



Time to talk

The future for brands
is conversational



Consumers are adopting smart speakers an order of magnitude faster than they did the smartphone. The devices, and the voice assistants which inhabit them, will change shopping forever, creating a new era: **Conversational Commerce**.

This document explains how it will accelerate the changes e-commerce is already creating in consumer industries; how it results in a new, emotionally engaged relationship between consumers and brands; what it means for customer experience; how artificial intelligence makes it possible; how business operations will need to adapt; and the huge opportunities Conversational Commerce presents to organizations that get it right.



Executive Summary

Shopping is finding a new voice. Consumers are set to use more than 190 million in-home conversational devices, like Amazon Echo and Google Home, by 2019.¹ Growth in the market for smart speakers is set to hit over 600% annually during its first five years, more than twice the rate of smartphone adoption. The retail market addressable through these devices will reach \$35 billion by 2020, but voice platform owners, including the world's leading online retailers, will be the gatekeepers to this new source of growth. They will be free to promote any vested interests in retailing and brand promotion, a situation the industry should avoid.

The mass adoption of smart speakers and voice assistants should ring alarm bells for consumer industries, but it will also present opportunities for those that understand the nature of this new mode of shopping. "Voice-ordering is not just another channel." It marks the era of Conversational Commerce—creating a new relationship between

consumers and brands. Retailers and manufacturers will become providers of curated services and customer experiences that solve problems and engage consumers, whether at home, in the store, or on the move.

As such, Conversational Commerce becomes a means by which the industry serves consumers as household servants or local shopkeepers once did: they will sense the mood, anticipate needs, and provide inspiration. It will be personal and emotional, but also performed at scale. It will do so through an exchange in value: consumers sharing their data; organizations offering access to enterprise resources. Organizations foreseeing this fundamental transformation can expect to increase consumer loyalty, grow brand value, and explore new avenues of growth.



¹ MIT Auto-ID Lab Predictions, United States market, data sources Morgan Stanley, RBC Capital and eMarketer

Preface: clues to the future lie in the past

Commerce built on relationships

In 1948, only 2% of households in Britain owned a fridge.² With no way to chill milk, meat, or other perishable foods, the vast majority of housewives walked to nearby shops nearly every day, where they would be greeted by name by shopkeepers they knew well. The introduction of affordable and effective home refrigeration transformed the relationship between shopper and retailer. Together with car ownership, it made bulk buying possible, and a mass-market emerged in which consumers were more familiar with brands than with the people running stores. As stores and store chains grew larger, they were able to command more of the consumers' attention through strategic merchandising, tactical discounting, and loyalty-card schemes. Although timings differ, we have seen similar trends throughout the world.

Technology is once more about to upturn the way brands, retailers, and consumers interact. E-commerce started the transformation—and this is just the beginning. Amazon and Google are among the global hi-tech companies launching smart speakers and voice assistants that can listen as well as talk to people, helping to organize consumers' lives. They can answer queries, offer advice, play music, control the household heating, and, most importantly for consumer industries, take shopping orders.

To see the potential impact of smart speakers and voice assistants on shopping, let's once again go back in time. Buying food in the 1940s meant shopkeepers knew the shopper. They could sense her mood as she walked into the store. They knew the local economy, heard gossip, and learned family news. This intimacy helped shopkeepers anticipate which products would be best for which consumer, and guide them accordingly, trying to make shopping a fun social experience winning long-term loyalty.

At the high end of the economic spectrum, the upper classes employed butlers and maids to shop for them, but the servant's remit went well beyond buying groceries. They would know and foresee the family's needs and wants, and plan shopping and services around them by, for example, preparing for a reunion dinner or sending flowers to an aunt on her birthday.

Conversational Commerce promises to fundamentally alter relationships between consumers, retailers, and manufacturers—it is the next big battlefield for the hearts and minds of shoppers. It is the local shopkeeper, loyal servant, and personal assistant all rolled into one. A new generation of artificial intelligence (AI) will allow brands to talk to and listen to consumers on a personal, one-to-one basis, but at scale.

For consumers, it will be an intuitive and engaging experience. It will create demand for fulfillment in whatever manner shoppers desire, offering them a new sense of value. For retailers and consumer goods manufacturers, it presents the opportunity—and the challenge—of developing deep, sticky brand affinity with an ever-growing cohort of shoppers. The winners will be useful, trusted, entertaining, and appropriate in their engagement with their target market of consumers.

"The next big battlefield for the hearts and minds of shoppers."

² Household news: Can you guess how long the fridge has been around? <https://www.goodhousekeeping.co.uk/institute/product-reviews/latest-news/household-news-happy-birthday-to-the-fridge>

A growing tempest in a larger storm

Conversational Commerce will enter a market already in flux. In the past five years, e-commerce has grown by 70% while in-store sales have only increased by 6%.³ But, it's not only direct e-commerce sales that matter. According to Forrester, over the next five years, Western European online retail sales will grow at over three times the rate of total retail sales. Increased consumer connectivity across multiple digital devices, particularly smartphones, is driving online sales growth.⁴

As e-commerce continues to take the lion's share of consumer industry growth, digital native firms, born of the technology or online sectors, are busily executing strategies of digital entanglement. Examples include:

- Apple's move into music distribution—a big leap from building computers, but one designed to tie consumers to its iTunes service and product upgrades
- Google moved from dominating web searches to providing smartphones with operating systems, email, and online software. It is now making significant investments in personal support services such as Google Assistant and visual-scanning technology Google Lens
- Amazon offers Prime membership, which not only gives consumers preferential e-commerce services, but also television and media content.

There are many other examples of digital entanglement, and what they share is an effort to create habit-forming value that ties the consumer to the provider. Providers then gather more data, which they can analyze and use to tailor services, product offers, or advertising, further drawing in consumers.

Binding shoppers to broad services

Although not all interactions will be about shopping, the voice platform's ubiquity and power to manage home and family life will bind consumers to it, playing into the entanglement strategy of digital native firms. The impact on the current dominant consumer and retail brands will be huge. Voice platform owners can collect, process, and respond to customer data and are free to promote and discount their products or those of favored partners. So long as the experience is good, consumers will be loyal to the platform, not necessarily brands—an outcome both retailers and consumer goods manufacturers should be anxious to avoid.



Deep industry knowledge of products, markets, and consumers as differentiator

Recent history offers some stark lessons for those ignoring the strategic ramifications of digital technology in consumer industries. Merely building a transactional website or a mobile app did not address the complexity and far-reaching effects of e-commerce. Shopper behavior changed faster than the industry. Leaders prospered enormously. Laggards spent years catching up in lost sales.

In Conversational Commerce, the leading technology and e-commerce firms have the advantage in devices (think not only smart speaker but also smart phones) and back-end intelligence, but retailers and manufacturers have a deep knowledge of their products, their markets, and their consumers. With the right technical alliances, they can exploit Conversational Commerce to build a new relationship with consumers, growing the business in the meantime.

3 Monthly Retail Survey and administrative records

4 "Online Retail Will Drive Overall European Retail Sales Growth Through 2022," Forrester Research Inc., December 5, 2017.

Are you ready?

"I was born ready. Or at least, very well prepared," says Alexa, Amazon's voice service. Amazon is certainly ready. It is set to sell 60 million Echo devices by 2020, adding to the number of consumers already using its platform.⁵

Although Google Home's 23% market share puts it in second place, its authority in web search and smartphone operating systems gives it immense power. It also has a technological advantage. It is six times more likely to answer questions than Alexa.⁶ Unlike Amazon, Google does not have its own retail operations. Instead, it is forming a set of Conversational Commerce alliances and partnerships.

Worldwide, there are many more players in the voice assistant market:

- In Korea, telecommunications provider SSG Talk launched a service in summer 2017.
- China's dominant online retailer Alibaba (beta) launched its own smart speaker, able to take orders from its online store.⁷
- Japanese messaging giant Line has announced that it will be building a digital assistant and smart speaker in the cute form of Brown the bear and Sally the chick.
- And let's not forget the smart phone, which in itself is already a platform in which a digital assistant can sit.



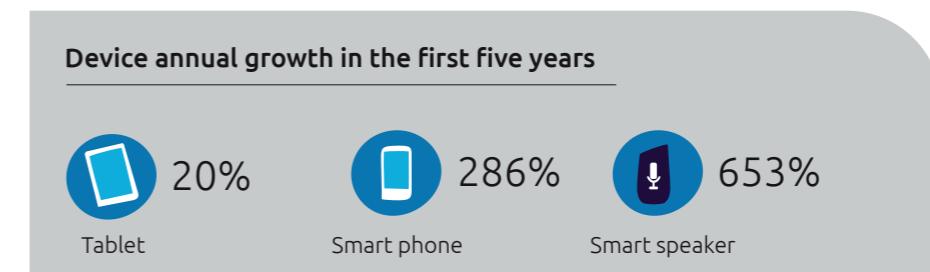
⁵ RBC Capital Markets, Amazon's voice assistant Alexa could be a \$10 billion 'mega-hit' by 2020: Research, <https://www.cnbc.com/2017/03/10/amazon-alexa-voice-assistan-could-be-a-10-billion-mega-hit-by-2020-research.html>

⁶ Google Home Is 6 Times More Likely to Answer Your Question Than Amazon Alexa <http://www.adweek.com/digital/google-home-is-6-times-more-likely-to-answer-your-question-than-amazon-alexa/>

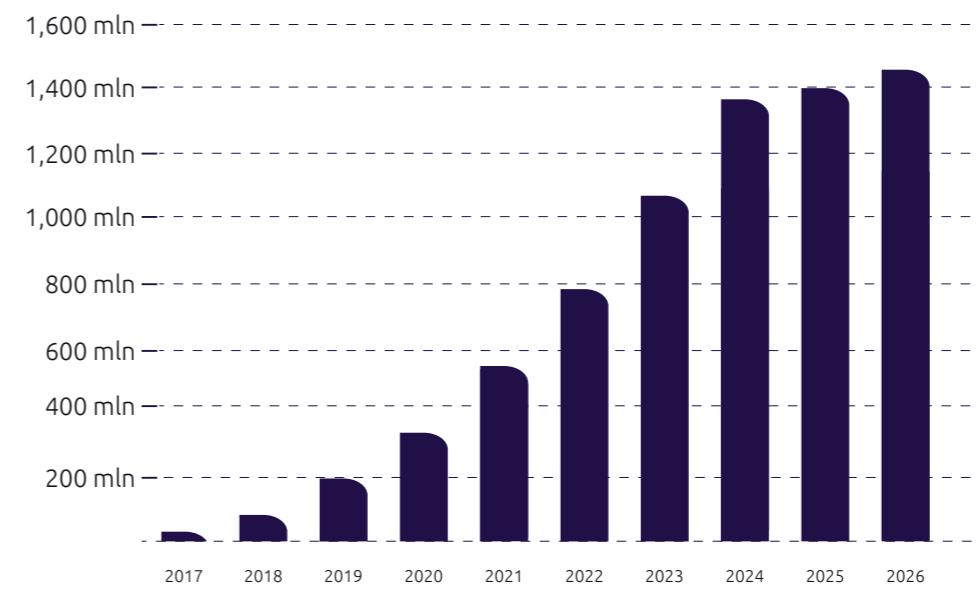
⁷ Alibaba reveals Echo-like smart speaker <http://www.bbc.co.uk/news/technology-40509405>

In the US, the market for smart speakers is growing at a rate of 653% annually in its first five years, compared with a 20% for the tablet and 286% for the smartphone (Figure 1).⁸

Figure 1



Growth and adoption of smart speakers



It is not only the growth in voice platforms that consumer goods industries should pay attention to; it is also the change in shopping behavior that goes together with them.

Talking is by far the most natural way for people to interact. What's more, people can do it when their hands are full. Instead of going to the shops,

visiting a website, or opening an app, consumers can chat with a voice-enabled assistant as they cook, tidy the house, and move around.

⁸ MIT Auto-ID Lab Predictions, United States market, data sources Morgan Stanley, RBC Capital and eMarketer.

The conversation will continue as they go about their daily routines while they plan the coming days and weeks and solve practical problems. Imagine the following conversation:

Consumer

Shall we have curry on Friday?

Sure. Mark's the only one who doesn't like curry and he's staying with a friend on Friday. Everyone else loves curry.

Conversational assistant

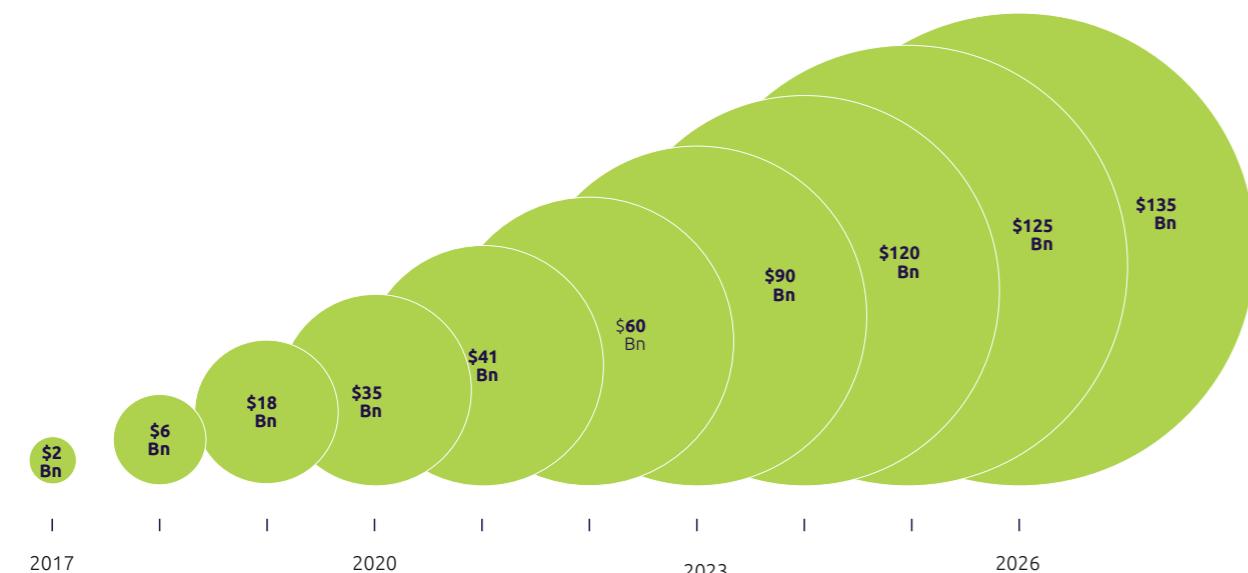
Can you find me a good recipe for the whole family?

Yes, I think you'd enjoy a Keralan chicken curry, but we should take out some of the chilies and add more yogurt: Emily doesn't like her food too spicy.

Great! Get me the ingredients and remind me when I need to start cooking!

Figure 2

The addressable market through Conversational Commerce will be \$20–35 billion in sales by 2020



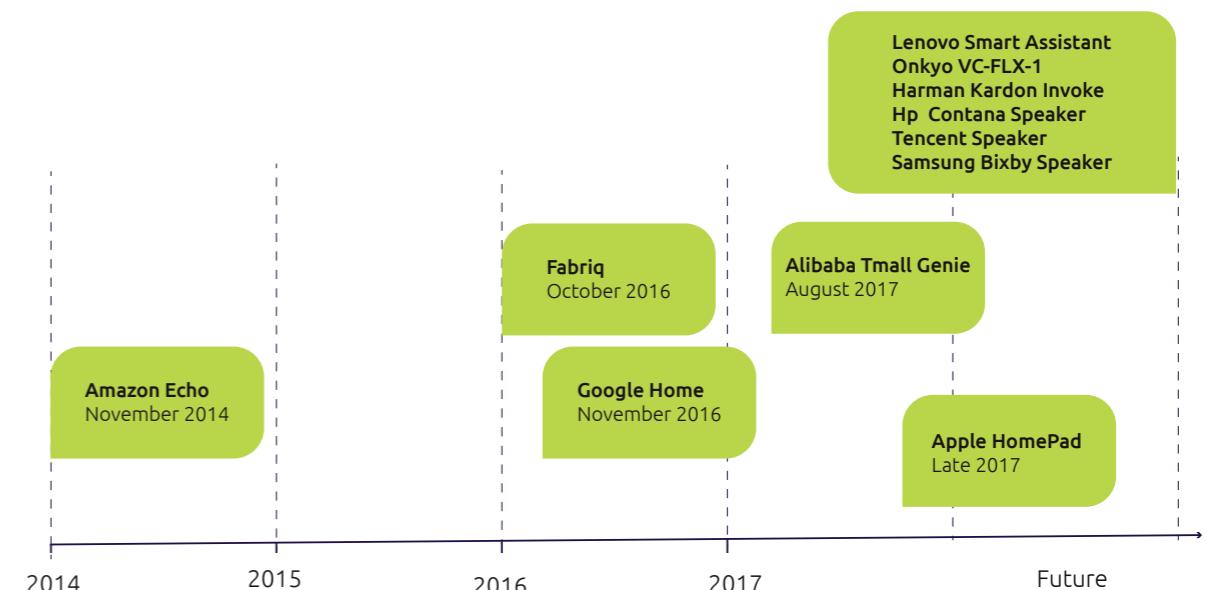
⁹ MIT Auto ID Lab predictions. United States market, Data Sources: Morgan Stanley, RBC Capital & eMarketer.

The natural, engaging shopping experience of Conversational Commerce will create a market addressable by retailers' worth as much as \$35 billion by 2020 (Figure 2).⁹ Consequently, the speed at which Conversational Commerce is being developed and launched should come as no surprise (Figure 3).

The field of opportunity is still wide open

Conversational Commerce is much more than a listening device translating human speech into digital action. We see multiple devices taking instructions for the digital world but also interacting and offering the nuances of conversation: hints, suggestions, examples, and empathy. As individual voices are recognized, every dialogue will be personally relevant. Speech interactions will increasingly be combined with visual support (e.g., on smartphone, TVs, etc.) and augmented

Figure 3¹⁰



reality, creating a preferred shopping experience of friction-free convenience, whether the consumer is in the bath or in the car.

While there may be a threat to brands from voice platform providers that are also strong in e-commerce, it is not inevitable that they will dominate the market. For retailers and consumer goods manufacturers, there will be a mass of opportunities to partner with the right voice assistant providers, or build their own service. Ultimately, the question for the retail and consumer goods industries is not whether they will want to compete at Conversational Commerce. There is little choice. The question is how. The temptation will be to pursue leadership with an array of tactical investments, including technology-driven experiments with different device platforms. However, we believe that Conversational Commerce is an overarching strategic business imperative with far-reaching business implications. It goes well beyond the smart speaker and the voice assistant. It requires planning and investments in customer experience, data management, analytics and artificial intelligence, and business operations (especially supply chain). Making a tactical play is a risky option as it could put make you less relevant to your customers. Conversational Commerce is not just another channel. Instead, it may become a primary consumer interaction point for retailer and brand relationships.



"The question for the retail and consumer goods industries is not whether they will want to compete at Conversational Commerce... The question is how."

Voice: a new world of customer experience

Conversational Commerce will transform customer experience. It will create a new imprint of brands in the consumer's mind. The consumer goods industry would be right to ask: what should a brand sound like? What does it feel like to talk to? What personality does it have? By the same token, there will be entirely new types of interactions and transactions that will emerge based on the physical contexts. Is the consumer at home, in the car, walking in the street, or browsing in a store? Embedded conversational devices will drive the development of services, products and business models that we cannot fully envisage today.

For consumers, Conversational Commerce simplifies transactions, removing the need to toggle back and forth between devices and websites

to gather information and make purchases. It will be a step closer towards the human interaction you might get from a sales associate in the store. For retailers and manufacturers, Conversational Commerce will add complexity: they must provide content, tailor special offers, and nurture sales and loyalty based entirely on data insights in the hope of creating an enjoyable, human-like experience for the consumer. Brands will express empathy, build trust and create loyalty by understanding, respecting, and serving the consumer in a personally relevant manner (Figure 4). As a result, they will see rising brand traffic, conversion, and share of wallet. This is the power of conversation.

Figure 4



Consumers love voice assistants¹¹

- More than four in five consumers have used voice assistants for seeking information (82%).
- Over a third (35%) have bought products like groceries, homecare, and clothes.
- Consumers like using voice assistants— overall, 71% expressed satisfaction with the experience.
- There will also be benefits in stores: “If I need to locate something in the shop, I would rather have a voice assistant help me find it than find a salesperson.” Extract from UK Focus Group.
- Voice assistants help brands. Providing a voice interface to consumers elevates a brand’s Net Promotor Score by nearly 20 points for voice assistant users.

¹¹ Capgemini Digital Transformation Institute research, “Conversational Commerce: Why Consumers Are Embracing Voice Assistants in Their Lives,” 2018.

An exchange in value

The technology is still in its infancy. Voice assistants do not yet have the deep, empathic understanding of their owners. But that will change, and fast. What will not change, however, is the need to both provide and extract value through interactions with consumers. Conversational Commerce must be a win-win for brands and shoppers alike.

We see three hypotheses underpinning customer experience in Conversational Commerce:

1. Firms will need to align data and technologies, their organization, and the customer experience strategy. The question is bigger than the technology problem.

2. Using natural language to talk to consumers will create an opportunity to build, at scale, an emotional connection with individual consumers.

3. To serve each consumer appropriately, firms will request more information from them. In return, consumers will expect and require more value than they currently get from brands

Let's look at each in turn.

Hypothesis 1:
The question is bigger than the technology.

In the recent past, we have seen potentially good customer experience technologies fail to fulfill their promise. QR codes were supposed to provide an easy connection between the real and digital world, but only 2% of consumers regularly use them.¹² Thirteen million location-sensing beacons are deployed in retail environments globally and 67% of consumers are ready to accept the contextually relevant in-store promotions they could enable, but the technology has not come close to transforming the in-store experience.

But, there are counter-examples. In 2017, the iPhone marked its first 10 years, during which it led a transformation in consumer habits. Consumers had a great experience with the device, saw the value in the smartphone concept, and flocked to it.

The technological potential of Conversational Commerce will not be enough. Consumers will need to get real, habit-forming value from the experience for it to succeed.

Hypothesis 2:

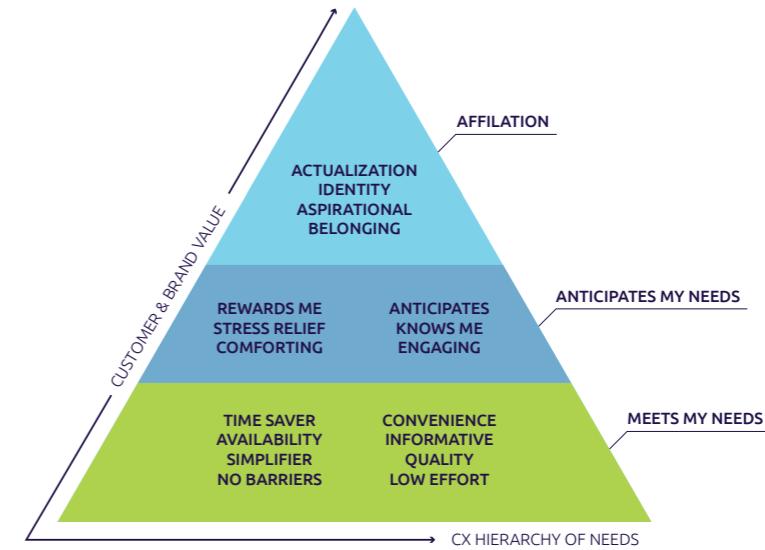
The spoken interface improves emotional connections between consumers and brands.

Emotionally connected consumers are more than twice as valuable as highly satisfied consumers. According to the Capgemini report Loyalty Deciphered—How Emotions Drive Genuine Engagement, which surveyed more than 9,000 consumers and 500 executives, emotions have the strongest impact in driving consumer loyalty.¹³

A Customer Experience Hierarchy of Needs (Figure 5) shows what brands need to achieve to improve consumer loyalty. Retailers and manufacturers who get Conversational Commerce right will move from simply meeting needs to creating a lasting affiliation. More meaningful, higher-value, and longer-lasting associations based on empathy and relevance lead to a truly personalized experience, one in keeping with the tone of the brand.

Conversational Commerce gives retailers and consumer brands the opportunity to create value by moving the shopper up the Customer Experience Hierarchy, creating affinity with the brand. This will be based on an exchange of information (consumer) and participation (firm) with emotional connections through a human-like personalized conversation—a conversation that is unique to the individual consumer.

Figure 5



Hypothesis 3:

Firms will request more information from their consumers and consumers will expect and require more value in return.

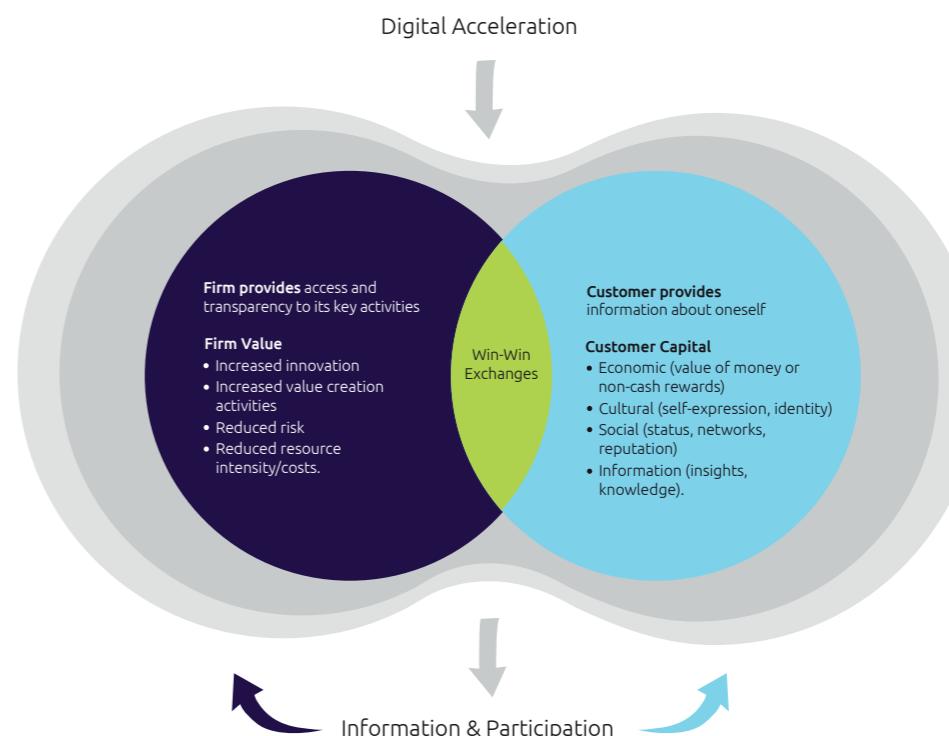
Capgemini and The MIT Initiative on the Digital Economy show value is exchanged through information and participation where the brand provides access and transparency to the

enterprise and the consumer provides information. It is at the intersection of these exchanges that mutual value is created and without this mutual value, the experience will not be sustainable over time. Both the brand and consumer must surrender some control to allow for positive participation and flow of information. The participation and information markets serve as value

levers to help firms innovate and create win-win exchanges based on human-centric experiences¹⁴ (Figure 6).

To create this value exchange between consumer and brand, organizations need to draw heavily on the latest developments in artificial intelligence.

Figure 6



12 Data Dive: QR Codes, July 8, 2013 <https://www.marketingcharts.com/digital-29525>

13 Capgemini Digital Transformation Institute research, "Loyalty Deciphered," 2017.

14 Capgemini and MIT Collaborative Exchange 2016-2017, Rethinking the Digital User Experience as a Collaborative Exchange <https://www.capgemini.com/consulting/resources/collaborative-exchange/>

Artificial intelligence: the power behind the talk

Cornell University has found that people's perceptions of a machine-generated voice are influenced by its human-like personality traits.¹⁵ Voice recognition and voice production technologies will improve to enable personalized and emotionally intelligent voices. It's difficult to ascertain how long it will take before a conversation with a voice assistant seems completely natural, but Amazon announced earlier this year the addition of a new set of speaking skills for Alexa which will allow her to whisper, take a breath to pause for emphasis, and adjust the rate, pitch, and volume of her speech.¹⁶

Such a contextually relevant customer experience is built on data gathered from known channels combined with new conversational data (e.g. emotion, tone, broader context). This data is turned into intelligence via existing and new artificial intelligence (AI) technologies such as speech recognition, natural language processing, semantic technology, machine and deep learning, swarm intelligence, and chat- or voice-bots —leveraging cloud-based big data platforms.¹⁷

Of course, it is not just voice platform providers that are investing in AI. Fulfilling the brand promise will also require that retailers and manufacturers develop these capabilities. They need to act on intelligence about shoppers, their operations, and their supply chains. They will need to provide a "digital assistant" in their own Conversational Commerce platform, or, more likely, provide "digital assistance" to third-party digital assistants from companies such as Alibaba, Amazon, or Google. Digital assistance could be services such as recipes or instructions, or content such as entertainment or inspiration.

Introducing the digital twin

One way technology may evolve is that interactions between multiple manufacturers, retailers, and consumers will begin to be orchestrated by the "digital twin." Consumers already have a digital twin by default. It is a virtual representation of an individual, including their online behavior through social media, web searches, shopping browsing, TV viewing, and so on. Now, the data making up the twin is spread between multiple parties, but consumers

are becoming aware that their data is currency. They will only share it with organizations that fulfill their promise of exchanging value. To be successful, companies should create an environment of trust, where they are completely transparent about what they do with personal information (to the benefit of consumers), where they give consumers control over and access to their personal information and where they protect the security, integrity, and reliability of this data.¹⁸ We see a model emerging in which the digital twin becomes an intelligent agent, allowing only the most trusted, more relevant, and most exciting brand propositions to talk to the consumer (see: Looking ahead: the digital twin goes shopping).



Looking ahead: the digital twin goes shopping

The idea of a digital twin is rapidly developing from the default exhaust data every individual produces through their online behavior, to an intelligent agent constantly informed by the consumer's interactions, habits, and preferences.

Over the next two to three years, we expect to see the rapid and accelerating development of skills and back-end intelligence to make voice interactions more natural. Technology platform providers, e-commerce leaders, and global retailers have the resources, the need, and the sense of urgency from competitive threats to develop such skills and back-end intelligence and to grasp the opportunity of new conversational data.

With these developments as the foundation, we see the digital twin becoming the consumer's personal servant. Shoppers will claim, manage, and then offer access to their own shopper data, and use cloud-based, highly-secure artificial intelligence to develop their own digital twin—an entity that, over time, develops such deep knowledge that it turns into the ultimate digital assistant.

15 "Alexa is my new BFF": Social Roles, User Satisfaction, and Personification of the Amazon Echo. Cornell University May 2017.

16 Source: <https://www.technologyreview.com/s/601654/amazon-working-on-making-alexa-recognize-your-emotions/>

17 Capgemini Digital Transformation Institute research, "Turning AI into concrete value, the successful implementers' toolkit."

18 See also: 'Consumer Engagement Principles'—Consumer Goods Forum and Capgemini http://www.theconsumergoodsforum.com/press_releases/consumer-goods-industry-commits-to-new-guidelines-on-consumer-engagement-and-data-privacy/

Business operations: tough challenges behind the scenes

Start with the consumer: talking to a voice assistant through a smart speaker, they want to hear content about products relevant to their question or conversation. Product descriptions need semantic tags and a voice-based taxonomy so they can be suggested in an appropriate and meaningful context. Content, such as recipes or dietary advice, needs to be wrapped around products to offer the consumer value as they are introduced to the conversation, in natural combination with compelling visuals. New technologies are making the feat possible, but businesses need to understand, on a fundamental level, what their products, services, and solutions mean to consumers, and where they fit in their lives. Businesses have already made a start, by attempting to understand where their products may fit in the context of internet searches and social media behavior. They can build on this knowledge and experience, but Conversation Commerce will take it to a new level.

Advantages in stores and product knowledge

While e-commerce firms such as Amazon and Alibaba are trail-blazing in Conversational Commerce, retailers and consumer goods firms have remarkable advantages when proposing an offer to the consumer. Many retailers are already augmenting store, online, and mobile experiences to differentiate themselves while also offering click-and-collect and in-store returns of online purchases. Conversational Commerce will add to this rich interface with the consumer, so they have a head start

on e-commerce-only retailers. Physical retailers can also work with brands to exploit the store environment in new ways; for example, they can invite consumers to stores for a particular experience, such as a cookery lesson, a DIY demonstration, or a fashion show. There is a new opportunity for retail and consumer products brands to re-engage consumers on a one-to-one basis, and make a deep emotional connection with them.

New demand adds to existing challenges in fulfillment

While one side of the business focuses on consumer-facing content, the other side must manage fulfillment of goods and services. Businesses are already challenged with meeting next- or same-day delivery expectations created by e-commerce. The economics of omni-channel commerce are also tough, particularly in offering free returns. However, research from Montagut, Nelsen, and Valentini shows that even though profit margins are under pressure in an omni-channel world, the consumer value is higher compared with single-channel consumers.

Conversational Commerce will add a new dimension of complexity to the omni-channel demands on retail operations. It will create a constant stream of information and requests. Retailers can expect order size to fall as the frequency of orders rises. Difficulties omni-channel retailers already experience in the last mile of fulfillment will increase; they will need addressing more urgently (see: Last-mile delivery: the ongoing challenge).



"Retailers and consumer goods firms that make the necessary investments... will find consumers more engaged and more loyal than they have ever been."

Organizations have the option of meeting these expectations, perhaps as part of a premium paid-for subscription fee, or offering consumer daily or weekly baskets of orders depending on the value to the business. Closer strategic collaboration with selected suppliers will be desirable to create ever-accelerating innovation. Commercial operations such as pricing, promotions, and management of content will also be affected.

Both the front-end consumer operations and the back-end fulfillment will require the prerequisites of unified commerce. These include:

- A single view of shopper behavior—across channels, and even across other, affiliated, or federated brands
- A single commerce platform that encompasses all channels—whether at home, online, in store, call center, or catalog
- A single demand and inventory management system
- A flexible, agile fulfillment system that can handle single items as easily as pallets, and manage deliveries within minutes from either stores or distribution centers to home or to the store
- A move from batch to right-time, in-stream data processing and analysis in all systems of record

—a change that includes in-store, right-time, autonomous item-level identification.

Logistics receives investment boost

In the face of these challenges, we see the big players jockeying for advantage:

- In October 2017, Alibaba announced an \$807 million investment in the logistics company Cainiao and a \$15 billion investment over the next five years in its global logistics network.
- Amazon is expected to test "Seller Flex," a service that enables Amazon to best determine how packages will be delivered on behalf of sellers. It also has a private airline, Prime Air, and exclusive rights to the US Postal Delivery Service on Sundays.
- Walmart has acquired Parcel, a last-mile delivery start-up focused on the New York City market.

Established retail and consumer brands will have to look at similar investment strategies to compete with the native e-commerce organizations. Those that remodel operations and the commercial offer into an engaging consumer promise can make the most of the opportunities Conversational Commerce has to offer.



Last-mile delivery: the ongoing challenge

- Delivery networks will be strained as the volume of parcels grows, which means that new innovations and additional investments are needed.
- In emerging markets, e-commerce has relied upon armies of low-cost delivery workers. In developed countries, delivery services often have subsidized the rise of e-commerce by underpricing the cost of parcel deliveries.
- Change is afoot: in the United States, reforms to the USPS may lead to an increase in parcel-delivery prices; in the developing world, rising labor costs will drive change. In China, swelling parcel volumes are expected to require four million more express delivery staff by 2020 (Goldman Sachs).
- Automation may lower costs: robots in warehouses will be capable of item-level picking and packing (more than 90% of all warehouse work still done by hand).
- AI may lower costs: better demand management will help forecast which goods are needed, where and when, to greater accuracy.
- Local bricks and mortar stores can help: proximity to dense populations allows them to improve delivery times and lower costs.
- Unmanned autonomous vehicle and drone delivery will become more commonplace over the next decade.



"While e-commerce firms such as Amazon and Alibaba are trail-blazing in Conversational Commerce, retailers, and consumer goods firms have remarkable advantages when proposing an offer to the consumer."

Opportunities abound at the dawn of Conversational Commerce...and what the industry should do next

Consumer goods firms and retailers are at the cusp of a revolution. The impact of Conversational Commerce will be of the same magnitude as the introduction of the first fridges in the homes—perhaps even greater. Even though we're at the early stages of the journey, it's important for companies to understand where they currently are, and what their next steps should be to improve their chances of success. To guide organizations, we have created a Conversational Commerce Capability Maturity Model (Figure 7).

Sales addressable through the new platform are set to reach \$35 billion by 2020, but that is just the start. Brands able to connect with consumers in a personal, emotional, and trustworthy way will see their influence grow as Conversational Commerce begins to set the agenda in consumer industries.

The foundation of this success will be data and intelligence, enabled by smart technologies and AI.

But for Conversational Commerce to be accepted, consumer industries need to answer some fundamental questions as a group. For retailers and consumer goods firms to thrive on an open platform and a level playing field, they need to create and apply agreed technical standards for Conversational Commerce (see: The case for standards), otherwise the risk is too great that interaction with consumers will be controlled by handful of platform providers that exploit their advantage in digital entanglement to promote their own vested interests. Conversational Commerce also requires a common set of behavioral standards: a canon business practice (see: Developing the “Canon of Conversational Commerce”), so the new model of doing business is accepted by both governments and society.

Figure 7
Conversational Commerce Capability Maturity Model



| | 1 | 2 | 3 | Further future |
|----------------------------|---|---|--|--|
| Consumer Experience | Robotic Q&A | Basic Dialogue | Playful Conversation | Personal Assistance |
| | Limited consumer experience through simple questions, simple answers, no brand-tone | A basic consumer experience through simple dialogues with limited personalization and limited representation of brand tone | Growing consumer affiliation through human-like and more personalized dialogue with a working representation of brand tone and personality | A delighted consumer through fully personalized consumer experience, empathetic to sentiments and anticipating what a consumer will want, with full representation of brand tone and personality |
| Intelligence | Limited AI and data-sets, only relevant for specific Q&A purposes, common NLP capabilities, no back-end integration | Blending various internal data-sources (e.g., from stores and digital channels) progresses through limited AI, advanced NLP and minimum back-end integrations | Extended external data-sources through full integration with back-end systems, self-learning algorithms | Consumer-controlled exchange of relevant data to personalize the assistance-services through advanced cognitive learning that senses, thinks, anticipates, and remembers on the shopper's behalf |
| Business Operations | Marketing gadget, limited business impact | Limited commercial integration (conversational search, conversational interfaces on e-commerce systems) | Deeper commercial integration (advanced conversational search, content development, pricing/promotions, ordering, services) | Innovations in the operations, stores, and a streaming supply chain that anticipates consumer demand and reduces total cost to get products to the consumer |
| Examples | Store location, opening hours, appointment-booking, reception instructions | Conversational ordering, checking deliveries, enabling payments | Personalized gift-suggestions, shopping-list advice | Managing replenishment of household supplies, pro-actively suggesting inspirational best deals |



The case for standards

To create Conversational Commerce platforms where all participants compete on a fair and equal basis, manufacturers and retailers need to work together to create a common set of standards in technology and data.

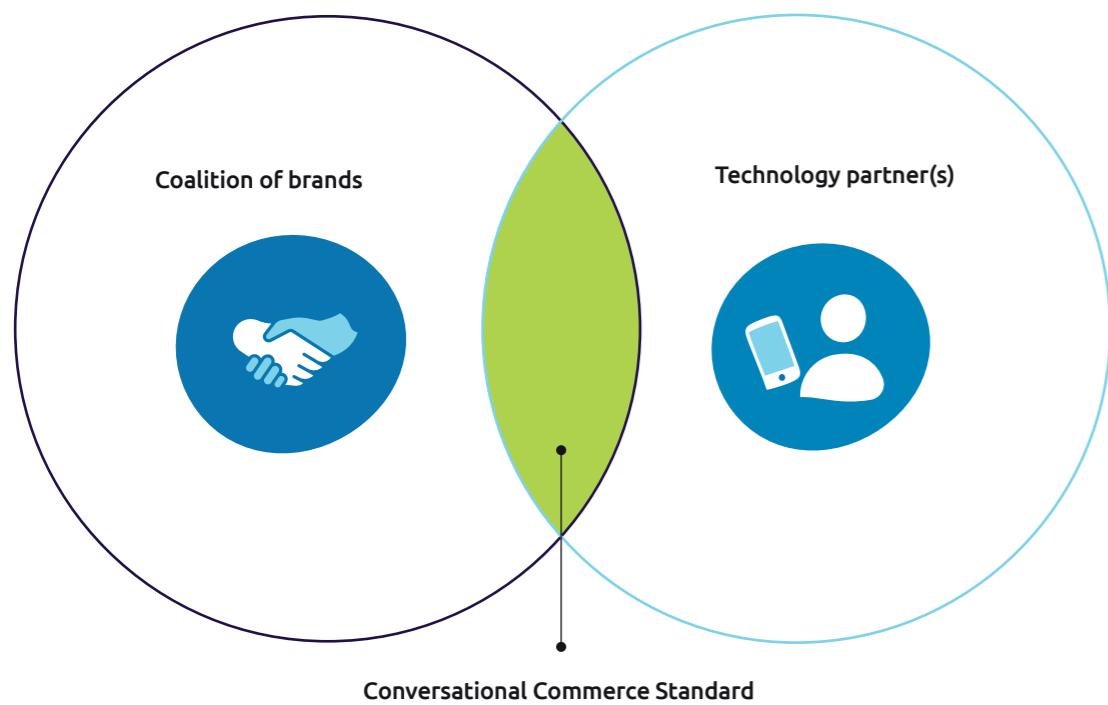
Under the guidance of Prof. Brian Subirana, the MIT Auto-ID Lab has begun developing a standard to guide the development of Conversational

products through a proxy slows down a potentially rich opportunity for firms to develop their brand.

2. Voice networking independent of device manufacturers

When a consumer speaks to a voice recognition device, their words are sent directly to the VRD owner (e.g. Amazon or Google) and they process the speech to decide what functionality to activate. Only then, might a third party (retailer)

Figure 8



Commerce in general, and in voice recognition devices (VRDs) in particular. The standard is designed to ensure that an open interface maximizes the opportunity for different parties to add value (Figure 8). The emergent standard is based on recommendations in seven areas:

1. Activation phrases

The utterances consumers say to waken a conversational device from a sleeping state should respond to a global standard to provide a predictable response. This would allow building a trademark in the voice space, similar to how URLs have brand value. Purchasing

or manufacturer) be accessed. This limits the potential for companies to innovate in the space.

3. Facilitate the consumer's prior activity, which can be leveraged to optimize recommendations and experience

Work needs to be done to sufficiently anonymize data received from consumers while still deriving meaning to give consumers the best experience possible. The more consumers contribute data to the model, the more successful the deep learning algorithms and recommendations will be.

Developing the “Canon of Conversational Commerce”

A canon is a set of norms of conduct or beliefs. For Conversational Commerce to win public trust, it will require such a canon.

Here are some of the areas we should think about including in the canon:

- How are companies addressed? The phone does know who you’re dialing—all numbers on the network are equally accessible. If a consumer asks for a specific business or brand, the platform should not allow an alternative to jump in, simply in the platform provider’s interest.
- How do we agree on mores around minors, gender, race, and religion? A simple look through the history of advertising shows how attitudes have changed. The industry needs to agree to standards to which all content providers would adhere. One voice getting it wrong could have a negative impact on those selling on the platform.
- What should listening devices listen to? A digital assistant could detect, from the user’s voice patterns, if he or she is drunk, or frequently angry, or depressed. Should platform providers be able to store, use, and sell these observations? Who else could have access to them?
- At the end of all these choices there is the prospect of regulation. Societies are free to choose how they regulate commercial activity and it is undeniable that the law could be brought to bear on Conversational Commerce. It is better for the industry to develop its own Canon of Conversational Commerce, which may feed into regulation, than let others develop regulation that is impractical or damaging to the platform.

4. Being more than Conversational Commerce

The founding principles are to create an environment that can bring the voice space to email, Facebook, and other technologies. The larger the ecosystem, the more business opportunities will arise.

5. Cryptocurrency should be used to allow for digital transactions through voice

To purchase items at a store or in a home, one would no longer need to carry a wallet around with credit cards or cash. They could vocally authenticate themselves and purchase items with a digital crypto wallet.

6. Standards for content sharing

Sharing is a fundamental necessity for most successful networked technologies. If a consumer has found content useful, he or she should be able to share it with friends and family easily through voice commands.

7. Basic human speech interaction model supported by all devices

Certain phrases will be a part of a device's command structure from genesis. Users should not be confused when switching between devices and platforms.

Prof. Brian Subirana, Director of the MIT Auto-ID Laboratory, believes the adoption of this standard is necessary before there is widespread acceptance of Conversational Commerce.

Conclusion

We are in the nascent stages of Conversational Commerce. Amazon's Echo only became available in late 2014. The history of e-commerce and online innovation show losers, as well as winners, among the early trail-blazers. Think AltaVista. Think Netscape. Retailers and consumer goods firms that make the necessary investments in customer experience,

artificial intelligence, and business operations, as well as select a strategic platform partner, will find consumers more engaged and more loyal than they have ever been. Rather than a threat to existing business models, Conversational Commerce is an opportunity to create a new arena into which consumer industries can grow.

About the authors:



Mark Taylor

Executive Vice President
Chief Experience Officer
DCX Practice
Capgemini



Kees Jacobs

Vice-President
Digital Proposition Lead
Consumer Products & Retail
Capgemini



Shannon Warner

Vice President
Retail and Consumer Products
Capgemini Consulting North America
Capgemini



Gwendolyn Graman

Conversational Commerce
Proposition Lead
Consumer Products & Retail
Capgemini



Prof. Sanjay Sarma

Vice President for Open Learning
MIT



Prof. Brian Subirana

Director of the **MIT** Auto-ID Laboratory



Richard (Dick) Cantwell

MIT Affiliate at the School of Engineering and Auto-ID Laboratory at the Massachusetts Institute of Technology



Chris Hunt

Global Consulting Lead for Retail and CPG
Intel Corporation



Jon Stine

Global General Manager
Retail Hospitality Consumer Goods Industry Sales Group
Intel Corporation



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The Auto-ID Lab at MIT traces its roots back to 1999 and the founding of the Auto-ID Center, which laid much of the groundwork for the standardization of RFID technology and the introduction of the EPC. Now a member of the global Auto-ID Labs network, the Lab continues research on the evolution and application of RFID systems, as well as other disruptive Internet of Things technologies.

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