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The Impact of Emerging Technology on CX Excellence

Insights from Oracle's Global Survey
of Customer Experience Visionaries

MAY 2019

Research conducted in partnership with ESG

Contents

Foreword

A note to fellow CX leaders,

We're all aware of the changing relationship that customers are experiencing with brands and technology. We at Oracle call this the "Experience Economy," where customers are the true innovators, not brands or the enterprise.

Technology is empowering customers to create very personalized experiences. As people become more comfortable and capable with technology, they will continue to create new ways to manage their daily lives and online experiences and expect that kind of flexibility from every company with which they do business.

As marketing, sales, commerce, and service professionals, we must adapt to these expectations or risk extinction. No industry will be spared. In the Experience Economy, your customers' experiences with your brand are inseparable from the value of the goods and services you provide.

With this in mind, we wanted to understand the impact that these new digital technologies are having. For this research, we heard from 477 senior executives who are focused on the customer experience. This report provides a perspective on where their organization stands in regard to CX maturity from both a technology usage and best practices point of view.

Visionary firms that have invested in several of these technologies are the CX high performers. We learned that adoption is driven by the need to accommodate changing customer tastes, create an innovative and distinctive brand, and enable digital transformation. We also found that emerging technologies are leading to real CX benefits and improved performance across a number of key CX metrics.

The results of this study create a credible sense of urgency to prioritize the customer experience as a company-wide goal and highlight the potential challenges and best practices that organizations can follow to maximize success.

I want to thank the 477 respondents for participating in our study. Looking ahead, the analysis and examples we share in the "Impact of Emerging Technology on CX Excellence" offer best practices and some ideas which can form the basis for a conversation about how to best serve the customer in this quickly changing Experience Economy. I welcome and look forward to participating in this discussion with you.

Rob Tarkoff, Executive Vice President and General Manager, Oracle CX Cloud

Executive Summary

Research Objective:

The landscape in which customers evaluate, engage, and transact with brands has been transformed to a highly competitive, overwhelmingly digital, mobile-first environment where user experience is king. Barriers to switching are nearly non-existent and customer experience (CX) execution is essential.

At the same time, emerging technologies like **artificial intelligence (AI), virtual and augmented reality (VR/AR), intelligent voice assistants, and the Internet of Things (IoT)** are rapidly maturing, creating opportunities for forward-looking companies to innovate and differentiate the ways in which they build customer relationships.

Oracle and ESG partnered to conduct a survey of 465 CX executives and 12 in-depth interviews. We aimed to understand the interplay between CX performance and the maturation of emerging technologies and validate the extent to which adopters are driving business success. Unless otherwise noted, all data in this report originates from this primary research.

Key Research Findings:

Emerging technologies are widely used today. 66% of surveyed companies use at least one technology included in the research (AI, VR/AR, intelligent voice assistants, or IoT) to affect customer experience.

Adoption is driven by the need to accommodate **changing customer tastes, create an innovative and distinctive brand, and enable digital transformation.**

Organizations looking to be viewed as **unique, innovative, and progressive brands** tend to adopt these technologies more rapidly.

Emerging technology usage has a high correlation with **improved CX performance,** including:
- A significantly higher likelihood of exceeding customer retention targets.
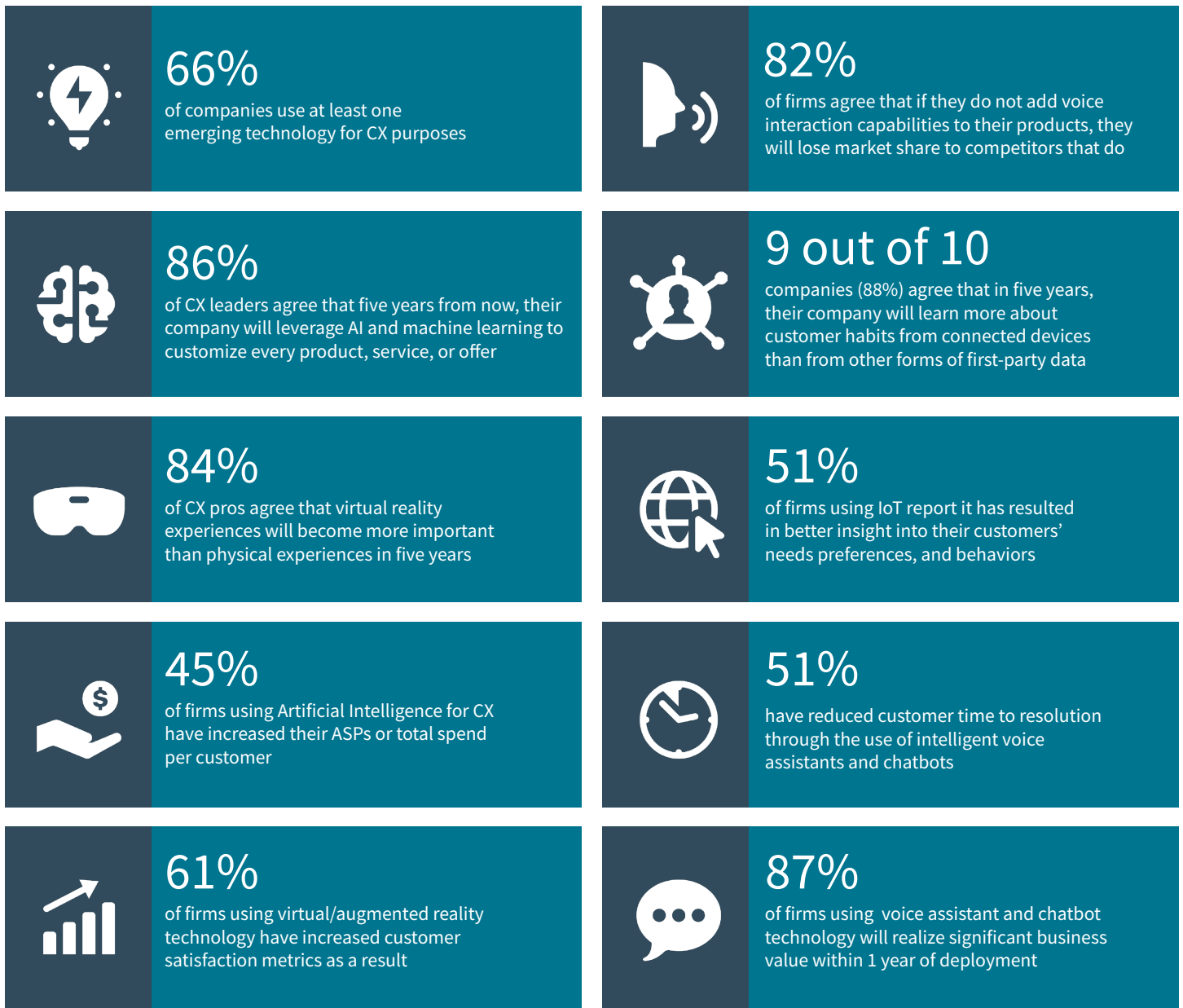- A greater ability to achieve higher customer satisfaction.

In turn, emerging technology usage is helping drive **improved business outcomes** like:
- Increased market share.
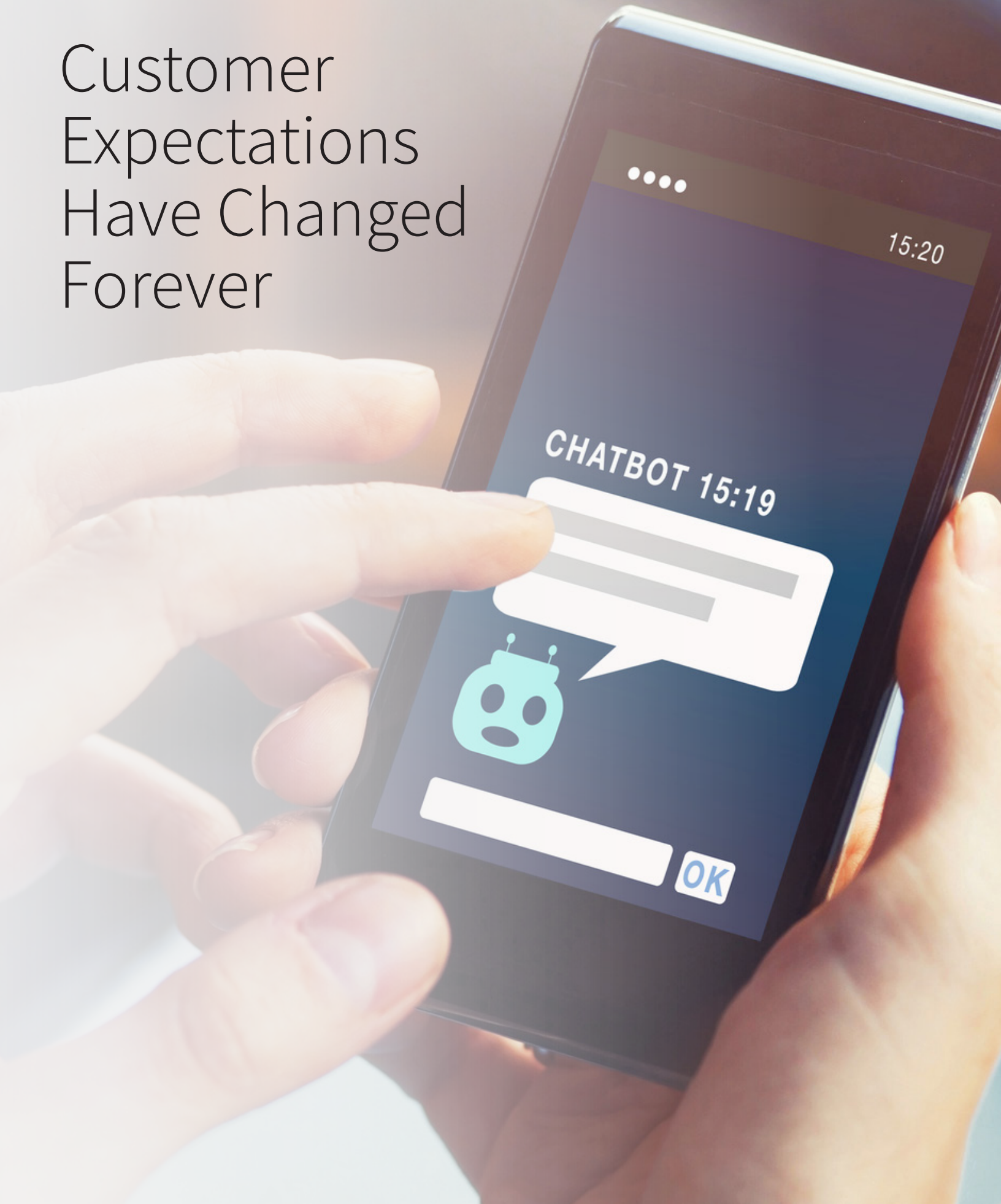- Increased spend per customer.

Emerging Technology Key Statistics

This report discusses a broad spectrum of topics related to the use of emerging technologies for CX. However, it is clear from the summary of statistics below that the adoption of these technologies is happening at a rapid pace.

Use this report to better understand how and why organizations are applying these technologies to improve the customer experience. Also, use it to create urgency within your organization to transform its CX technology portfolio, and to learn from your peers how to maximize your success.

66%
of companies use at least one emerging technology for CX purposes

82%
of firms agree that if they do not add voice interaction capabilities to their products, they will lose market share to competitors that do

86%
of CX leaders agree that five years from now, their company will leverage AI and machine learning to customize every product, service, or offer

9 out of 10
companies (88%) agree that in five years, their company will learn more about customer habits from connected devices than from other forms of first-party data

84%
of CX pros agree that virtual reality experiences will become more important than physical experiences in five years

51%
of firms using IoT report it has resulted in better insight into their customers' needs preferences, and behaviors

45%
of firms using Artificial Intelligence for CX have increased their ASPs or total spend per customer

51%
have reduced customer time to resolution through the use of intelligent voice assistants and chatbots

61%
of firms using virtual/augmented reality technology have increased customer satisfaction metrics as a result

87%
of firms using voice assistant and chatbot technology will realize significant business value within 1 year of deployment

Customer Expectations Have Changed Forever

Not Meeting Customer Expectations is an Existential Threat

Customers' purchase decisions are driven both by the characteristics of a product or service as well as the customer's experience (CX) with the brand. Alienation may stem from any number of other CX considerations, including:

- A poor support experience.

- Lack of consistency interacting with the brand across different channels.

- A perception that a customer's personal data is being misused.

Research confirms the trend:

90%

of individuals agreed that if their organization does not improve its CX capabilities, it will lose business to more customer-centric competitors.

56%

According to a Deloitte research study, the majority of respondents reported that the overall enjoyment of a purchase experience is important to the ultimate buying decision.[1]

[1] Source: Deloitte, *Rethinking the customer experience to win*, November 2016.

The Bar Is Rising

Many CX stakeholders report[†] that over the next three to five years, their customers will increasingly demand:

	Around-the-clock customer service on any platform 44%		**Highly personalized experiences** 40%
	Simple, easy-to-use engagement channels 43%		**Secure and trusted relationships** 42%

Emerging Technologies Can Help

CX leaders report that 24-hour service is increasingly important. How can emerging technologies help? Many organizations are implementing automated chatbots into their web presences and mobile applications so that customers can get real-time assistance, even when call centers are closed.

Alternatively, IoT solutions can use product telemetry data to monitor product status and performance 24x7. In many cases, this makes it possible to identify an issue and initiate a customer service engagement before the customer even knows there is a problem.

Many respondents indicate that highly personalized experiences are growing in importance. Forward-looking organizations are using AI to model customer preferences using new data sources such as intelligent voice engagements and usage data captured by embedded sensors to refine product and service offers.

However, it is important to note that whatever technologies organizations use to deliver these capabilities, they must also be intuitive for and trusted by users.

[†]*Complete data presented in Appendix, Pages 43 - 47*

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CX Visionaries Are on the Leading Edge

Defining CX Visionary Status:

Oracle and ESG grouped respondents into one of three CX maturity categories: Visionary, Established, or Emerging. This was done based on the organization's adoption of the following four CX best practices:

Does the company view CX as a critical business priority? 62% say yes	Are CX metrics reviewed by executives on a daily basis? 21% say yes
Does the organization employ a Chief Customer Officer or equivalent? 68% say yes	Is the company very good at acting on customer feedback? 35% say yes

Only organizations in alignment with all four best practices earned a Visionary status.

17%
of organizations achieved Visionary status (compared to 55% Established and 28% Emerging)
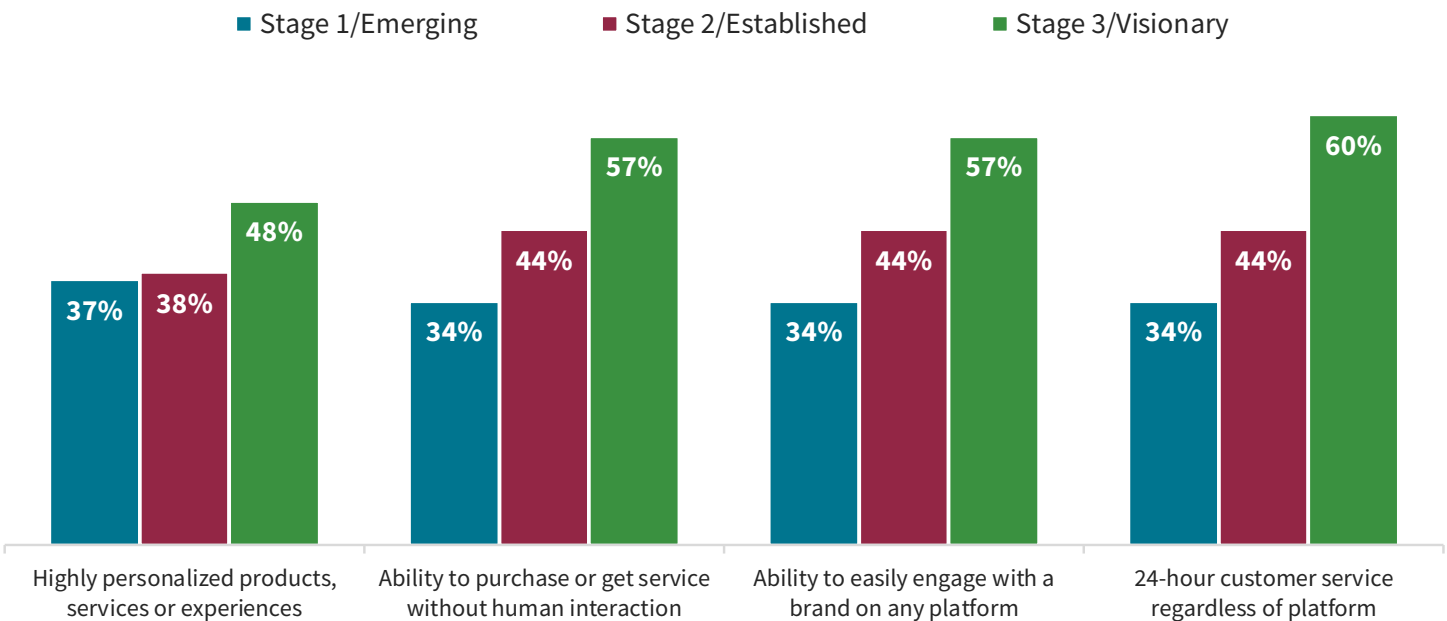
Perception of Changing Customer Preferences

CX Visionaries were much more likely to report their customers will increasingly demand a number of customer experience capabilities. These include 24-hour service, the ability to get service without human interaction, ease of engagement, and highly-personalized products and services.

We believe this is because CX Visionaries are more perceptive to their customers' desires. So what drives their sensitivity to customer needs?

Every Visionary company employs a Chief Customer Officer. This means the CX focus has an evangelist with legitimate influence. Next, these Visionaries share the philosophy that CX drives the business and as such, they commit executive resources to the daily review of CX metrics. Finally, these organizations are able to ingest and act on customer feedback.

Capabilities increasing in importance over the next 3-5 years, by CX maturity

- Stage 1/Emerging
- Stage 2/Established
- Stage 3/Visionary

	Stage 1/Emerging	Stage 2/Established	Stage 3/Visionary
Highly personalized products, services or experiences	37%	38%	48%
Ability to purchase or get service without human interaction	34%	44%	57%
Ability to easily engage with a brand on any platform	34%	44%	57%
24-hour customer service regardless of platform	34%	44%	60%

Question text: Which of the following capabilities or attributes of your company do you believe will become more important to your customers over the next 3-5 years? (Percent of respondents, multiple responses accepted)

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Usage of Modern Engagement Channels

The ways in which companies engage their customers are changing. When asked which channels their organizations use to engage customers today, and which will be more important to customers three years from now, **only four channels, collectively referred to as "growth channels," were reported to be increasing in importance.**

Intelligent voice assistants

Automated chat bots
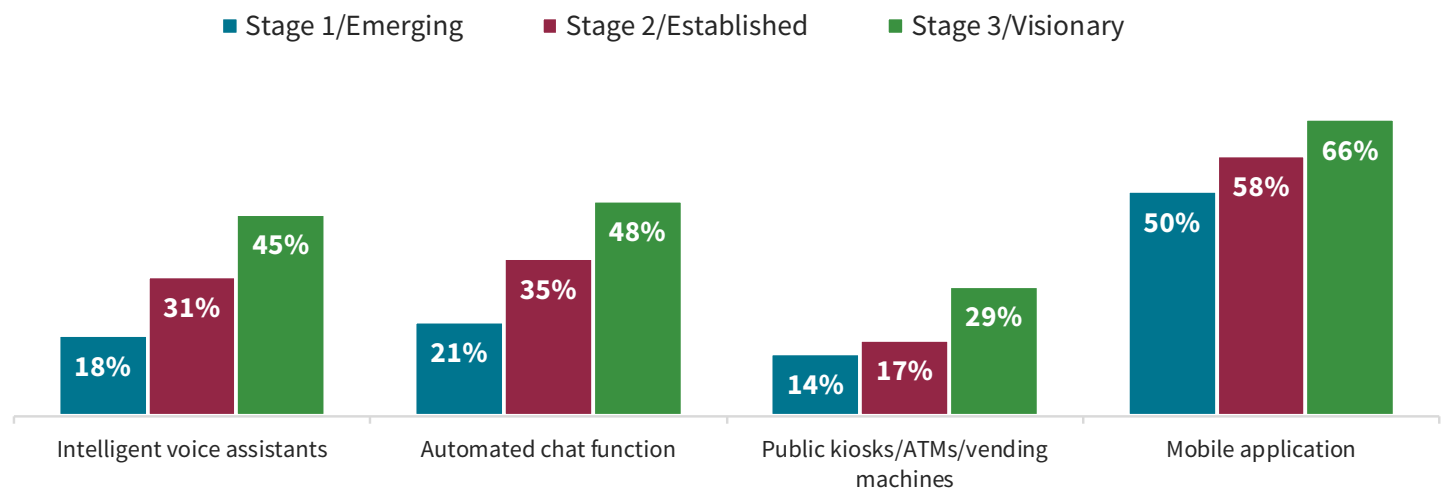
Self-service kiosks

Mobile applications

CX Visionaries Are Using Tomorrow's Engagement Channels Today

CX Visionaries take a more progressive approach to customer engagement channels. All four "growth channels" were significantly more likely to be in use today by companies designated as Visionaries. In fact, compared to Emerging organizations, Visionary companies were **2.5X as likely to use intelligent voice assistants, 2.3X as likely to be using automated chatbots, and nearly 2X as likely to leverage self-service kiosks as CX engagement channels today.**

Use of "growth channels" to engage customers

■ Stage 1/Emerging   ■ Stage 2/Established   ■ Stage 3/Visionary

Channel	Stage 1/Emerging	Stage 2/Established	Stage 3/Visionary
Intelligent voice assistants	18%	31%	45%
Automated chat function	21%	35%	48%
Public kiosks/ATMs/vending machines	14%	17%	29%
Mobile application	50%	58%	66%

Question text: Through which of the following channels does your company interact with its customers today?
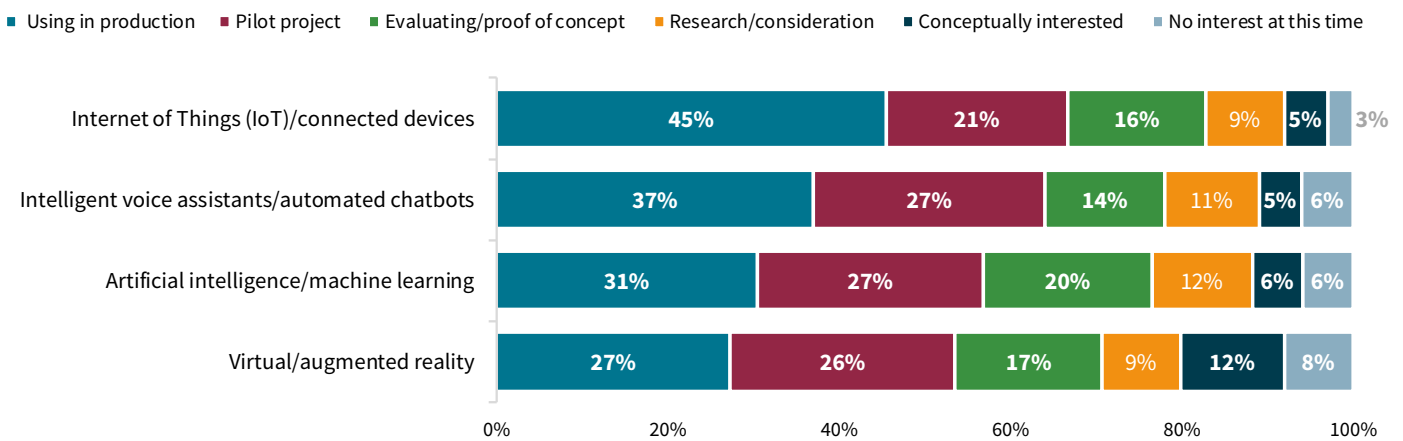(Percent of respondents, N=465, multiple responses accepted)

The Emergence of New Digital Technologies to Enhance CX

Tipping Point: Emerging Technologies Are Becoming Mainstream

The CX landscape is rapidly changing. To stay relevant, companies are deploying emerging technologies like virtual/augmented reality, intelligent voice assistants/chatbots, other forms of AI, and IoT/connected devices. These emerging technologies are widely used for CX in production today:

Use of emerging technologies for CX use cases

■ Using in production ■ Pilot project ■ Evaluating/proof of concept ■ Research/consideration ■ Conceptually interested ■ No interest at this time

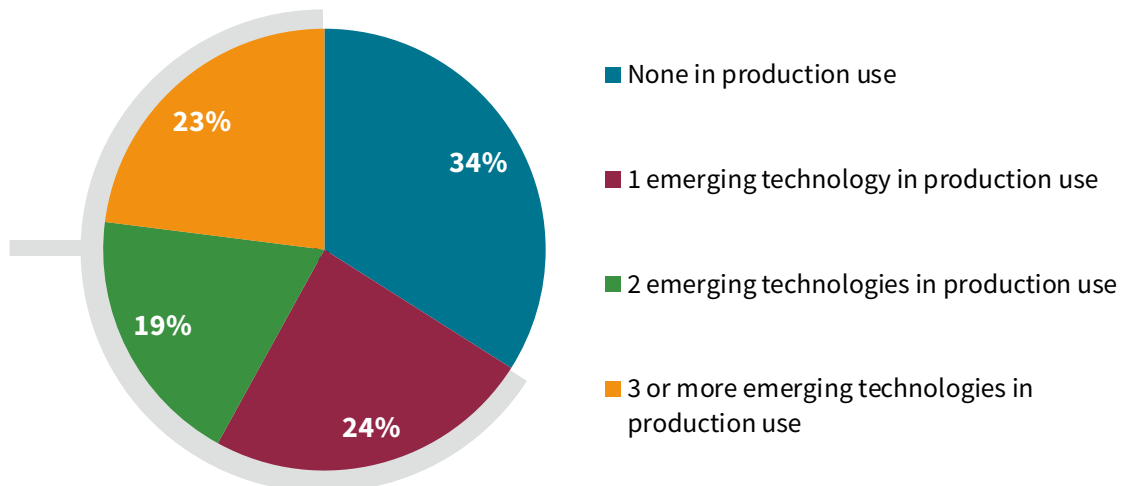|	Using in production	Pilot project	Evaluating/proof of concept	Research/consideration	Conceptually interested	No interest at this time
Internet of Things (IoT)/connected devices	45%	21%	16%	9%	5%	3%
Intelligent voice assistants/automated chatbots	37%	27%	14%	11%	5%	6%
Artificial intelligence/machine learning	31%	27%	20%	12%	6%	6%
Virtual/augmented reality	27%	26%	17%	9%	12%	8%

Question text: To what extent is your organization using, evaluating, or considering each of the following technologies as new ways to improve the customer experience? (Percent of respondents, N=465)

Aggregating the data above shows that two-thirds of organizations today use at least one emerging technology for CX in production today and more than two-fifths use multiple technologies.

Number of emerging technologies for CX currently in use

66% use at least one emerging technology for CX

(Percent of respondents, N=465)

- 34% ■ None in production use
- 24% ■ 1 emerging technology in production use
- 19% ■ 2 emerging technologies in production use
- 23% ■ 3 or more emerging technologies in production use

Use of Emerging Technologies Varies Greatly

Companies that view customer experience as a key driver of differentiation are more likely to bet on emerging CX technologies. Fifty five percent of organizations that view CX as the sole or a primary source of differentiation use multiple emerging technologies for CX today. Whereas just 21% of organizations viewing CX as one of many differentiators or not a differentiator report the same level of emerging technology adoption.

Similarly, brands seeking to be perceived as innovation leaders are most likely to embrace new CX technologies. Organizations whose customers value innovation or distinctiveness were significantly more likely to use multiple emerging technologies than firms whose customers don't value these qualities. Organizations are turning to emerging technologies to deliver the innovative, distinctive, and differentiated brand experiences that modern customers demand.

Organizations are turning to emerging technologies to deliver the **innovative, distinctive, and differentiated** brand experiences that modern customers demand.

55%

of organizations that believe CX is their sole or primary source of **differentiation** use multiple emerging technologies

(versus just **21%** of organizations with many sources of differentiation).

58%

of organizations that believe their customers value innovation use multiple emerging technologies for CX

(versus just **35%** of organizations whose customers don't value innovation).

52%

of organizations that believe their customers value distinctiveness use multiple emerging technologies for CX
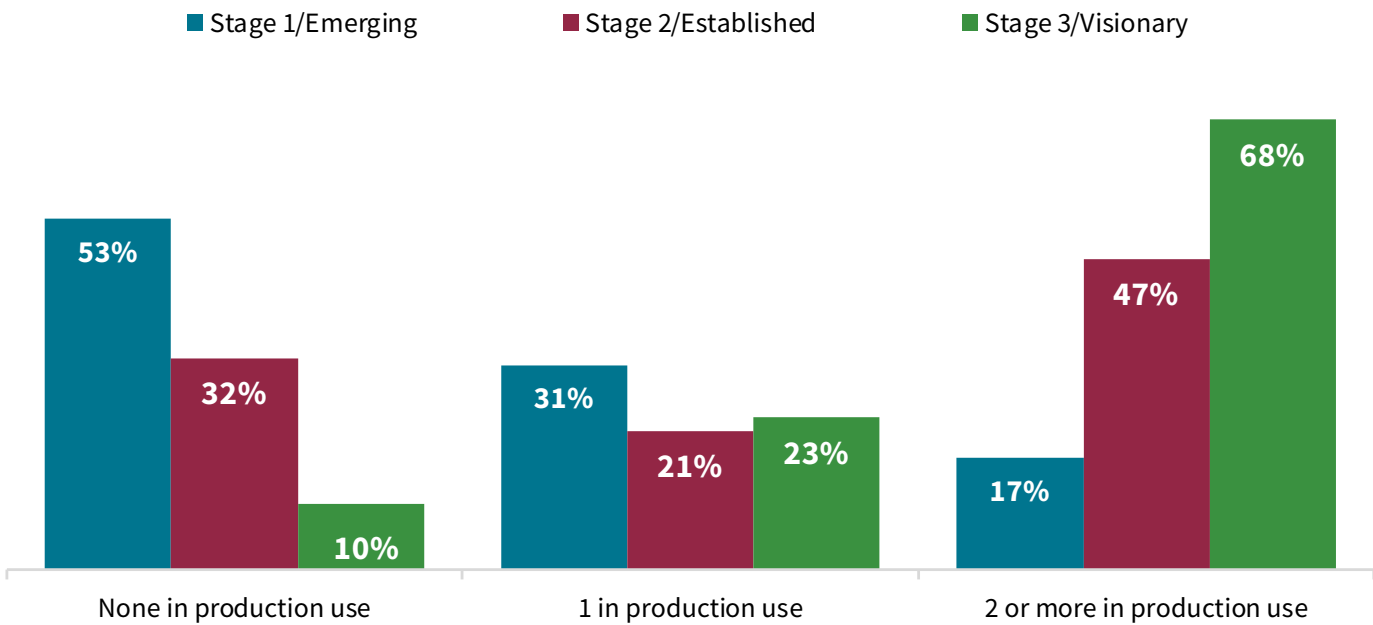
(versus just **39%** of organizations whose customers don't value distinctiveness).

CX Visionaries Aggressively Apply Emerging Technologies to CX

Visionaries are 4x more likely than those in the Emerging category to use two or more emerging technologies for CX.
This report has already discussed a few potential explanations: First, emerging technologies can help organizations deliver
the capabilities they expect customers will demand in the future. Next, they can help the organization deliver the innovation,
differentiation, and distinctiveness they believe their customers desire. A third driver suggested in the data is that the use of
emerging technologies is helping Visionary firms to outperform their counterparts on a number of CX metrics.

Number of emerging technologies for CX currently in use, by CX maturity

■ Stage 1/Emerging   ■ Stage 2/Established   ■ Stage 3/Visionary

| None in production use | 1 in production use | 2 or more in production use |
| 53% / 32% / 10% | 31% / 21% / 23% | 17% / 47% / 68% |

(Percent of respondents, N=465)

What CX Visionaries say:

"**CX is the only differentiator in this industry.** We put a lot of thought and design behind how we interface with the customer."

– Director of Global Sales at a telecom provider with more than 50,000 employees

How CX Maturity Correlates to Positive CX Outcomes[†]

We measured four key CX-centric business outcomes in our research. In all cases, **Visionary organizations were much more likely than Established and Emerging organizations to be high performers.**

Visionary companies are **3x more likely than Emerging organizations to exceed customer satisfaction goals** (57% versus 19%).

Visionary companies are **3x more likely** than Emerging organizations **to exceed recent customer retention goals** (58% versus 21%).

Visionary companies are more than **2x as likely** as Emerging organizations to have **increased market share** over the past year (78% versus 34%).

Visionary companies are nearly **2x more likely** than Emerging organizations to have **increased average customer spend** over the past year (81% versus 44%).

Visionary organizations were much more likely than Established and Emerging organizations to be high performers.

[†]*Complete data presented in Appendix, Pages 43 - 47*

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Emerging Technologies
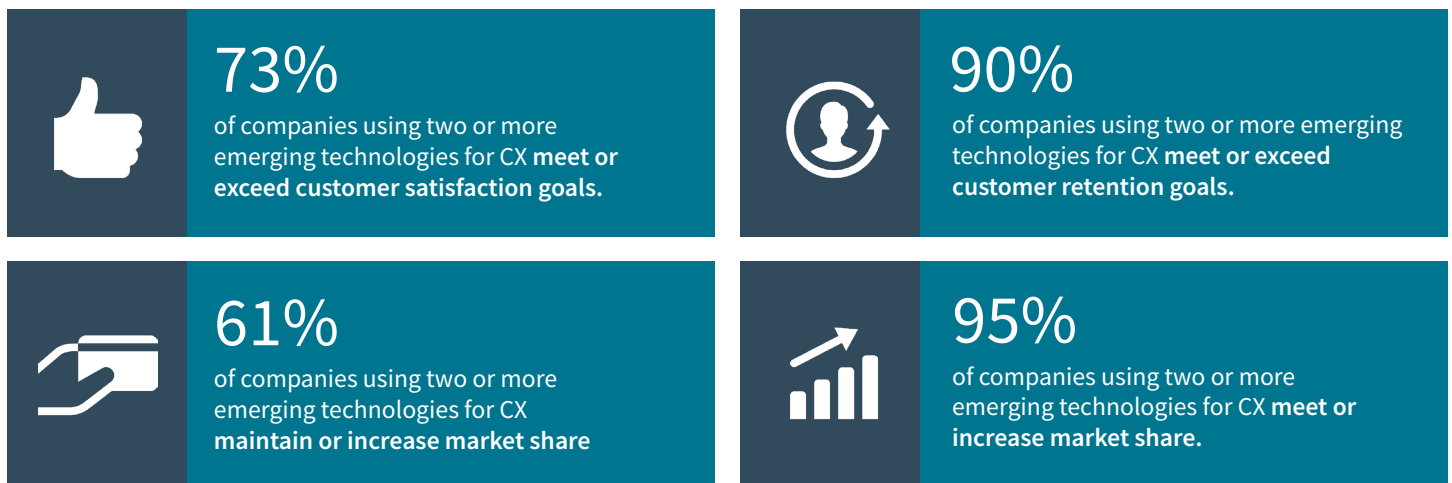# Drive Real Business Benefits

How Emerging Technologies Improve Customer Experience

Deploying new emerging technologies to improve CX has its challenges. There are process disruptions to navigate, technology integrations to overcome, and skills gaps to close. However, these challenges are offset by the significant CX benefits that early adopters report, including improvements in:

- Delivering a better, more differentiated customer experience.
- Reducing customer time to task completion.
- Providing better insights into customer needs, preferences, and behaviors.
- Enabling new distinctive products and services.

These positive impacts on customers often drive loyalty and repeat business. Our research shows that **as the number of emerging technologies used to impact CX increases, so does the likelihood of achieving improved CX metrics.**

How Emerging Technology Application Correlates to CX Excellence[†]

73%
of companies using two or more emerging technologies for CX **meet or exceed customer satisfaction goals.**

90%
of companies using two or more emerging technologies for CX **meet or exceed customer retention goals.**

61%
of companies using two or more emerging technologies for CX **maintain or increase market share**

95%
of companies using two or more emerging technologies for CX **meet or increase market share.**

...as the number of emerging technologies used to impact CX increases, so does the likelihood of achieving improved CX metrics.

[†]*Complete data presented in Appendix, Pages 43 - 47*

Paving the Way for Revenue Digitization

Our research points to a compelling link between an organization's application of emerging technologies for CX and its ability to successfully digitize its revenue streams.
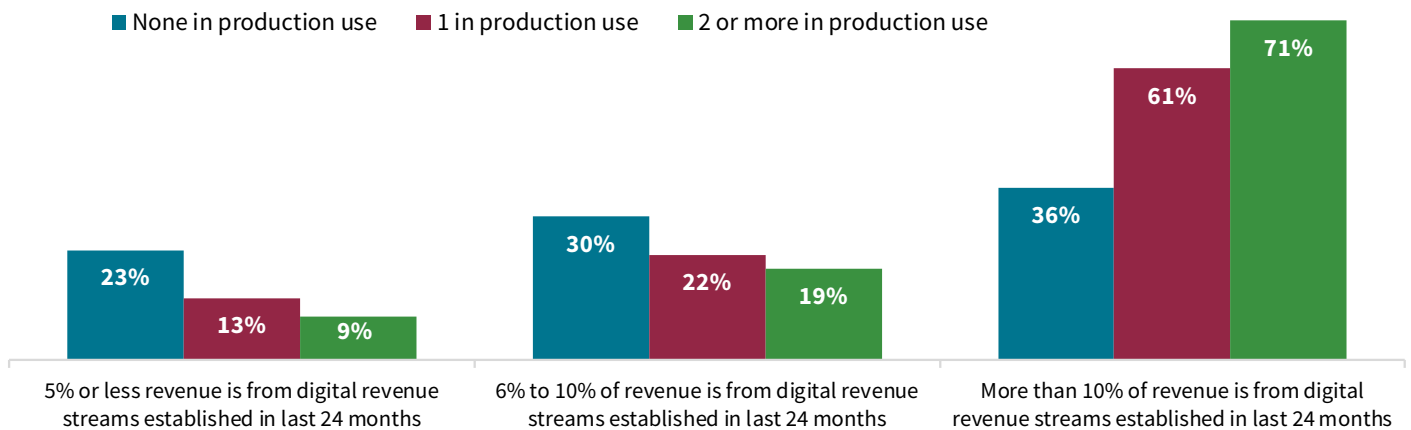
Real-world examples of companies doing this today include:

- The NBA, with its League Pass VR offering, allows viewers to watch games in an immersive environment by subscribing to the premium-tier service.

- Pager offers a new subscription service that leverages AI to make proactive health care recommendations based on clinical data, while allowing users to interact with health professionals, make payments, or schedule appointments 24x7.

- Farmobile provides farmers with IoT enabled sensors that harvest data from equipment to increase crop yields and profits, for an annual fee.

Organizations looking to digitally transform their business should explore how emerging technologies can help them create new products and services to drive incremental revenue.

In our research, respondents reported the percentage of their organizations' revenue that was derived from data-based digital products, services, or experiences that did not exist 24 months ago. Seventy one percent of companies using two or more emerging technologies report that more than 10% of their revenue is derived from new digital offerings, nearly double the percentage of companies that have not embraced emerging technologies for CX (36%). Organizations looking to digitally transform their business should explore how emerging technologies can help them create new products and services to drive incremental revenue.

Revenue from new digital channels, by number of emerging technologies in production use

Legend: ■ None in production use ■ 1 in production use ■ 2 or more in production use

- 5% or less revenue is from digital revenue streams established in last 24 months: 23%, 13%, 9%
- 6% to 10% of revenue is from digital revenue streams established in last 24 months: 30%, 22%, 19%
- More than 10% of revenue is from digital revenue streams established in last 24 months: 36%, 61%, 71%

Question text: To the best of your knowledge, approximately what percentage of your organization's revenue is derived from data-based digital products/services/experiences that did not exist 24 months ago? (Percent of respondents, N=465)

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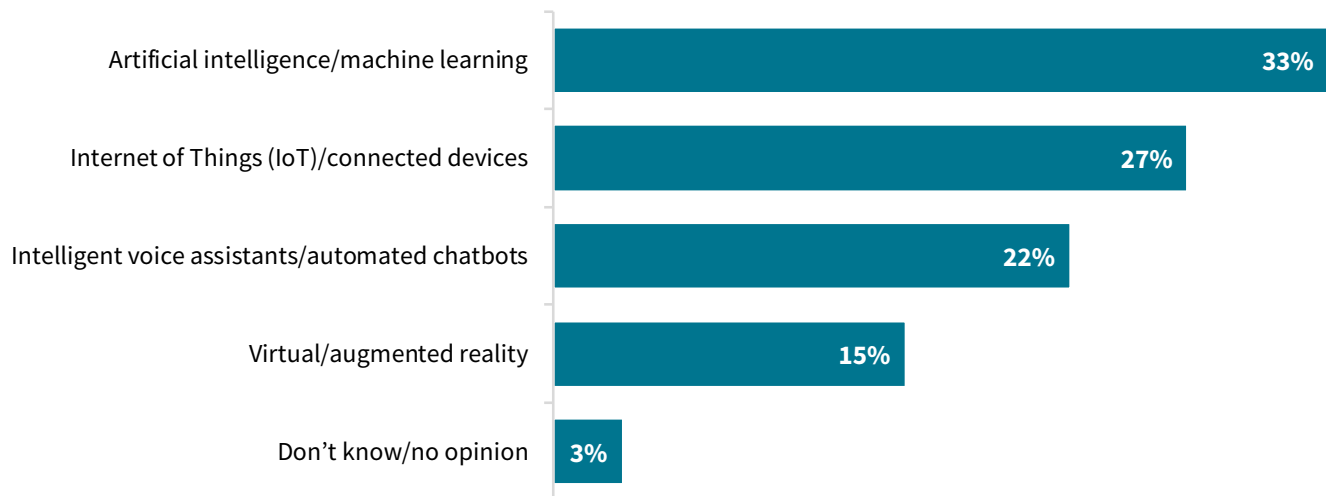# CX Spotlight: Artificial Intelligence/ Machine Learning

Artificial Intelligence Will Have the Most Transformative Impact on CX

Artificial intelligence refers to systems or machines that mimic human intelligence to perform tasks and can iteratively improve themselves based on the information they collect.

For example, an ecommerce company that utilizes web traffic and user interaction data at scale to automatically tailor offerings to site visitors is applying AI to CX. Another example would be an AI-enabled chatbot that learns from customer service interactions to more efficiently answer customer questions over time.

Our research shows that while each emerging technology can drive material benefits to organizations, AI/ML is most often expected to have the biggest impact on organizations over the next three to five years.

Which emerging technology will most impact your business?

Technology	Percent
Artificial intelligence/machine learning	33%
Internet of Things (IoT)/connected devices	27%
Intelligent voice assistants/automated chatbots	22%
Virtual/augmented reality	15%
Don't know/no opinion	3%

Question text: Which of these technologies do you believe will have the greatest impact on your business over the next 3-5 years?
(Percent of respondents, N=465)

What CX Visionaries say:

"**AI analytics will have the biggest impact on our CX strategy over the next few years.** We have so much data and the more we can leverage that, the more we can win customers as well as also ensure the best possible outcome for them."

– Director, financial services firm with $3B in annual revenue
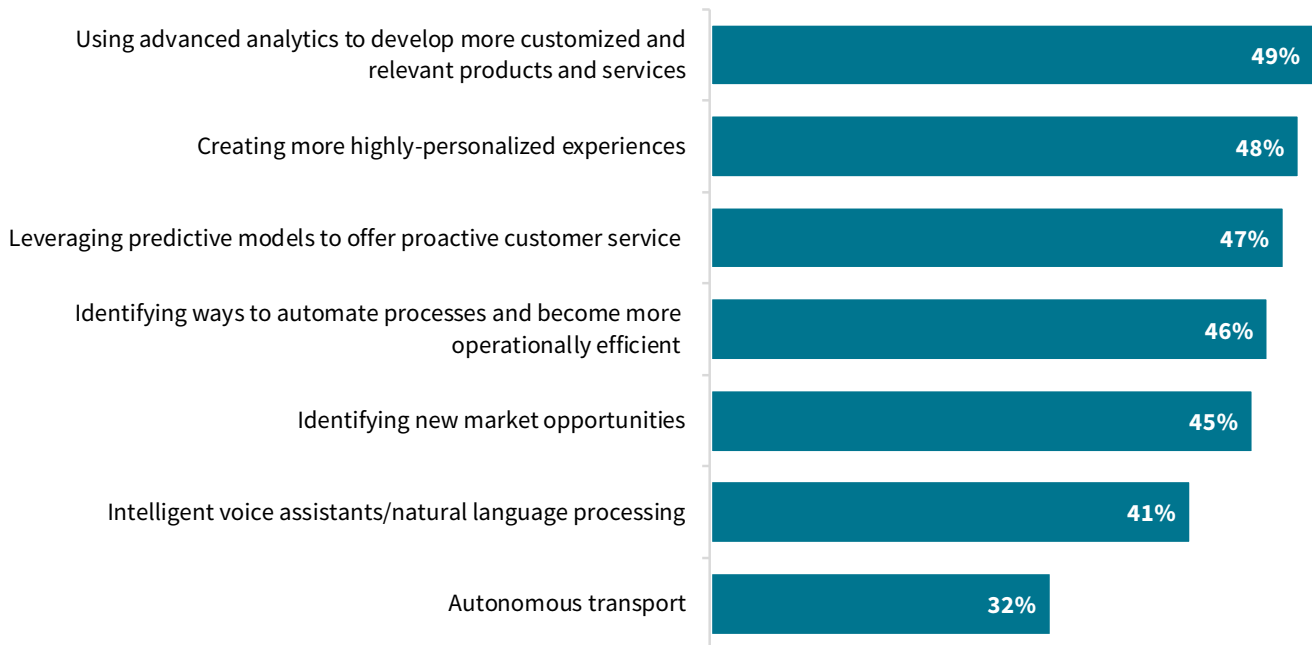
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AI Drives Value for Customers

Recent research from McKinsey estimates that AI has the potential to create over $600B in value in retail, of which, $100B is specific to customer service management improvements.[2]

Our research shows that early AI adopters are delivering increased value to customers by:

Learning more about their needs and preferences through behavioral analysis.

Customizing and personalizing offers.

Identifying and resolving issues via predictive customer service.

AI for CX is about knowing your customers and using that knowledge to delight them throughout the customer journey from offer to ongoing support and service.

Popularity of CX use cases for AI/ML

| Use case	%
Using advanced analytics to develop more customized and relevant products and services	49%
Creating more highly-personalized experiences	48%
Leveraging predictive models to offer proactive customer service	47%
Identifying ways to automate processes and become more operationally efficient	46%
Identifying new market opportunities	45%
Intelligent voice assistants/natural language processing	41%
Autonomous transport	32%

Question text: For which of the following use cases is your company using artificial intelligence/machine learning technology to enhance customer experience? (Percent of respondents, N=266, multiple responses accepted)

[2] Source: McKinsey, *Notes from the AI frontier: Applications and value of deep learning,* April 2018.

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Future in Focus: How AI Transforms Customer Engagement

Respondents anticipate that AI is going to transform the way companies present products and offers to customers and prospects. When asked, **86% agreed** that their organization will leverage AI to customize every product, service, or offer purchased by customers, ultimately making **individualization at scale a reality.** Respondents agreeing outnumbered those disagreeing by **43:1**.

86%

agreed their organization will use AI to customize every product, service, or offer purchased by customers.

- ■ Strongly agree
- ■ Agree
- ■ Neither agree nor disagree
- ■ Disagree
- ■ Strongly disagree
- ■ Don't know
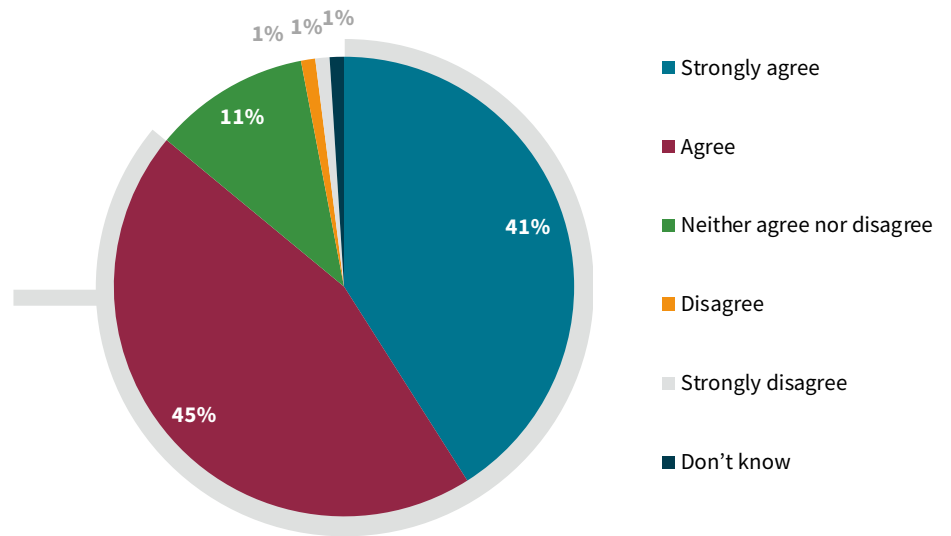
Question text: Agree or Disagree: Five years from now our company will utilize artificial intelligence, machine learning, and customer data to customize every product, service, or offer purchased by our customers. (Percent of respondents, N=417)

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AI Helps Businesses Fire on All Cylinders

The benefit to consumers is clear: AI will help buyers find the products or experiences they want. But, businesses also stand to gain. Early adopters of AI for CX report their organizations are frequently:

Differentiating themselves
from the pack
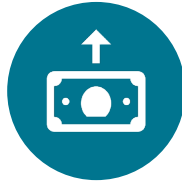
Increasing average selling
price/spend per customer

Deriving deeper insights into
the needs of customers

Business benefits of AI/ML for CX

Ability to provide a better and more differentiated customer experience	46%
Increased average transaction size or total-spend-per-customer	45%
Increased operational efficiencies	44%
Better insight into our customers' needs, preferences or behaviors	44%
Faster time to customer issue resolution	43%
Increased customer engagement with our products, services or brand	43%
Faster time to customer task completion	41%
Development of new innovative products and services	37%

Question text: Which of the following benefits have you realized as a result of your use of artificial intelligence/machine learning technology to enhance customer experience? (Percent of respondents, N=266, multiple responses accepted)

CX Spotlight:
Intelligent Voice
Assistants and
Chatbots

Use of Intelligent Voice Assistants Growing Rapidly

Intelligent voice assistants and chatbots can perform tasks or services for an individual based on verbal commands. Users can ask these assistants questions, control home automation devices and media playback via voice, and manage other basic tasks such as email, to-do lists, and calendars. They are rapidly permeating the modern customer experience, from automated chat functions offered through websites, to virtual assistants embedded in our phones and apps, to smart speakers installed in our homes.

To put this proliferation in context, in the fourth quarter of 2018, 38.5 million smart speakers were sold worldwide, more than double the number sold in the fourth quarter of 2017.[3] In the US, 20% of households use smart speakers today.[4]

Our research shows organizations see voice technology as a means to:

Handle customer
inquiries

Guide customers to relevant
products and offers

Alert customers about their order
status/account info

Popularity of CX use cases for intelligent voice assistants

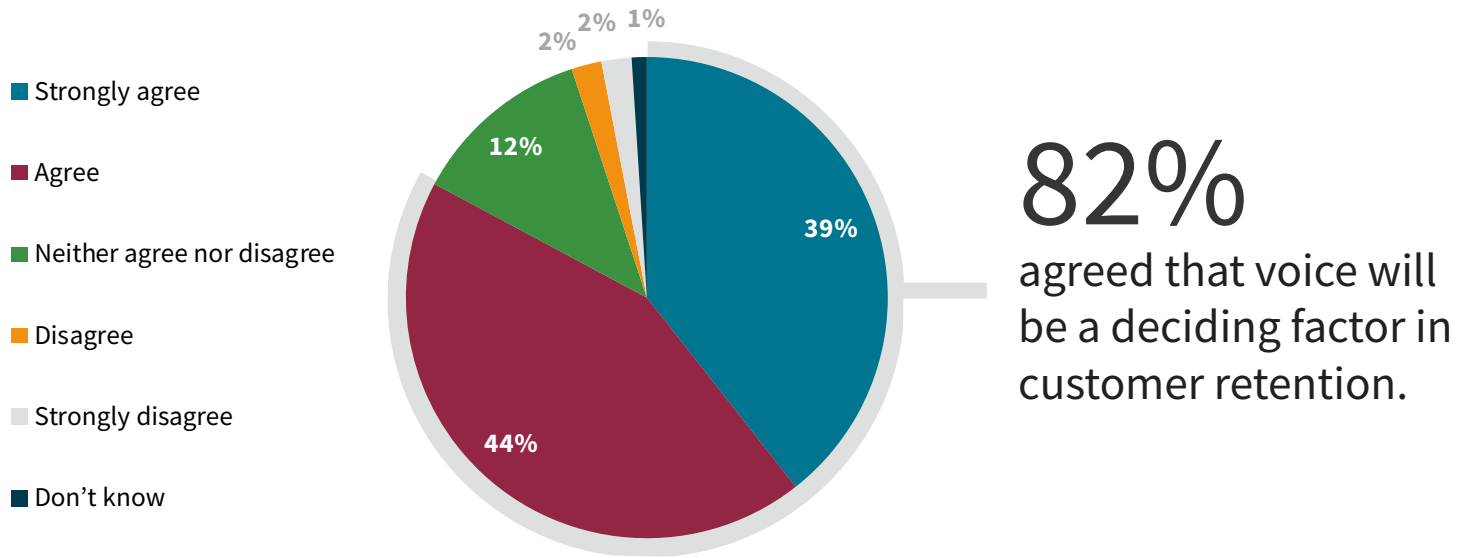| Use case	Percent
General customer service inquiries	58%
Guide customers on product selection	50%
Order status	49%
Check balance/account details	46%
Reservations/appointment scheduling	46%
Make purchases	44%

Question text: For which of the following use cases is your company using intelligent voice assistant/automated chatbot technology to enhance customer experience? (Percent of respondents, N=298, multiple responses accepted)

[3] Source: Strategy Analytics, February 2018.
[4] Source: Voicebot, Smart Speaker Consumer Adoption Report, January 2018.

Future in Focus: Intelligent Voice Approaches Existential Importance

Respondents anticipate that intelligent voice capabilities will be a deciding factor in where consumers will take their business. When asked, **82% agreed** that if their organization does not enhance voice capabilities, they will lose significant market share to competitors that do. **Voice will be a deciding factor in customer retention.**

- ■ Strongly agree
- ■ Agree
- ■ Neither agree nor disagree
- ■ Disagree
- ■ Strongly disagree
- ■ Don't know

Pie chart values: 39%, 44%, 12%, 2%, 2%, 1%

82%
agreed that voice will be a deciding factor in customer retention.

Question text: Agree or Disagree: If my company does not add intelligent voice interaction capabilities to our products and services within the next five years, we will lose a significant amount of market share to competitors that do. (Percent of respondents, N=454)

What CX Visionaries say:

"**Currently, about 10% of customer requests are handled via chatbots exclusively.** There are some situations where people need help and they are going to want to talk to another human being. We are pushing for technology to take care of everything else."

– Senior Manager of Marketing Technology at a financial services firm with 6,000 employees

CX Benefits Driven by Intelligent Voice Investments

Early adopters are reporting significant gains related to use. Of those respondents employed at organizations using intelligent voice for CX today, many report improvements in:

Customer issue
resolution

Operational efficiencies driven
by automation

Differentiation from
competitors

CX benefits of intelligent voice

Faster time to customer issue resolution	51%
Increased operational efficiencies	50%
Ability to provide a better and more differentiated customer experience	48%
Faster time to customer task completion	46%
Better insight into our customers' needs, preferences or behaviors	42%
Development of new innovative products and services	38%
Increased customer engagement with our products, services or brand	37%
Increased average transaction size or total-spend-per-customer	37%

Question text: Which of the following benefits have you realized as a result of your use of intelligent voice assistant/automated chatbot technology to enhance customer experience? (Percent of respondents, N=298, multiple responses accepted)

What CX Visionaries say:

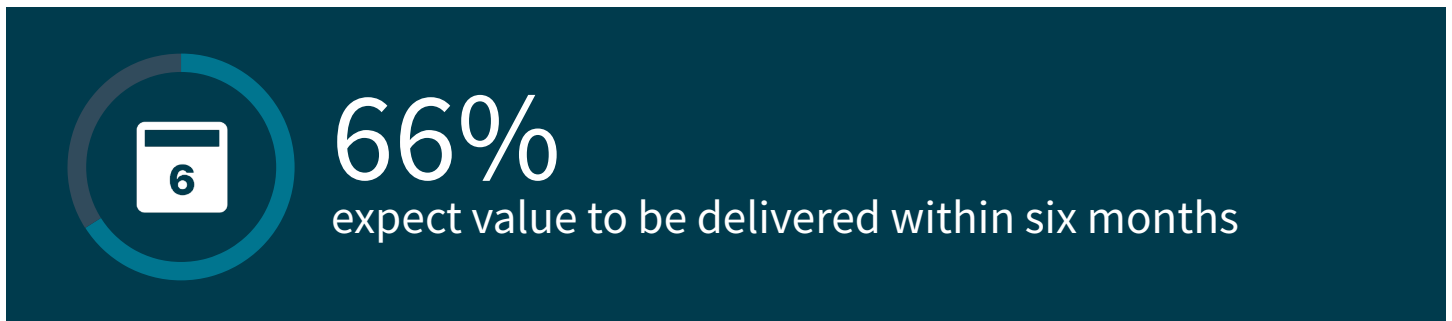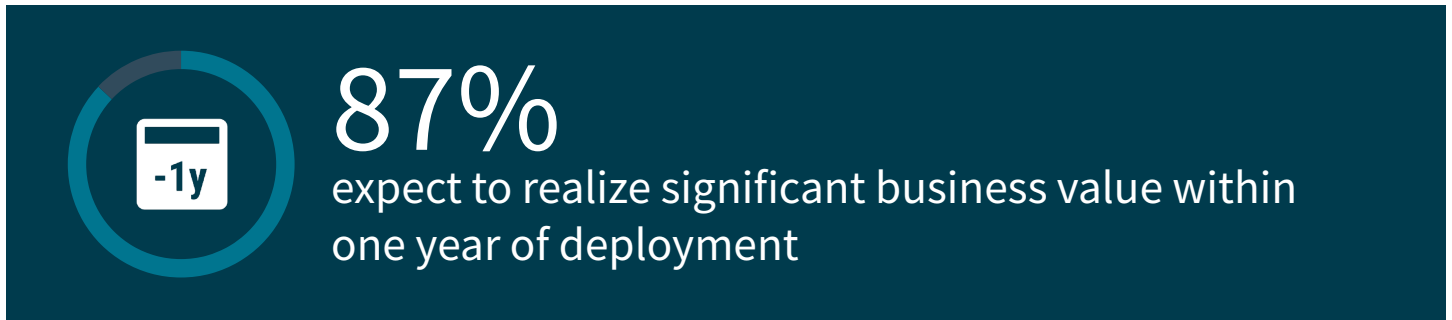"We definitely expect that customers will want more chatbot-based interactions in the future. This will be important for our online channels especially in peak season when customers can be on hold with our call centers for hours. We can't ever staff that season adequately."

– Director at a financial services firm with $3B in annual revenue
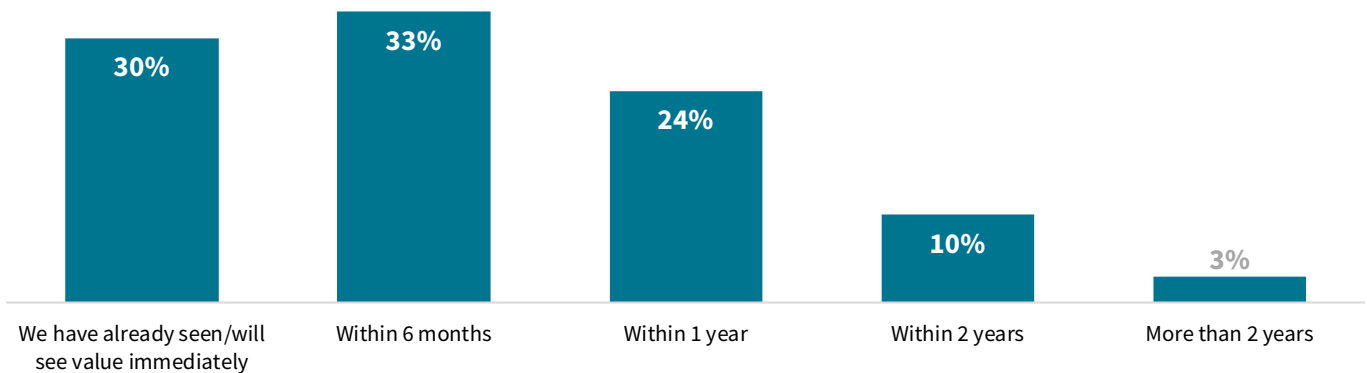
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Early Returns Achieved from Intelligent Voice Assistants

Clearly the benefits enabled by intelligent voice matter in the context of delivering exceptional CX. However, the speed at which organizations are achieving payback from these investments is noteworthy.

We asked respondents at organizations using intelligent voice for CX today about the timeframe in which they expect to see business value from that usage:

87% expect to realize significant business value within one year of deployment

66% expect value to be delivered within six months

Time to value of intelligent voice for CX

We have already seen/will see value immediately	Within 6 months	Within 1 year	Within 2 years	More than 2 years
30%	33%	24%	10%	3%

Question text: In what time frame will your company start to see significant business value from your use of intelligent voice assistant/automated chatbot technologyto enhance customer experience? (Percent of respondents, N=298)

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CX Spotlight: Virtual and Augmented Reality

Virtual and Augmented Reality Are Shifting How Customers Interact with Products

Virtual reality (VR) is an interactive computer-generated experience, commonly delivered via a headset, taking place within a simulated environment. It creates an immersive environment that incorporates auditory and visual feedback, as well as other types of sensory feedback. Augmented reality (AR) is an interactive experience in a real-world environment where the objects that reside in the real world are "augmented" by computer-generated perceptual information.

Estimates show that over 36 million US consumers engage in VR experiences on a monthly basis today.[5] Moreover, the global market for VR/AR technology is poised to grow to $94.4B by 2023.[6]

How are brands capitalizing on this burgeoning market to enhance customer experience? Early adopters most often report that their organizations leverage VR and AR to:

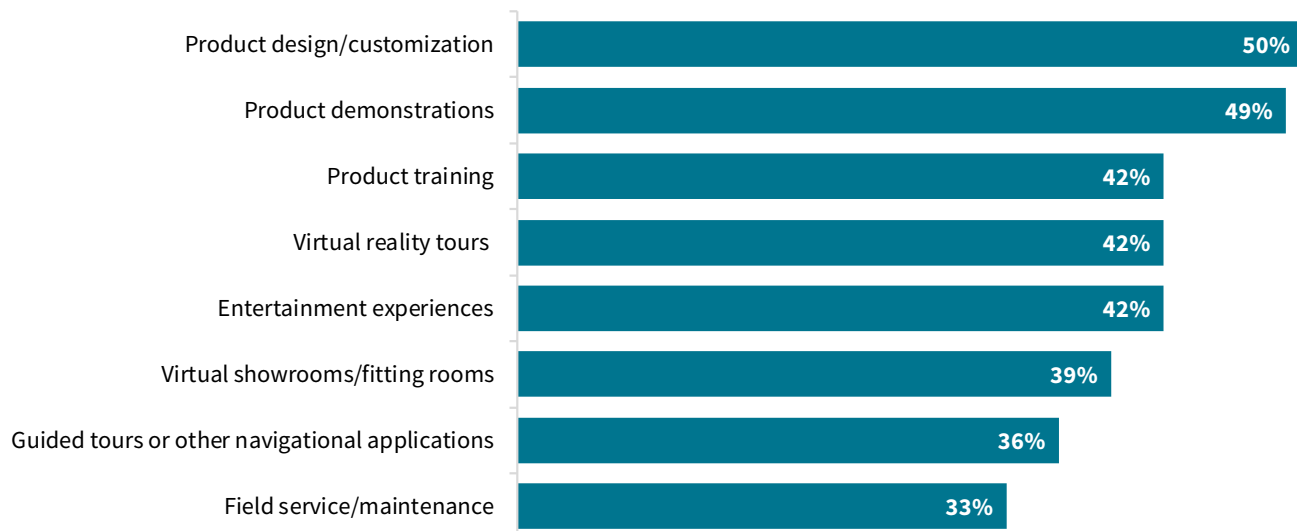| Allow customers to customize / preview products	Engage in demonstrations/ training sessions	Participate in new experiences and entertainment offerings

Popularity of CX use cases for AR/VR

Use case	Percent
Product design/customization	50%
Product demonstrations	49%
Product training	42%
Virtual reality tours	42%
Entertainment experiences	42%
Virtual showrooms/fitting rooms	39%
Guided tours or other navigational applications	36%
Field service/maintenance	33%

Question text: For which of the following use cases is your company using virtual/augmented reality technology to enhance customer experience? (Percent of respondents, N=248, multiple responses accepted)
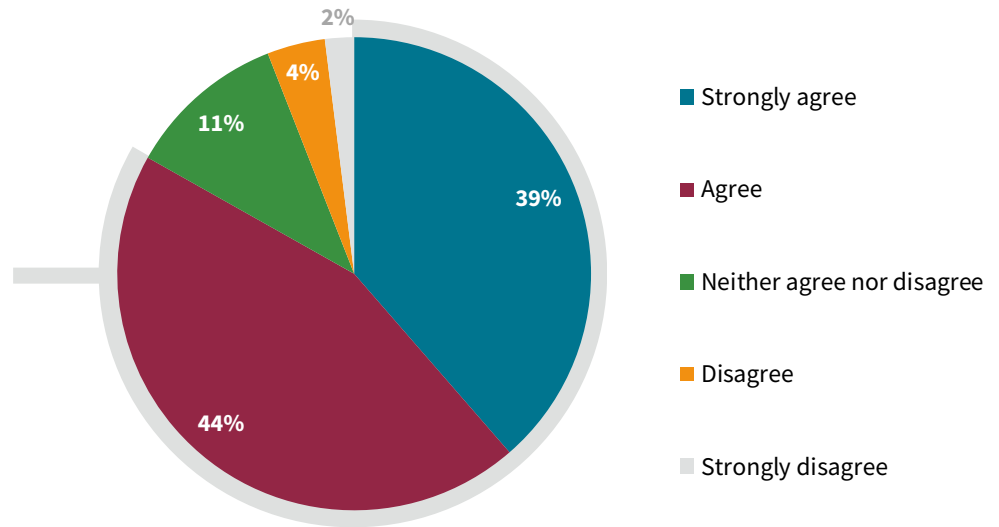
[5] Source: eMarketer, May 2017.
[6] Source: P&S Market Research, June 2018.

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Future in Focus: VR/AR Approach an Inflection Point

While the current market size and expected growth show that VR and AR technologies are nascent, CX stakeholders believe these technologies will dramatically disrupt the modern customer experience. When asked, **84% agreed** that the virtual and augmented reality experiences their companies offer over the next five years will have a bigger impact on CX metrics than experiences in the physical world. **VR/AR have the potential to supplant brick and mortar CX.**

84%
agreed that VR/AR have the potential to supplant brick and mortar CX.

2%
4%
11%
39%
44%

- ■ Strongly agree
- ■ Agree
- ■ Neither agree nor disagree
- ■ Disagree
- ■ Strongly disagree

Question text: Agree or Disagree: Five years from now our customers' virtual/augmented reality experiences will have a bigger impact on customer satisfaction and brand loyalty than their experiences with our brand/products/services in the physical world. (Percent of respondents, N=455)

What CX Visionaries say:

"VR/AR has a lot of potential for helping both doctors and patients understand surgical procedures and options, how a device works, and how it will function inside the body. Ultimately anything that helps doctors or customers make more informed medical decisions is something we think is valuable."

– VP of Brand Strategy at a medical device manufacturer with $9B in annual revenue

CX Benefits Achieved from Investments in VR/AR

Disruption breeds opportunity, and early adopters of VR/AR for CX are already reaping significant rewards. These organizations are most often:

Improving customer issue resolution

Capturing better insights into customer preferences

Differentiating themselves from their competition

CX benefits of VR/AR

Faster time to customer issue resolution	48%
Better insight into our customers' needs, preferences or behaviors	47%
Ability to provide a better and more differentiated customer experience	45%
Increased customer engagement with our products, services or brand	44%
Increased operational efficiencies	44%
Faster time to customer task completion	43%
Development of new innovative products and services	41%
Increased average transaction size or total-spend-per-customer	40%

Question text: Which of the following benefits have you realized as a result of your use of virtual/augmented reality technology to enhance customer experience? (Percent of respondents, N=248, multiple responses accepted)

What CX Visionaries say:

"Virtual reality could really enhance our concierge experience. What if we could show our visitors different local attractions they might like so that they can make the most of their trip and ultimately have the best possible experience?"
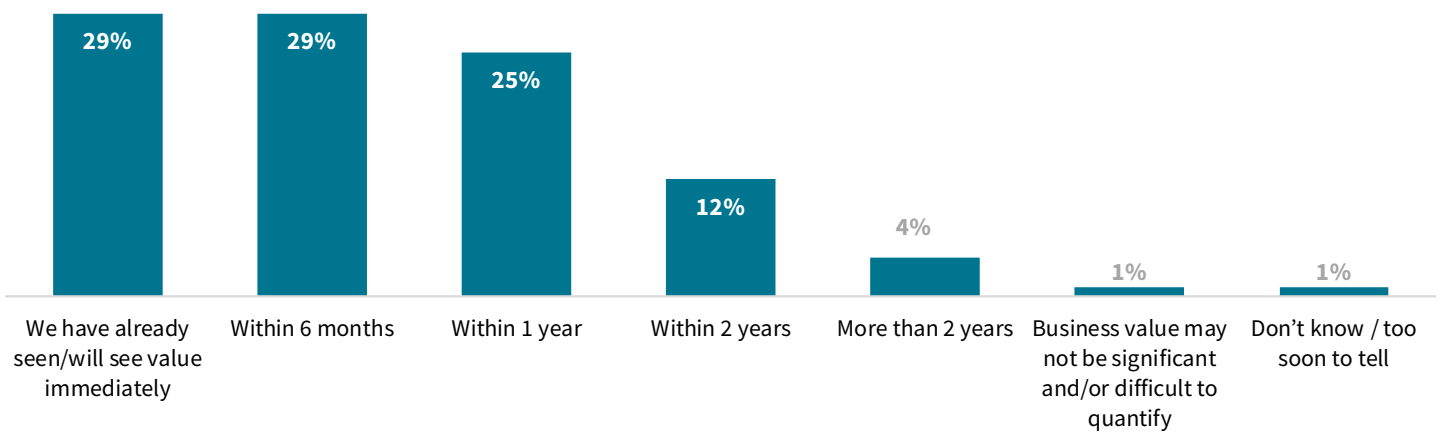
–Head of Digital Marketing at a hospitality company with 70,000 employees worldwide

Early Returns Achieved from VR/AR CX Initiatives

Any of the benefits that organizations are already achieving in a vacuum can deliver extraordinary business value. However, the time and effort required to deliver benefits is important to understand for those evaluating whether the technology makes sense for their company.

Early adopters are positive about the time to value experienced. **More than four out of five firms (83%)** using VR/AR technology expect to realize significant business value within one year of deployment and **more than half (58%)** expect value to be delivered within six months.

Time to value of AR/VR for CX

29%	**29%**	**25%**	**12%**	4%	1%	1%
We have already seen/will see value immediately	Within 6 months	Within 1 year	Within 2 years	More than 2 years	Business value may not be significant and/or difficult to quantify	Don't know / too soon to tell

Question text: In what time frame will your company start to see significant business value from your use of virtual/augmented reality technology to enhance customer experience? (Percent of respondents, N=248)

83% using VR/AR technology expect to realize significant business value within one year of deployment

58% expect value to be delivered within six months

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CX Spotlight:
Internet of Things

IoT Increases CX Velocity and Intelligence

The concept of the **Internet of Things (IoT)** is to connect devices to both the Internet and to one another. This includes a broad swath of devices such as smartphones, home appliances, wearable devices, commercial equipment, and almost anything else with an IP address. These connections drive intelligence about individuals' behaviors, preferences, and device usage. For example, if your office copier knew when toner was running low, it could automatically re-order more. If your car were connected to your calendar, it could automatically determine the best route to take to your next meeting.

Bain estimates the market for IoT devices, software, and services is significant. As of 2017, the market was $235B and was tracking to grow to $520B by 2021.[7] Is the connected device revolution impacting CX? Absolutely. Our research shows that 66% of organizations currently use IoT to impact CX today, either in production (45%) or as part of a pilot project (21%).

How are organizations making IoT for CX a reality? A majority of respondents indicate IoT initiatives are aimed at:
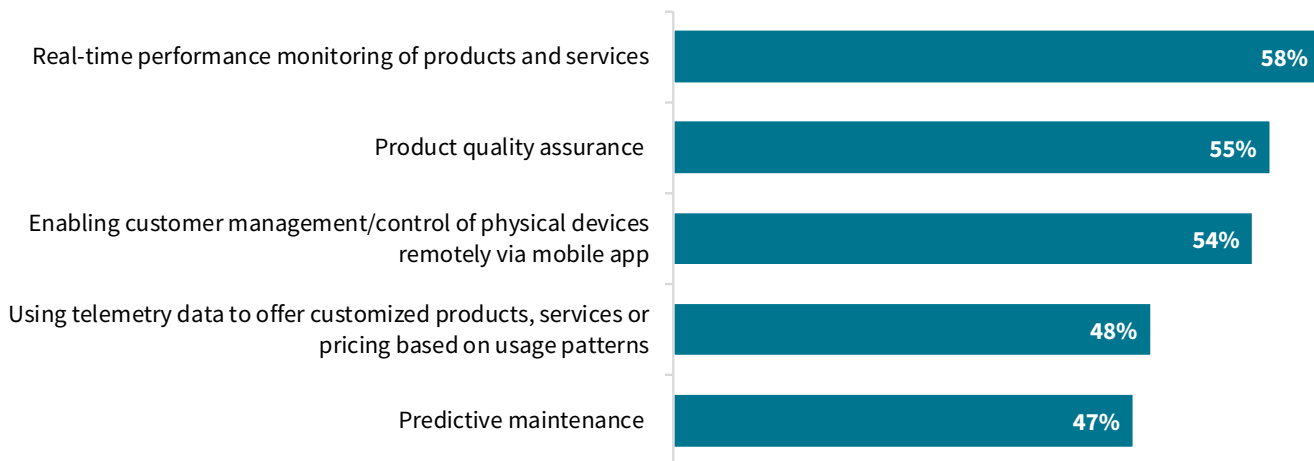
Real-time product
performance monitoring

Product quality
assurance

Enabling customers to manage
devices via a mobile app

Popularity of CX use cases for IoT

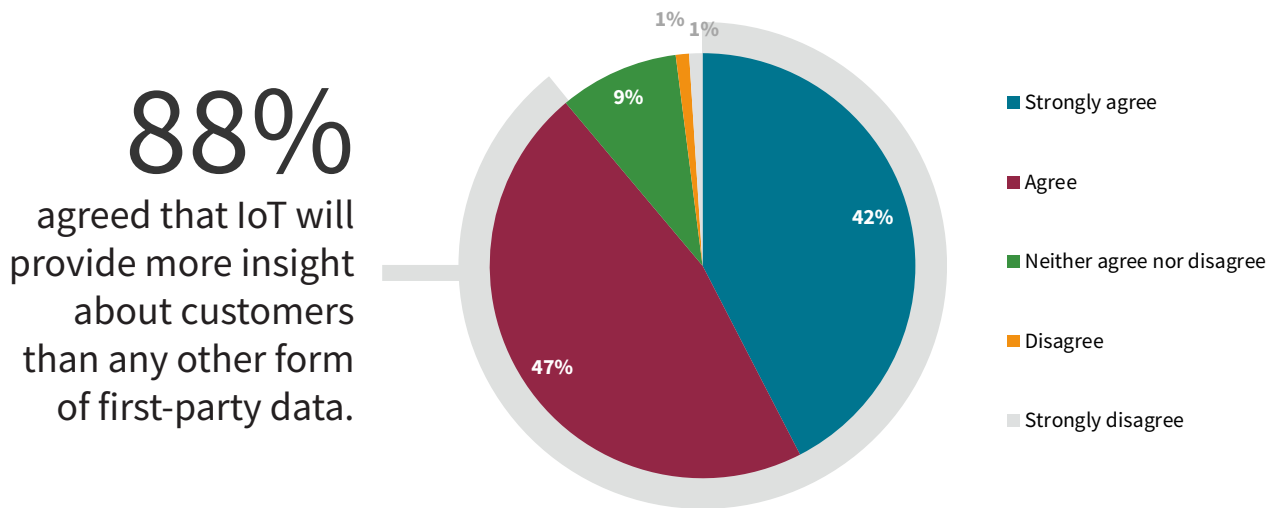|	
Real-time performance monitoring of products and services	58%
Product quality assurance	55%
Enabling customer management/control of physical devices remotely via mobile app	54%
Using telemetry data to offer customized products, services or pricing based on usage patterns	48%
Predictive maintenance	47%

Question text: For which of the following use cases is your company using Internet of Things/connected device technology to enhance customer experience? (Percent of respondents, N=308, multiple responses accepted)

[7] Source: Bain analysis, 2018.

Future in Focus: Unlocking the Treasure Trove of IoT Data

As IoT initiatives mature, a tremendous amount of device usage data will be produced. CX thought leaders have big plans for that data. When asked, **88% agreed** that IoT data will provide companies more insight about customers than any other form of first-party data. **IoT will provide a treasure trove of information to organizations looking to provide their customers with the best possible customer experience.** Respondents who agreed outnumbered those who disagreed by **44:1**.

88%
agreed that IoT will provide more insight about customers than any other form of first-party data.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

42%
47%
9%
1%
1%

Question text: Agree or Disagree: Five years from now my company will learn more about our customers from their intelligent, connected devices than any other form of first-party data like customer surveys, transaction histories, and rewards programs. (Percent of respondents, N=417)

What CX Visionaries say:

"We're using IoT and telematics to help us better understand risk in our long-haul trucking businesses. It's making it much easier for us to have the right level of coverage in an industry that has traditionally been very hard to insure."

– CMO of a commercial insurance firm with $7B in annual revenue

IoT Enables Action on Insight

Current users of IoT for CX are already reporting a broad array of benefits, and half note they are gaining better insight into customers' needs and preferences. Many also report:

| Improvements in differentiation | Increased operational efficiency | Faster customer issue resolution |

CX benefits of IoT

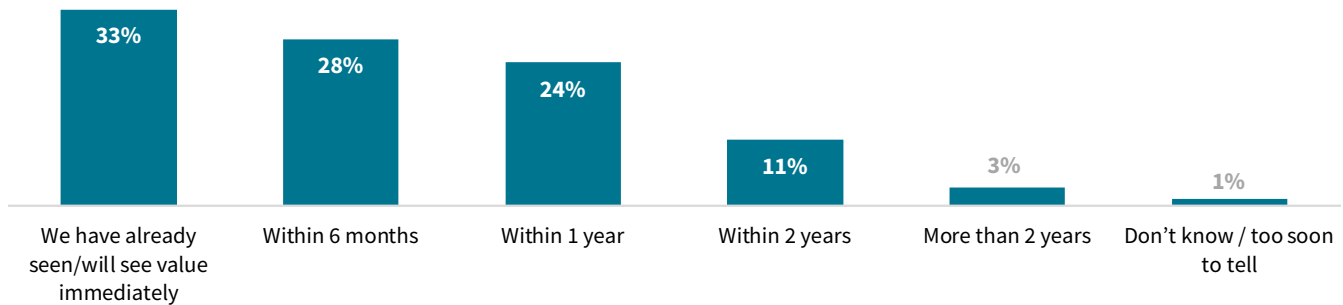| Benefit	Percent
Better insight into our customers' needs, preferences or behaviors	50%
Ability to provide a better and more differentiated customer experience	47%
Increased operational efficiencies	46%
Faster time to customer task completion	45%
Faster time to customer issue resolution	45%
Development of new innovative products and services	43%
Increased average transaction size or total-spend-per-customer	43%
Increased customer engagement with our products, services or brand	42%

Question text: Which of the following benefits have you realized as a result of your use of Internet of Things/connected device technology to enhance customer experience? (Percent of respondents, N=308, multiple responses accepted)

Early Returns Achieved from Investments in IoT Tech

Organizations need to invest in technologies that provide value in a reasonable time horizon. To understand the payback period for IoT initiatives, we asked respondents about the timeframe in which they have achieved or expect to achieve significant business value. **Eighty five percent** of firms using IoT for CX expect to realize significant business value within one year of deployment and more than **three out of five (61%)** expect value to be delivered within six months.

Time to value of IoT for CX

Category	Percent
We have already seen/will see value immediately	33%
Within 6 months	28%
Within 1 year	24%
Within 2 years	11%
More than 2 years	3%
Don't know / too soon to tell	1%

Question text: In what time frame will your company start to see significant business value from your use of Internet of Things technology to enhance customer experience?(Percent of respondents, N=308)

85%
of firms using IoT for CX expect to realize significant business value within one year of deployment

61%
expect value to be delivered within six months.

What CX Visionaries say:

"We sell IoT-connected printers and commercial paper shredders. These will be voice-enabled in the next year. You will be able to communicate to the product via a mobile app or voice assistant to monitor product status or place orders for parts and accessories."

– VP of Marketing at a consumer goods manufacturer with 5,000 employees worldwide

Maximizing CX Success with New Technologies

Our research shows that current users of emerging technologies like AI, VR/AR, IoT, and intelligent voice assistants are helping to deliver a better, more differentiated customer experience, reduce customer time to task completion, and provide better insights into customer needs, preferences, and behaviors. These technologies enable the development of new distinctive products/ services and are even helping to drive higher average transaction sizes. Companies looking to achieve similar CX outcomes should keep the following considerations in mind.

Embrace holistic CX best practices. CX leadership is about more than just technology adoption; embracing CX best practices also matters. Research shows that organizations that successfully marry technology with sound people and process best practices (i.e., those companies classified as CX Visionaries) are more likely to realize disproportionate benefits from their use of emerging CX technologies.

Know your customer. Deploying new and emerging technologies for CX is not a trivial endeavor. Thoughtful analysis of your customers' preferences and the core attributes your organization wishes to reinforce should both be determining factors in deciding which technologies and use cases make sense for your organization.

Learn from leaders. Among the challenges reported by organizations using these technologies today, ensuring data governance and privacy; dealing with legacy technology; and cultural resistance are cited as the most frequently experienced challenges. Emphasize data privacy/trust and the importance of organizational alignment and buy-in.

Avoid analysis paralysis. Non-adopters fall into a trap: Research shows non-adopters report concerns about technology maturity, time to value, and lack of skills. Current adopters report those issues at a significantly lower rate than their non-adopter peers, implying that these may not be the barriers to adoption or success that non-adopters think they are.

Learn more about how Oracle can help your organization transform CX here:

https://www.oracle.com/applications/customer-experience/

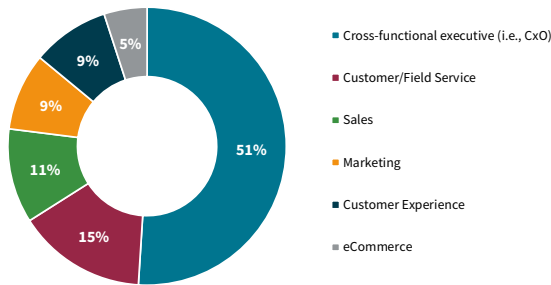ORACLE®   ESG

Research Methodology and Demographics

To gather data for this report, Oracle and ESG conducted a comprehensive online survey of senior line-of-business executives focused on customer experience at their organizations. Respondents based in the US, Brazil, France, UK, South Korea, and Japan participated. The survey was fielded between October 4, 2018 and November 12, 2018.

To qualify for this survey, respondents were required to hold a director-level or higher title and be employed in a sales, marketing, customer service, ecommerce, and/or equivalent capacity. All respondents were also required to be employed at organizations with annual revenues of $250M US or more.
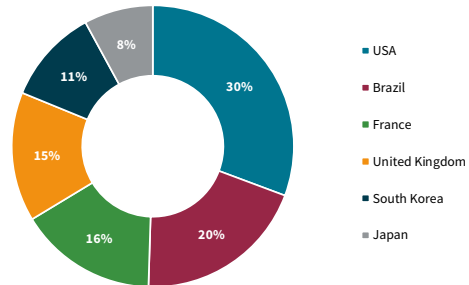
After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 465 respondents remained.

All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents. Note: Totals in figures and tables throughout this report may not add up to 100% due to rounding.
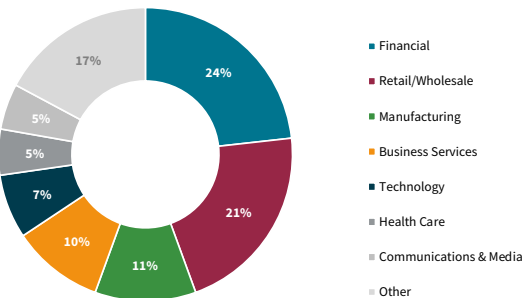
Respondents by functional group.
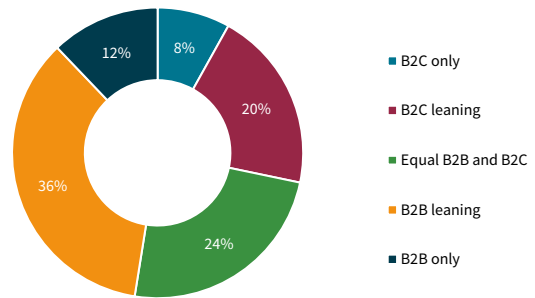(Percent of respondents, N=465)

- 51% Cross-functional executive (i.e., CxO)
- 15% Customer/Field Service
- 11% Sales
- 9% Marketing
- 9% Customer Experience
- 5% eCommerce

Respondents by country.
(Percent of respondents, N=465)

- 30% USA
- 20% Brazil
- 16% France
- 15% United Kingdom
- 11% South Korea
- 8% Japan

Respondents by industry.
(Percent of respondents, N=465)

- 24% Financial
- 21% Retail/Wholesale
- 11% Manufacturing
- 10% Business Services
- 7% Technology
- 5% Health Care
- 5% Communications & Media
- 17% Other

Respondents by target market.
(Percent of respondents, N=465)

- 8% B2C only
- 20% B2C leaning
- 24% Equal B2B and B2C
- 36% B2B leaning
- 12% B2B only

How many employees does your company have worldwide?
(Percent of respondents, N=465)

- Less than 500: 3%
- 500 to 999: 13%
- 1,000 to 2,499: 14%
- 2,500 to 4,999: 21%
- 5,000 to 9,999: 17%
- 10,000 to 19,999: 14%
- 20,000 or more: 19%
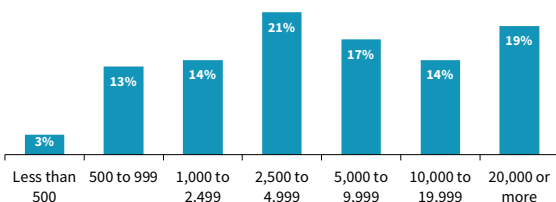
What is your company's total annual revenue ($US)?
(Percent of respondents, N=465)

- $250m to $499m: 7%
- $500m to $749m: 15%
- $750m to $999m: 15%
- $1b to $4.9b: 25%
- $5b to $9.9b: 17%
- $10b to $19.9b: 10%
- $20b or more: 11%
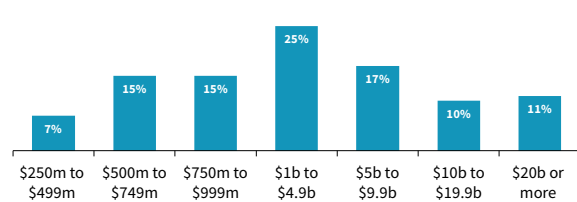
Appendix:
Additional
Research Data

Capabilities increasing in importance over the next 3-5 years

Capability	Percent
24-hour customer service regardless of platform	44%
Ability to easily engage with a brand on any platform	43%
Assurance of customer data privacy/trust	42%
Highly personalized products, services or experiences	40%
Expectation that technology should be simple to use and "just work"	39%
A common customer experience across channels	38%
Pricing simplicity and transparency	36%
Simple ordering process	34%
Immediate or short-term order fulfillment	31%
Ability to purchase or get service without human interaction	31%
Offering more products or services based on a subscription model	29%
Transparency into sourcing, labor practices, or company policies	27%
Brand-led activism	24%

Question text: Which of the following capabilities or attributes of your company do you believe will become more important to your customers over the next 3-5 years? (Percent of respondents, N=465, multiple responses accepted)
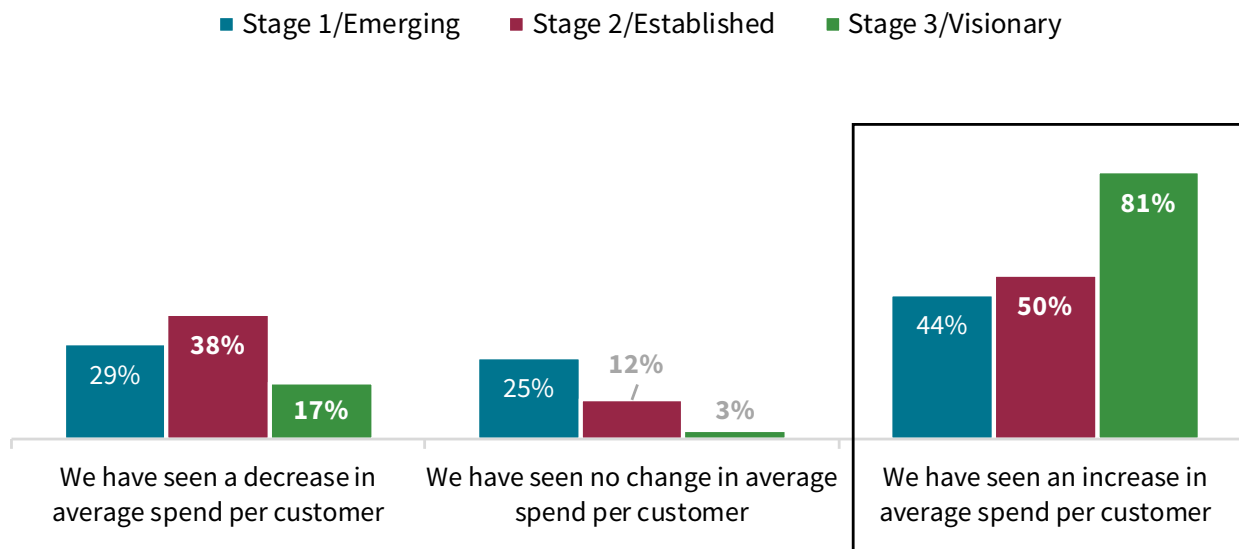
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Correlations between CX Maturity and Outcomes

Typical achievement of customer satisfaction goals, by CX maturity
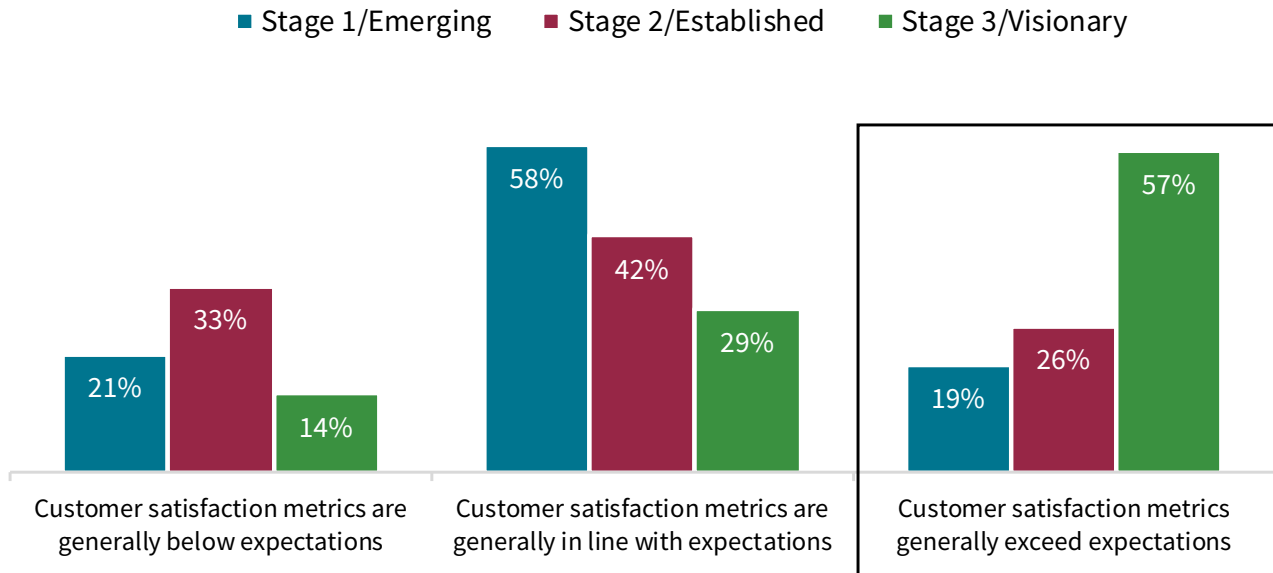
■ Stage 1/Emerging ■ Stage 2/Established ■ Stage 3/Visionary

	Customer satisfaction metrics are generally below expectations	Customer satisfaction metrics are generally in line with expectations	Customer satisfaction metrics generally exceed expectations
Stage 1/Emerging	21%	58%	19%
Stage 2/Established	33%	42%	26%
Stage 3/Visionary	14%	29%	57%

Question text: How does your company generally perform in terms of formal customer satisfaction measurement – e.g., Net Promoter Score, Customer Satisfaction or similar metrics?
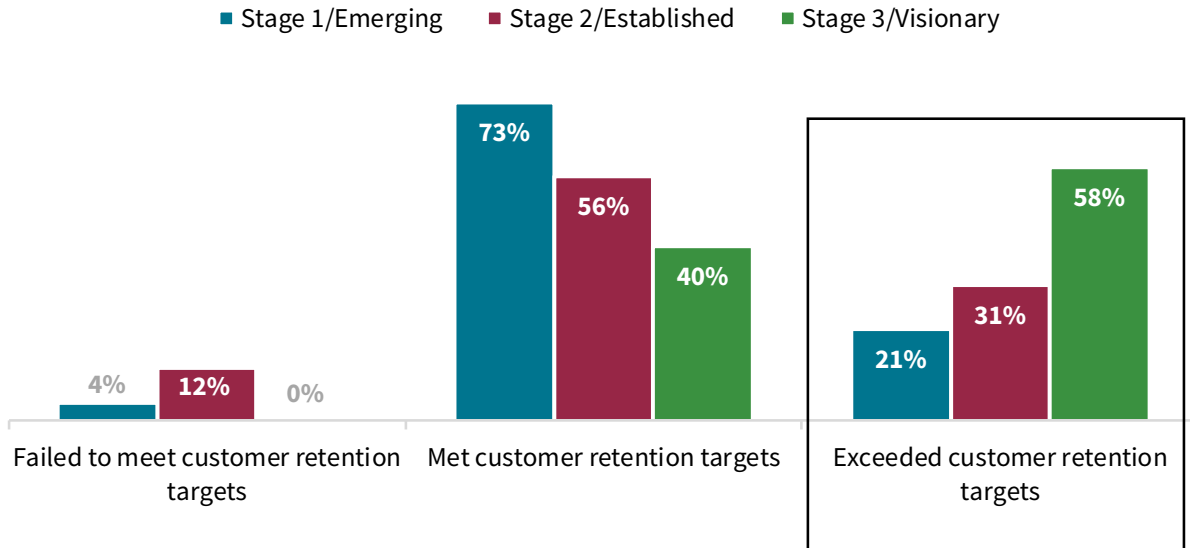
Change in average spend per customer over past 12 months, by CX maturity

■ Stage 1/Emerging ■ Stage 2/Established ■ Stage 3/Visionary

	We have seen a decrease in average spend per customer	We have seen no change in average spend per customer	We have seen an increase in average spend per customer
Stage 1/Emerging	29%	25%	44%
Stage 2/Established	38%	12%	50%
Stage 3/Visionary	17%	3%	81%

Question text: Over the past 12 months, how would you characterize the change in the amount per year that your customers spend with your organization (i.e., how much the average customer spends on your goods and services per year)?
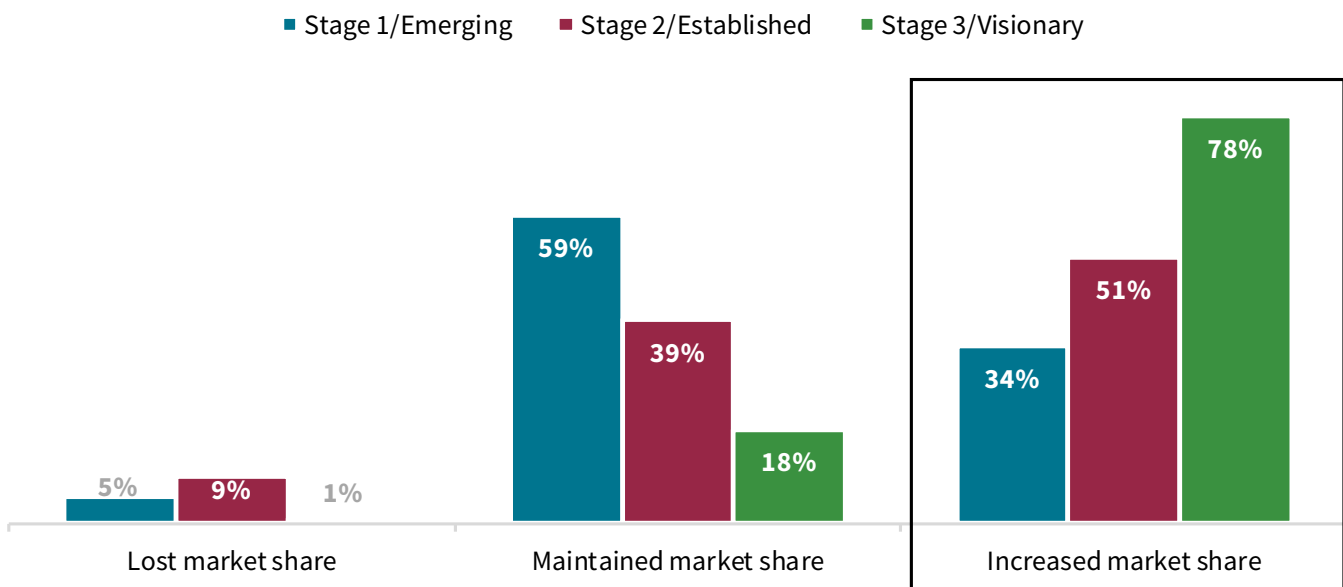
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Correlations between CX Maturity and Outcomes (continued)

Achievement of customer retention goals over past 12 months, by CX maturity

■ Stage 1/Emerging   ■ Stage 2/Established   ■ Stage 3/Visionary

Failed to meet customer retention targets	Met customer retention targets	Exceeded customer retention targets
4% / 12% / 0%	73% / 56% / 40%	21% / 31% / 58%

Question text: In the past 12 months, has your company failed to meet, met, or exceeded its customer retention targets?

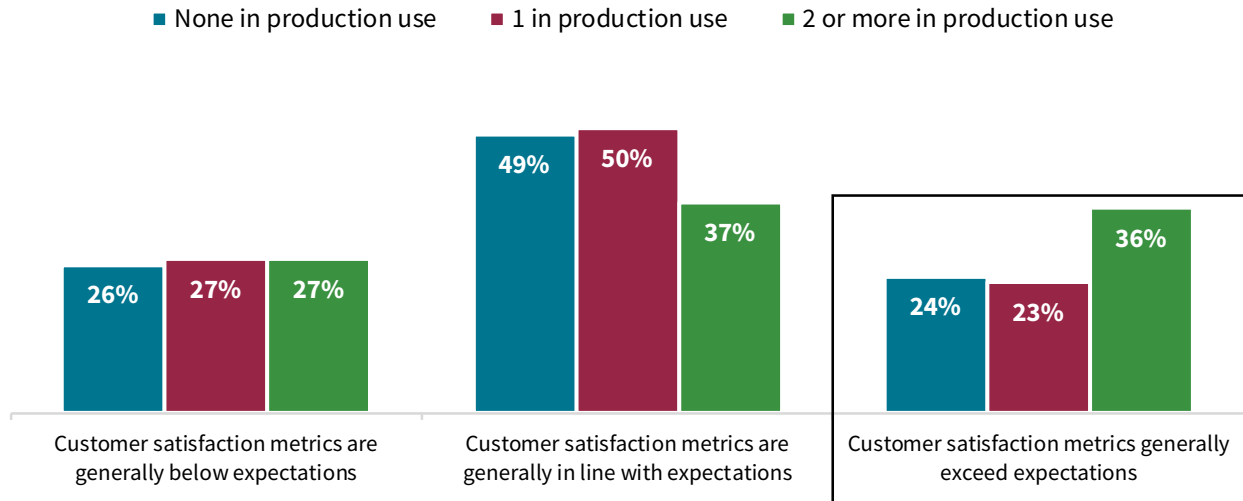## Change in market share over past 12 months, by CX maturity

■ Stage 1/Emerging   ■ Stage 2/Established   ■ Stage 3/Visionary

Lost market share	Maintained market share	Increased market share
5% / 9% / 1%	59% / 39% / 18%	34% / 51% / 78%

Question text: In the past 12 months, has your company increased, maintained, or lost market share ?
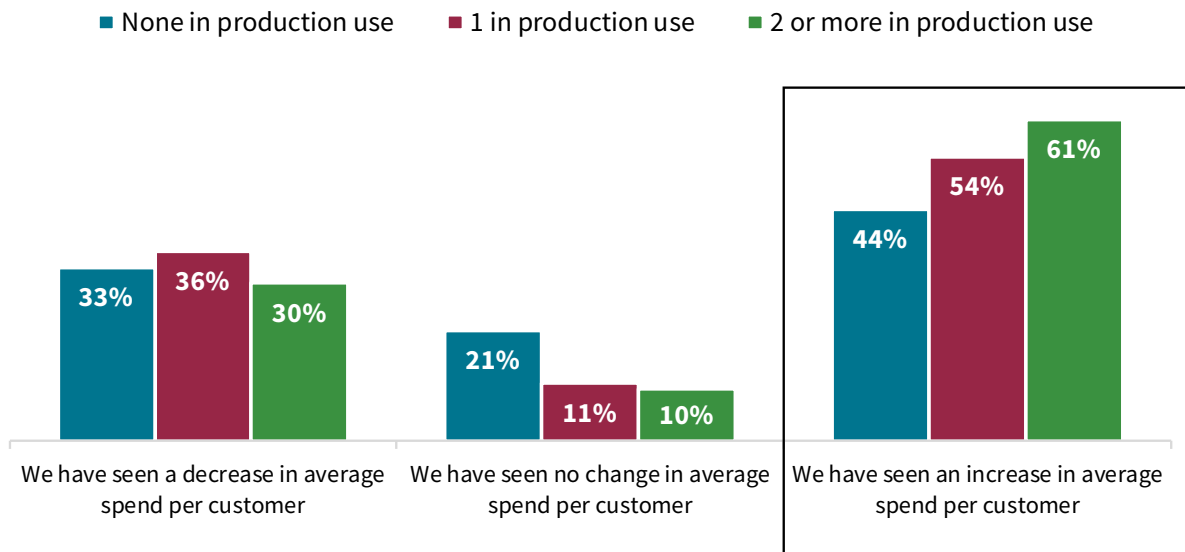
Correlations between Emerging Tech Usage and CX Outcomes

Typical achievement of customer satisfaction goals, by number of emerging technologies in production use

■ None in production use   ■ 1 in production use   ■ 2 or more in production use

	None	1	2 or more
Customer satisfaction metrics are generally below expectations	26%	27%	27%
Customer satisfaction metrics are generally in line with expectations	49%	50%	37%
Customer satisfaction metrics generally exceed expectations	24%	23%	36%

Question text: How does your company generally perform in terms of formal customer satisfaction measurement – e.g., Net Promoter Score, Customer Satisfaction or similar metrics?
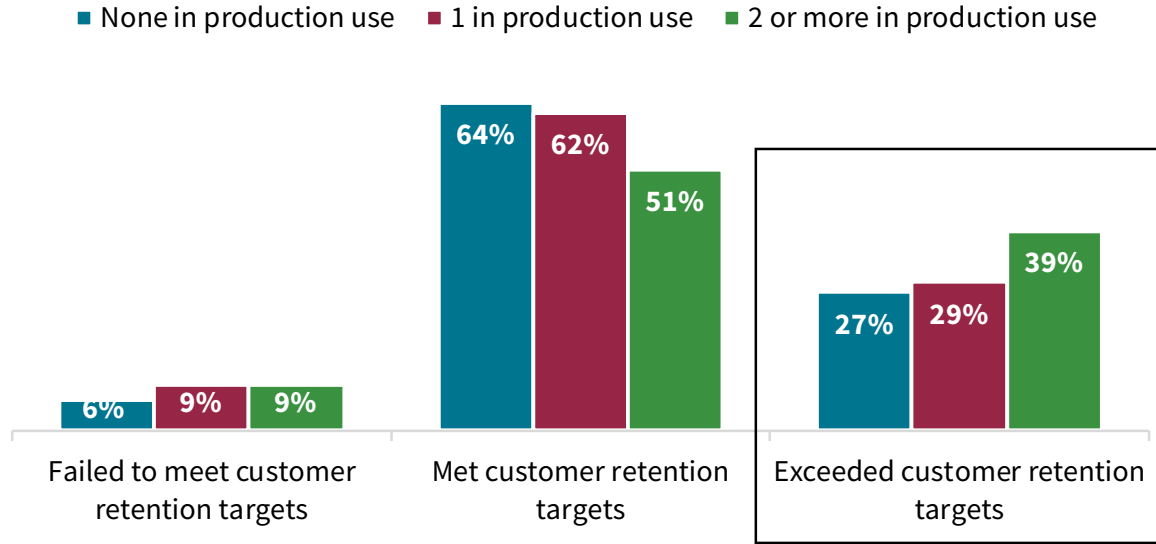
Change in average spend per customer over past 12 months, by number of emerging technologies in production use

■ None in production use   ■ 1 in production use   ■ 2 or more in production use

	None	1	2 or more
We have seen a decrease in average spend per customer	33%	36%	30%
We have seen no change in average spend per customer	21%	11%	10%
We have seen an increase in average spend per customer	44%	54%	61%

Question text: Over the past 12 months, how would you characterize the change in the amount per year that your customers spend with your organization (i.e., how much the average customer spends on your goods and services per year)?
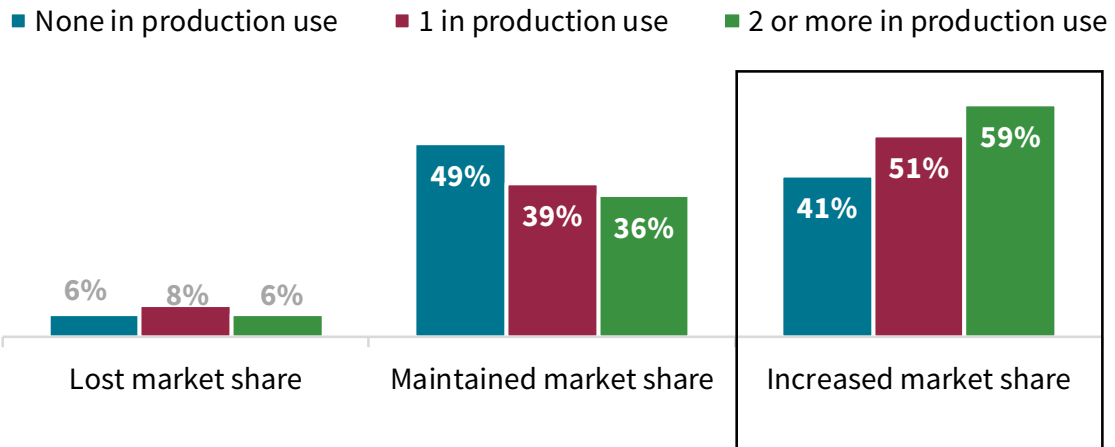
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Correlations between Emerging Tech Usage and CX Outcomes (continued)

Achievement of customer retention targets over past 12 months, by number of emerging technologies in production use

■ None in production use   ■ 1 in production use   ■ 2 or more in production use

	None	1	2 or more
Failed to meet customer retention targets	6%	9%	9%
Met customer retention targets	64%	62%	51%
Exceeded customer retention targets	27%	29%	39%

Question text: In the past 12 months, has your company failed to meet, met, or exceeded its customer retention targets?

Change in market share relative to the competition over past 12 months, by number of emerging technologies in production use

■ None in production use   ■ 1 in production use   ■ 2 or more in production use

	None	1	2 or more
Lost market share	6%	8%	6%
Maintained market share	49%	39%	36%
Increased market share	41%	51%	59%

Question text: In the past 12 months, has your company increased, maintained, or lost market share?

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