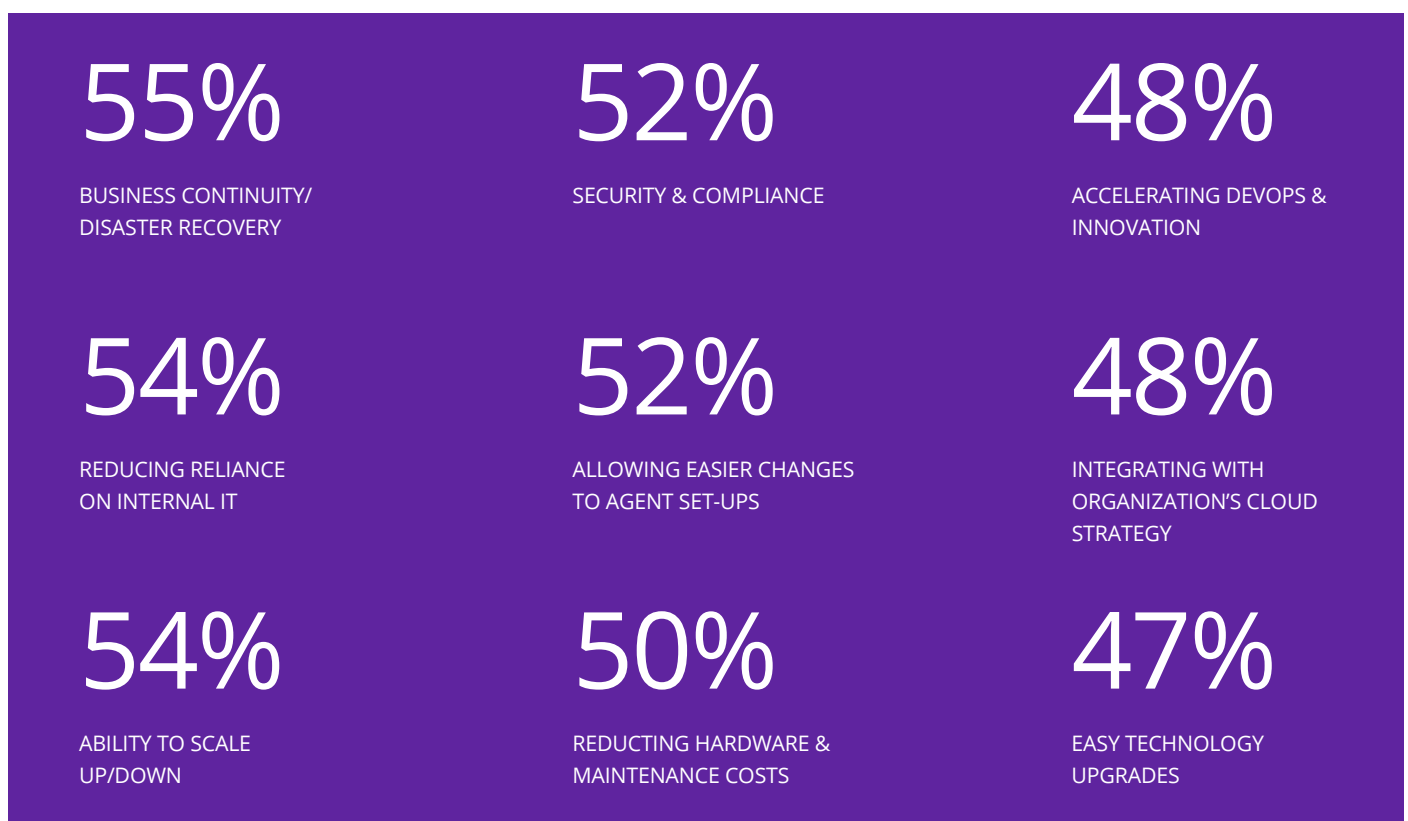


Figure 1. Reasons for Adopting Cloud Contact Center Solutions – Asia Pacific

Source: Ecosystem, 2020 N=242

- **Cost savings.** The pay-as-you-go cloud service model optimizes cash flow and reduces the need for high capital expenditures. These solutions offer innovative, per-minute pricing and by using live chat services or chat bots to automate CX, the minutes of voice usage can be reduced to lower cost and improve CX.
- **Security.** Cloud providers are recognized for mitigating security risks because of their economies of scale. With mature cloud frameworks that specify accountabilities, executives can invest in security resources and provide service levels that would be challenging for unequipped organizations to offer. As country-level compliance and data protection laws become more stringent, cloud providers have the added capability to upgrade services so enterprises always meet core security and compliance requirements, like data location, protection, and confidentiality.



# BEST PRACTICES FOR CONTACT CENTER MODERNIZATION

## #1 RE-EVALUATE TECHNOLOGY PRIORITIES TO IMPROVE CX

Nearly 60 percent of organizations with a contact center are migrating their operations to cloud solutions (Figure 2). To ensure their migration to the cloud is successful, CX leaders must first re-evaluate their technology priorities.

As shown in Figure 2, investing in AI and ML is a top priority for decision makers in pursuit of a better CX. To realize the benefits of AI and ML, organizations will need to integrate and implement these technologies across the entire customer journey. Below is a list of how CX technology can be used before, during, and after a customer call:

- Prior to inbound interactions, analytics can be applied to send outbound messages, pre-empt customer calls, and predict caller needs.
- On receiving a call, voice biometrics can be used to verify the identity of the customer.
- Natural Language Processing (NLP) can be applied to online interactions and chatbots, offering a seamless transfer to a service agent as queries become more complicated.
- Conversations can be transcribed, and real-time insights reported and organized according to sentiments, keywords, and compliance requirements.

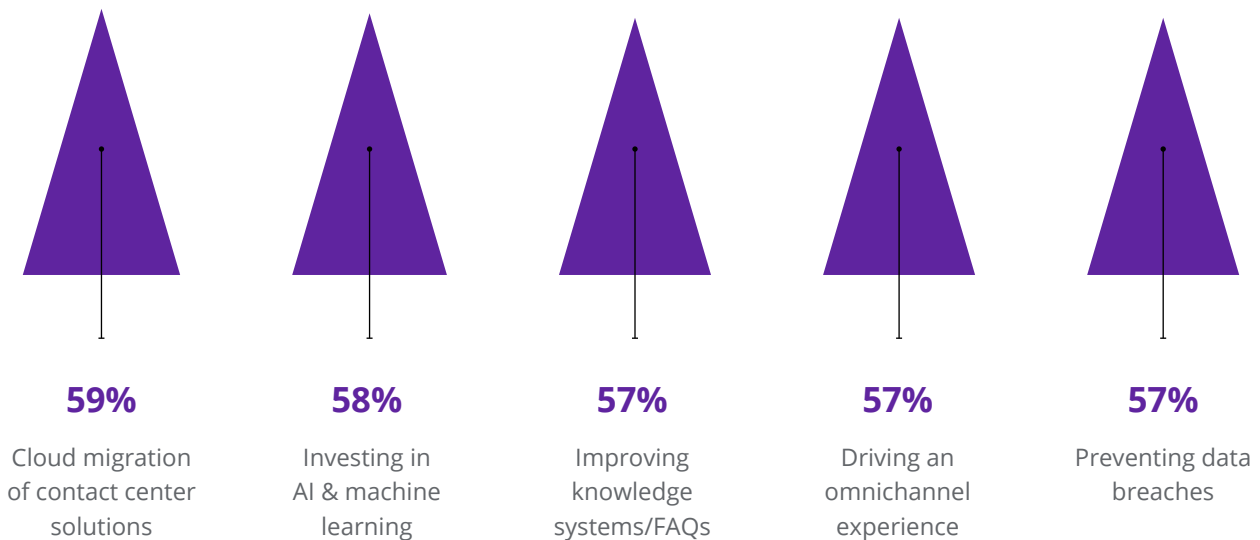


Figure 2. Top Priorities to Drive Better CX – Asia Pacific

Source: Ecosystem, 2020 N=441

## #2 INSTILL A DATA-DRIVEN CULTURE

With the deployment of automated cloud technologies, organizations gain access to massive amounts of customer data, yet many struggle to effectively analyze it. Moreover, CX executives need to be aware that any collected customer information may be subject to customer privacy laws, so it is critical to fully understand local, regional, and federal privacy laws and the implications for corporate data policies.

Customer data, used compliantly, can provide better understanding of challenges that agents face, equip them with reliable insights, predict better outcomes, map customer journeys, and pre-empt issues before they occur. And consolidating and organizing that data is a great

starting point for gaining deeper customer insights.

Within legacy-based organizations, customer data often resides in silos. These silos prevent open communication between newly-implemented cloud applications and backend systems, often because legacy architecture makes integration between various channels and data repositories expensive or time-consuming.

At the same time, 57 percent of Asia Pacific organizations want to implement an omnichannel experience (Figure 2). Figure 3 shows that improving self-service functionality is the most significant CX measure an organization can take. Therefore, self-service data analysis and identifying gaps in CX delivery are important.

Machine learning gleans information from both structured and unstructured data. Using ML to innovate like this enables and empowers the user to make decisions based on data, not just product features – improving the overall CX. When equipped with accurate and reliable data, extracted from self-service, voice, and non-voice interactions, operations managers have the insights needed to empower their agents with targeted and personalized training. Contact centers can now create focused training programs, hire the right trainers, and gain relevant certifications.

Business leaders need to consider deploying these same resources across the organization to encourage a data-driven culture.

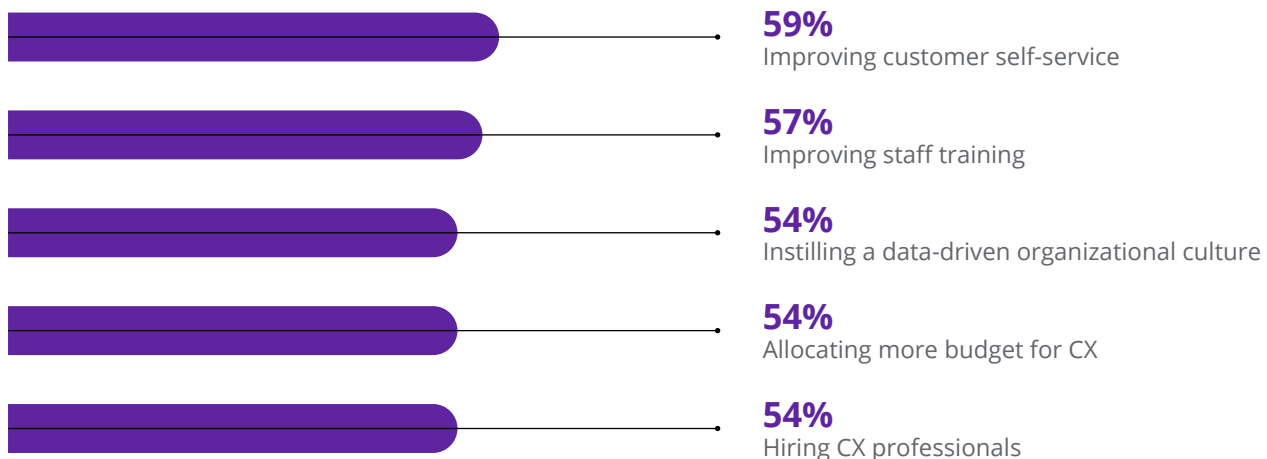


Figure 3. Top Measures to Improve CX – Asia Pacific

Source: Ecosystem, 2020 N=441

### #3 LEVERAGE AI AND ML FOR YOUR SUPER AGENTS

Even as organizations adopt predictive analytics, speech analytics, and ML, the human component of customer interactions is integral to the success of contact centers. Years ago many predicted that automation would eliminate human agents, but this has not shown to be the case. When a customer faces a real crisis, empathy plays a vital role in delivering a successful CX. Chatbots and virtual assistants are not yet equipped to deliver that empathy.

Responding to voice inflection remains at the core of contact center agents' competencies. As a

result, contact centers have begun to invest in AI and ML, to further support and complement the human component with more knowledge of the customer (Figure 4).

Customer care agents perform their jobs better with added access to real-time information during customer interactions, provided by cloud applications.

Insights from AI and ML can be delivered to agents in real-time to display recent interactional and transactional information about callers, helping agents better understand current customer needs. This new ability to understand and predict patterns means that organizations will not rely solely on customer feedback, instead taking a

more proactive approach to serving customer needs.

Understanding the customer's intent, predicting patterns, and analyzing sentiments can give agents the insight to drive a more personalized CX.

Technologies such as transcription, natural language understanding (NLU), and sentiment analysis can produce reports and even generate real-time alerts for team leaders on urgent issues. These capabilities allow the agent to focus on those customers with the most complex issues, while automating simpler requests, and reducing post-call duties such as logging and classifying customer issues.

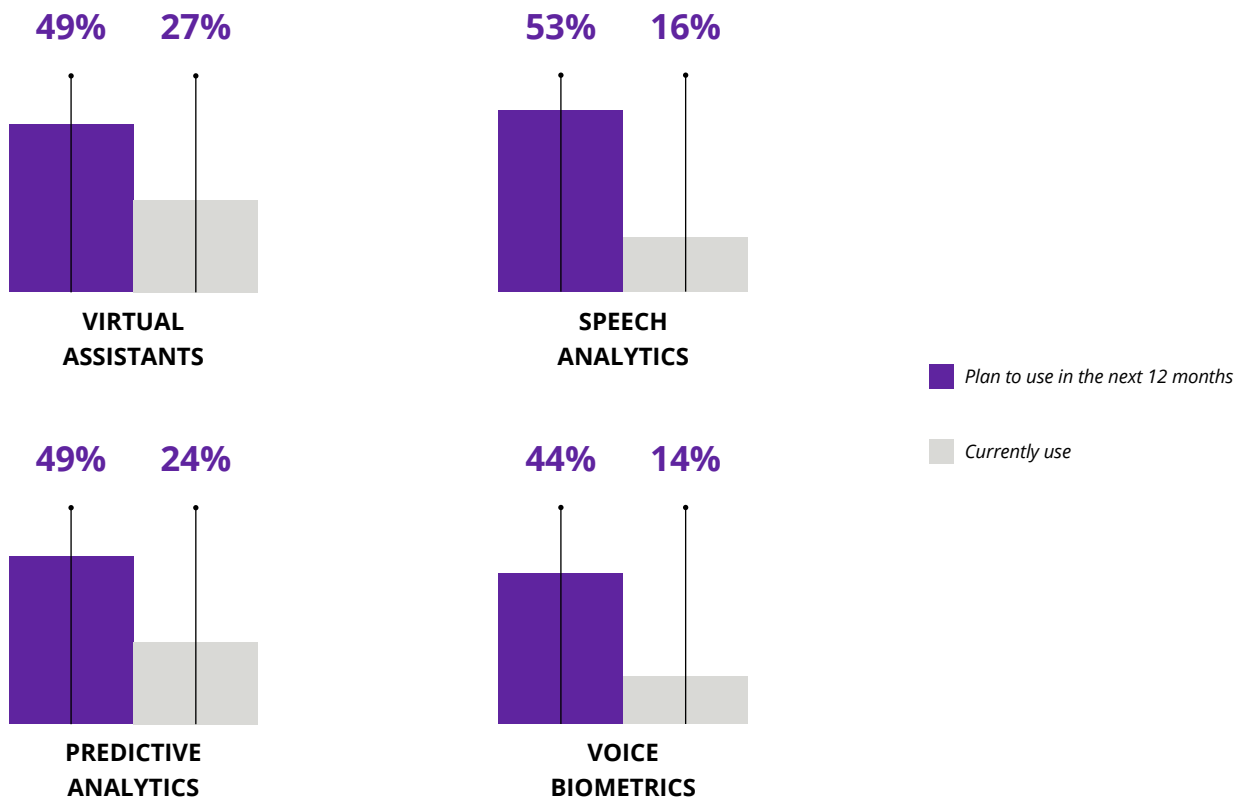


Figure 4. Adoption of AI-enabled Contact Center Solutions – Asia Pacific

Source: Ecosystem, 2020 N=441



## #4 EVOLVE THE CONTACT CENTER KPIs

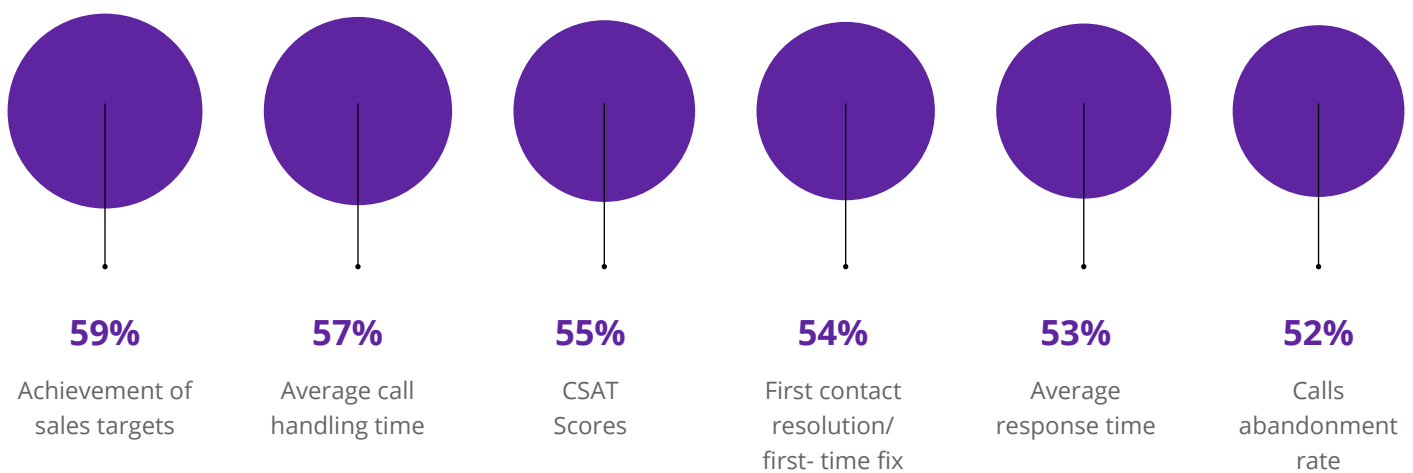
CX metrics play a critical part in the contact center’s day-to-day operations. Incorporating AI and ML data into traditional KPIs will allow

contact centers to assess all calls and increase agent efficiency, which in turn will have a positive impact on the customer experience.

Organizations place high importance on ensuring that the metrics shown in Figure 5 are duly captured, as they form the basis for agent

rewards, better CX evaluation, and improvements to training and coaching.

While these metrics remain vital to tracking agent success, they can be augmented by ML insights that contribute to an individual agent’s track record.



**Figure 5.** Traditional Metrics for Contact Center Agents – Asia Pacific

Source: Ecosystem, 2020 N=441

Sentiment analysis should complement traditional KPIs. While a traditional KPI may show that an agent has exceeded the average call handling time (AHT), what may not be captured is that the customer was impressed enough to buy another product soon thereafter. Legacy contact centers without access to ML will be limited in their insights; for example they will have limited interpretation to explain why an agent’s customer service rating is poor, detecting whether a customer will move to a competitor, or discovering more effective means of promoting products.

On average, organizations assess less than 20 percent of total inbound calls, explaining why agents often continue to make the same mistakes: they do not receive timely feedback. This roadblock to a better CX can be addressed simply through the use of AI and ML applications to address on-spot call challenges faster; for example a call rated as ‘negative’ by sentiment analysis can immediately alert a supervisor for review and action. This allows more effective and timely training to coach agents with the right tools to target specific issues in agent education.

Contact centers that record and analyze 100 percent of their calls see greater success in driving a personalized CX. Through pattern analysis, contact center leaders can provide agents with more accurate and timely coaching through appropriate improvement programs.

## #5 PARTNER WITH THE RIGHT PROVIDER

To achieve true cloud success, organizations should explore how technologies, new skills, and new thinking can help them achieve

their CX objectives. Leaders should seek best-in-class vendors who meet the needs of the customer for technology delivery or end to end CX transformation.

Integration with CRM systems can provide agents the ability to extract insights to obtain a single view of the

customer – something that cannot be accomplished well, or at all, with legacy applications. As a result, call centers often need omnichannel integration with CRM systems (Figure 6).

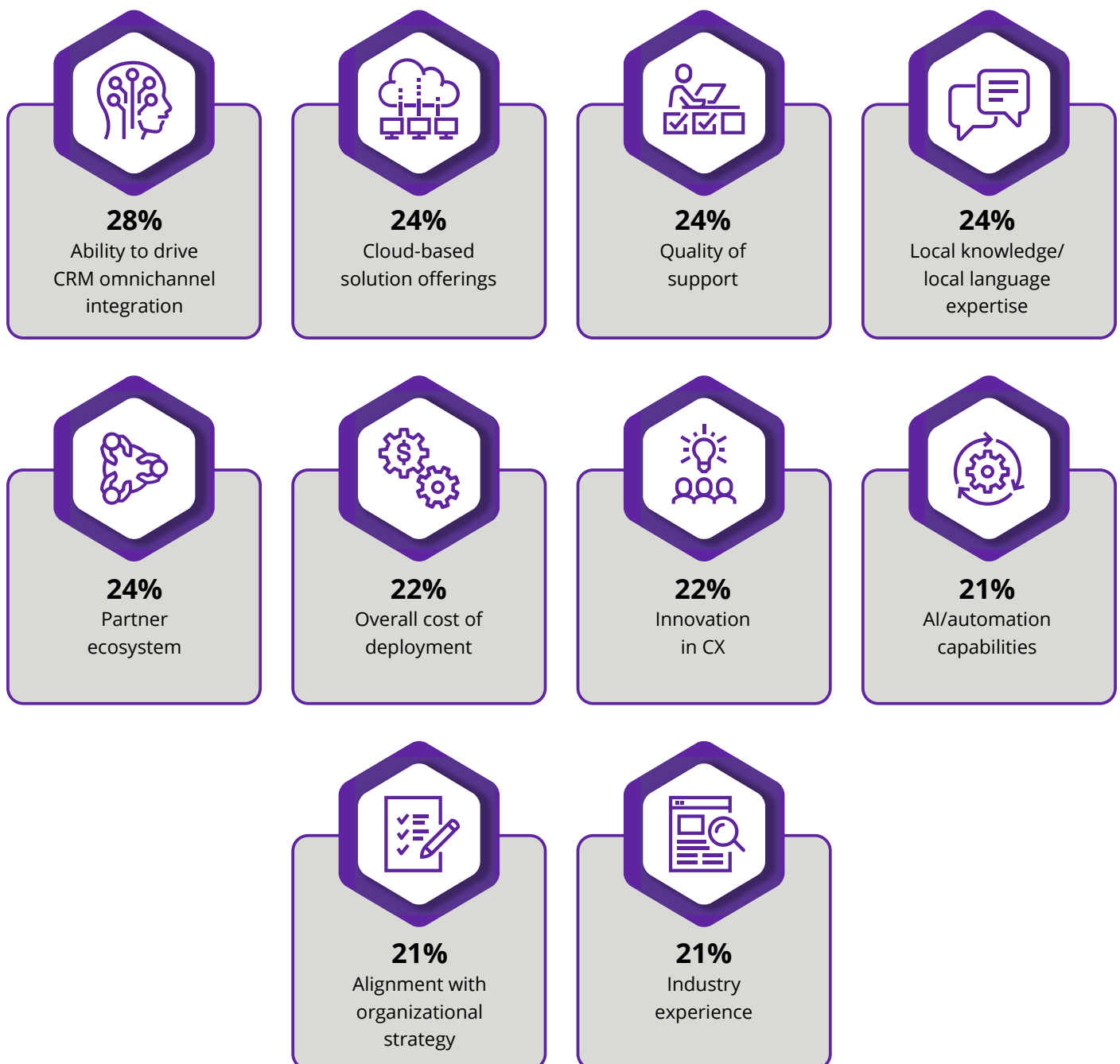


Figure 6. Selection Criteria for Contact Center Solution Provider – Asia Pacific

Source: Ecosystem, 2020 N=242

Instead of purchasing technology alone, organizations should consider working with trusted partners to help build their vision and drive their strategy. Finding a partner that is aligned with the full scope of an organizational CX strategy is important. This trusted partner will assist in evaluating cloud offerings, provide deep local and industry

knowledge, and contribute AI, ML and automation experience.

Such providers will guide modernization initiatives, provide delivery support, and help organizations realize the full value of the solution. Essentially, organizational leaders should consider choosing a partner with a proven track record of innovation

– not just in technology, but in the implementation, support, and continued innovation. It is critical that organizations select a provider who understands their CX vision, can deliver desired CX outcomes, create brand differentiation for CX, and provide solutions to optimize allocation of scarce resources, like labor and costs.





## STEPS TO CONTACT CENTER MODERNIZATION

To enable contact center and service-desk modernization, DXC Technology and Amazon Web Services (AWS) have developed a five-step process to maximize CX outcomes using Amazon Connect and related AI and ML services:

### #1 Alignment.

Alignment must be set by organizational leadership and include aggressive top-down goals to train staff, overcome hurdles, and sidestep change paralysis. Key stakeholders must have a shared vision, strategy, resources, and appetite for action. All stakeholders must work towards achieving a standard set of KPIs. Without a proper commitment from all involved, challenges will be harder to overcome.

### #2 Pilot.

A pilot is a collaborative effort to approach trusted customers and partners and identify use cases or pain points to resolve. This step includes establishing a team to challenge the status quo, innovate use cases and solve a problem - always keeping repeatability and scale in mind. This is critical to building and configuring to deliver the required outcomes. The pilot proves experimentation can deliver CX outcomes quickly, with minimal risk. Long-term success is driven by a culture of innovation, rather than making it a one-off exercise.

### #3 Build.

The ongoing cycle of iteration and testing creates seamless, scalable, and secure experiences for customers. Insights from data, test results, and anecdotal feedback guide the pace and extent of this step, and challenge and test any new services before they are included in the iteration. The objective of the build is to define clear and measurable outcomes and contribute to a culture of innovation.

### #4 Scale.

This step includes creating a repeatable asset from the build step that may be taken to market. An evaluation of the build step clarifies which asset should be scaled and identifies the technologies to enable it.

### #5 Innovate.

Innovation creates brand differentiation through CX. It is a roadmap of steps, often starting with a pilot, production build, or use case that solves pressing challenges. Once the pilot has proven certain outcomes and solved specific challenges, the pilot or production build is iterated to solve the next set of problems, and so on. The outcome is a visual and illustrated journey map that plots innovations over future weeks, months, and years. It means that CX improvement happens in perpetuity and not as a one-off IT project.



## CASE STUDY

### Customer Challenge

The customer provides medical and security services to global enterprises across 90 countries, with more than 10,000 employees managing five million assistance calls every year. Their call centers demand responsive and always-available IT services.

The customer appointed DXC Technology to modernize their help desk by migrating from a costly on-premises technology that made it difficult to innovate and integrate with other solutions. DXC migrated the customer to Amazon Connect, the omnichannel cloud contact center service provided by Amazon Web Services (AWS).

DXC Technology offers AI-enabled Service Desk Services to help their clients deliver better customer service at a lower cost. Service Desk Services leverages the AWS CX portfolio of services, which can transform customer experience through rapid deployment of automatic speech recognition and translation, dynamic text to speech, natural language processing (NLP), and machine learning (ML). For example, customer interactions can be personalized via automated calls or chats to greet customers by name, predict why they are communicating, auto resolve their issues, or connect them to a help-desk operator, if needed. Amazon Connect and AWS Lambda can easily access data from disparate systems and sources to provide a personalized customer experience.

### The Solution

DXC provided the customer with the following:

- Reliable platform – with a cloud-based contact center service that can provide reliable and scalable infrastructure, 24/7
- Global support – IVR support in multiple languages for a truly global experience
- Simplified deployment – standard configuration to reduce deployment time and cost
- Analytics-based design – identifying and analyzing usage patterns, automation success, and service levels
- Flexible capacity – cloud-based infrastructure that allows for new features to be deployed without deploying new infrastructure



## Results and Benefits

DXC completed the actual migration in two weeks, ensuring there were no delays in project timelines. The customer avoided cost overrun in the migration from their incumbent IT service desk provider. Specific outcomes included the following:

- Reduced time spent on IVR script changes, from two months to a few hours
- Reduced deployment time, as there is no requirement for procuring hardware or desk phones
- Enabled agents to work from home during the COVID-19 pandemic without a need for any additional softphone licenses
- Improved agent experience and retention

## AWS SERVICES

- Amazon Connect – omnichannel cloud contact center service
- Amazon Polly – text-to-speech
- Amazon Lex – natural language understanding (NLU) and natural language processing (NLP) for chatbots
- AWS Lambda – run code without provisioning any servers

## Next Steps

- Automation of password reset calls, reducing the volume of such calls by 30–60 percent
- Expanding data sources and integration to optimise call personalisation and prediction
- Innovating with AWS AI and ML services to automate caller engagement and improve customer experience.

## ABOUT AMAZON CONNECT

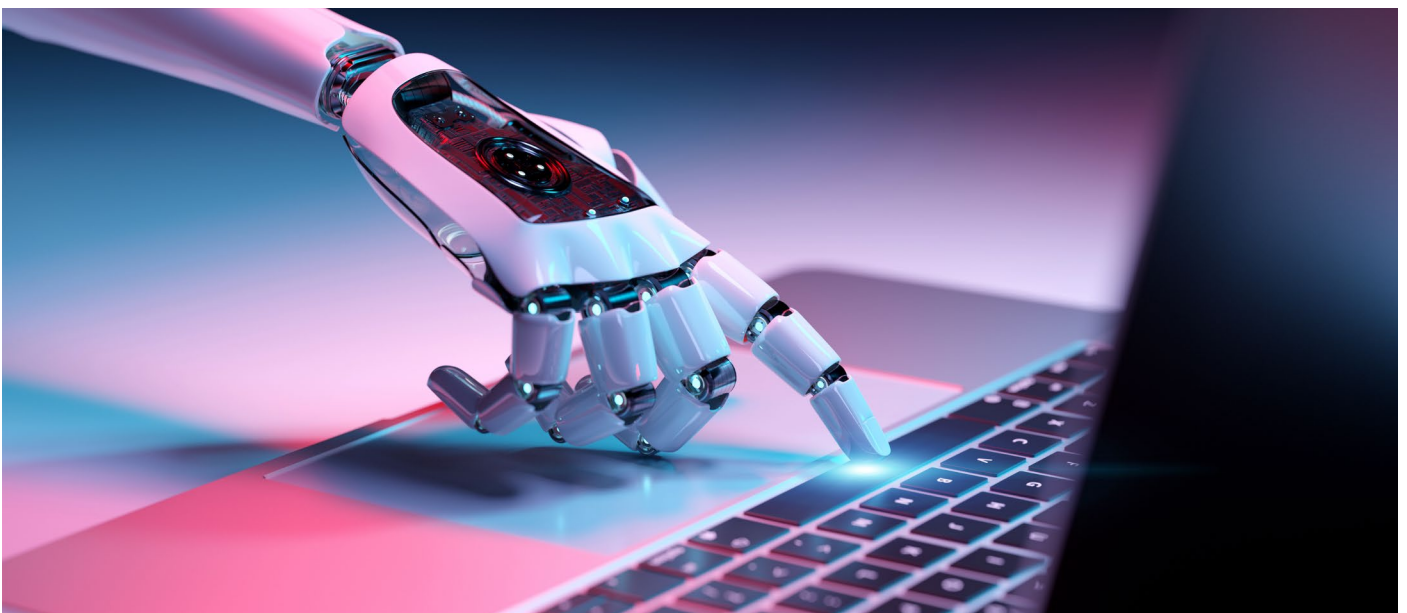
Amazon Connect is an easy to use omnichannel cloud contact center that helps companies provide superior customer service at a lower cost. The service operates from seven regions globally, including Singapore, Tokyo, Sydney, Frankfurt, London, Northern Virginia (US), and Oregon (US). It provides a single unified contact center for voice and chat, and easily integrates into other systems such as customer relationship management (CRM), workforce optimization (WFO), or workforce management (WFM) systems. The seamless experience includes one set of tools for skills-based routing, powerful real-time and historical analytics, and easy-to-use intuitive management tools – all with pay-as-you-go pricing, which means Amazon Connect simplifies contact center operations, improves agent efficiency, and lowers costs.

Amazon Connect has natural text-to-speech built in, so you can create personalized messages in real-time.

**Amazon Lex** allows conversational interfaces to be built into any application with speech-to-text and Natural Language Understanding (NLU).

In addition, **Contact Lens for Amazon Connect** is a set of machine learning capabilities integrated into Amazon Connect that allows contact center supervisors to better understand the sentiment, trends, and compliance risks of customer conversations to effectively train agents, replicate successful interactions, and identify crucial company and product feedback.

For organizations that already have a contact center solution in place, the **AWS Contact Center Intelligence (CCI)** solution offers ways to quickly and cost effectively add machine learning-based intelligence to contact centers using AWS AI services. CCI includes solutions for self-service, live call analytics, and agent assist and post-call analytics.



## ABOUT AWS-DXC COLLABORATION

DXC Technology and Amazon Web Services, Inc. (AWS) deliver global cloud solutions that combine the scale, agility, and performance of AWS with the expertise in transforming and modernizing legacy environments to digital from DXC – together helping clients accelerate digital transformation, grow their business, and improve customer experience. Teaming up to deliver IT migration, application transformation, and business innovation to global enterprise clients, DXC and AWS provide customers with the innovation, agility, security, and cost-savings needed to modernize their applications and infrastructure and remain competitive.

## ABOUT DXC TECHNOLOGY

DXC Technology (NYSE: DXC) helps global companies run their mission critical systems and operations while modernizing IT, optimizing data architectures, and ensuring security and scalability across public, private, and hybrid clouds. With decades of driving innovation, the world's largest companies trust DXC to deploy dedicated enterprise technology stacks that deliver new levels of performance, competitiveness, and customer experiences. Learn more about the DXC story with a focus on people, customers, and operational execution, at [www.dxc.technology](http://www.dxc.technology).

## ABOUT AMAZON WEB SERVICES

For 14 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 175 fully featured services for compute, storage, databases, networking, analytics, robotics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 77 Availability Zones (AZs) within 24 geographic regions, with announced plans for nine more Availability Zones and three more AWS Regions in Indonesia, Japan, and Spain. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit [aws.amazon.com](http://aws.amazon.com).



## ABOUT ECOSYSTEM

Ecosystem is a private equity backed Digital Research and Advisory Platform with global headquarters in Singapore. As a global first, Ecosystem brings together tech buyers, tech vendors and analysts into one integrated platform to enable the best decision making in the evolving digital economy. The firm moves away from the highly inefficient business models of traditional research firms and instead focuses on research democratisation, with an emphasis on accessibility, transparency and autonomy.

Ecosystem's research originates from its custom designed "Peer2-Peer" platform which allows Tech Buyers to benchmark their organisation in "real-time" against their industry or market. This bold new research paradigm enables Ecosystem to provide Tech Vendors access to ongoing and real time Market Insights in an affordable "as-a-Service" subscription model.

*This white paper is sponsored by DXC Technology and Amazon Web Services (AWS). It is based on the analyst's subject matter expertise in the subject, in addition to specific research based on interactions with technology buyers from multiple industries and technology vendors, industry events, and secondary research. The data findings mentioned in all Ecosystem reports are drawn from Ecosystem's live and on-going studies on the Ecosystem research platform. This document refers to data from the global Ecosystem CX Study, based on participant inputs that include decision-makers from IT, other lines of business, and from small, medium, and large enterprises. For more information about Ecosystem studies, visit [www.ecosystem360.com](http://www.ecosystem360.com).*



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## About the author



### **Audrey William**

*PRINCIPAL ADVISOR ECOSYSTEM*

One of the foremost multi-disciplinary analysts in the APAC region, Audrey boasts an eclectic set of expertise, in segments as diverse as enterprise collaboration, unified communications-as-a-service (UCaaS), video, contact center, CX, outsourcing as well as artificial intelligence, enterprise mobility and digital transformation.

Audrey has a proven track record both as an analyst and a business leader, having spent close to two decades in various analyst roles at Frost & Sullivan, providing counsel to C-level executives on go-to-market strategies – most recently as Head of Research and Senior Fellow at the firm’s ICT practice in Australia and New Zealand. As one of the pioneers of the firm in the region, Audrey played a pivotal role in its regional expansion, including building and mentoring a team of analysts across various markets in Asia-Pacific, including Malaysia, Singapore and Australia.

Beyond her involvement as an analyst, Audrey is also a prominent keynote speaker, having delivered over 150 speaking engagements addressing various technology segments. She is regularly quoted in the media for her insights into ongoing technology trends and news.

Audrey is an honours graduate from the Institute of Chartered Secretaries and Administration (ICSA) in the UK. She also holds Diplomas in Management Accounting and Financial Accounting from the London Chamber of Commerce Institute (LCCI). In her free time, she loves to read literary fiction and is a jazz enthusiast.

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## About DXC Technology

DXC Technology (NYSE: DXC) helps global companies run their mission critical systems and operations while modernizing IT, optimizing data architectures, and ensuring security and scalability across public, private and hybrid clouds. The world’s largest companies and public sector organizations trust DXC to deploy services across the Enterprise Technology Stack to drive new levels of performance, competitiveness, and customer experience. Learn more about how we deliver excellence for our customers and colleagues at **[DXC.com](https://dxc.com)**.