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More information can be found on the World Economic Forum site at digital.weforum.org
1. Foreword

There is widespread recognition among leaders in most industries that the role of digital technology is rapidly shifting, from being a driver of marginal efficiency to an enabler of fundamental innovation and disruption.

Digitalization is the cause of large-scale and sweeping transformations across multiple aspects of business, providing unparalleled opportunities for value creation and capture, while also representing a major source of risk. Business leaders across all sectors are grappling with the strategic implications of these transformations for their organizations, industry ecosystems, and society. The economic and societal implications of digitalization are contested and raising serious questions about the wider impact of digital transformation.

While it is clear that digital technology will transform most industries, there are a number of challenges that need to be understood. These include factors such as the pace of changing customer expectations, cultural transformation, outdated regulation, and identifying and accessing the right skills – to name just a few. These challenges need to be addressed by industry and government leaders to unlock the substantial benefits digital offers society and industry.

Digital Transformation of Industries (DTI) is a project launched by the World Economic Forum in 2015 as part of the Future of the Internet Global Challenge Initiative. It is an ongoing initiative that serves as the focal point for new opportunities and themes arising from latest developments and trends from the digitalization of business and society. It supports the Forum’s broader activity around the theme of the Fourth Industrial Revolution.

A key component of the DTI project in 2015 has been the quantification of the value at stake for both business and society over the next decade from the digital transformation of six industries. The ‘compass’ for these industry sectors is being set and it is imperative that all stakeholders collaborate to maximize benefits for both society and industry. Digitalization is one of the most fundamental drivers of transformation ever and, at the same time, a unique chance to shape our future. The World Economic Forum is committed to helping leaders understand these implications and supporting them on the journey to shape better opportunities for business and society.

In 2016, the DTI initiative will focus on the impact of digital transformation on an additional 10 industries, further deep-dives into industries from this year’s project, as well as examine a number of cross-industry topics such as platform governance, societal impact, and policy and regulation.

The report was prepared in collaboration with Accenture, whom we would like to thank for their support. We would also like to thank the Steering Committee, the Working Group members, as well as the more than 200 experts from business, government and academia and over 100 industry partners who were involved in shaping the insights and recommendations of this project. We are confident that the findings will contribute to improving the state of the world through digital transformation, both for business and society.

Bruce Weinelt

Head of Digital Transformation

World Economic Forum
2. Executive Summary

Businesses have always raced to keep up with changing customer expectations, but since the turn of the century, something remarkable has happened. A series of rapid technological advances have contributed to the transformation of customer expectations while simultaneously providing enterprises with the digital tools to create the beguiling experiences that are now needed to satisfy customers. Today, companies are offering experiences that customers would not have imagined were possible five years ago, let alone become a part of their everyday lives. The race to deliver what ‘on-demand customers’ want has sped up dramatically.

Increasingly, both business-to-consumer (B2C) and business-to-business (B2B) customers are forming their expectations of product/service quality around the speed, convenience and ease of use offered by their perceived leaders in customer experience (e.g., Uber, Apple and Amazon). These expectations now transcend traditional industry boundaries with customers expecting similar quality of experiences across the products and services they consume. At the same time, the present and emerging generations of consumers have expectations that are markedly different than those of the past. Raised as digital natives, they are not only faster adopters of new technologies, but can also imagine for themselves how these technologies can be used to improve their lives, making them harder to surprise.

The need to provide a customer experience that competes with both competitors in the same industry and best-in-class companies across sectors, leaves business leaders with plenty to think about. In this report, we assess three areas where the battle to attract and retain customers in a digital world will be fought:

1. **Products and services to experiences.** In today’s digital economy, offering just products and services is no longer enough for businesses to succeed. A number of companies are using digital technologies to offer customers unique and unforgettable experiences, as enterprises are seeing customer experience emerge as an increasingly important differentiator alongside the quality of their core offering.

2. **Hyper-personalization.** Customers increasingly expect personalized and highly relevant interactions, catering to their individual contexts. Digital technology is enabling companies to meet these expectations by delivering personalization to large numbers of customers at low cost. However, while recognizing the need to personalize, businesses are struggling to understand how much personalization different customers want, with the answer often clouded by customers’ unwillingness to share personal information.

3. **Ownership to access.** The concept of access instead of ownership has become mainstream – in North America alone there more than 110 million people now participating in the collaborative economy. Customers are attracted by the convenience of on-demand access, the prospect of financial savings and its potential to improve their quality of life. Companies traditionally engaged in ownership models are evaluating opportunities to cater to new expectations of access, before competitors or startups sweep in.

As the rate and scale of disruption accelerate, and customer expectations evolve, companies face an increasingly important need to change the way they track and respond to customer expectations. This presents some specific and urgent questions for businesses to answer:

**Outpacing customer expectations**
- How can businesses best combine digital tools with techniques like design thinking and experiential pilots to assess customer expectations and needs?
- How can companies build agility in revenue models to meet rapidly changing needs in the digital age? Can tools like iterative innovation and prototyping be easily adopted by organizations?

**Developing compelling customer experiences**
- How can companies identify and assess the customer experience strategies that will drive differentiation for their business? Which digital tools and techniques can help deliver outcomes-driven experiences to customers?
- How can interoperability and ecosystem partnerships be leveraged to define experiences that go beyond just one brand?

**Bringing hyper-personalization to life**
- To what extent will shifting towards digital segmentation tools be effective in identifying and delivering the right level of personalization for the right customers?
• What incentives can individual businesses offer customers to share data in exchange for personalized products and services? What can be done to improve trust in data privacy and security?

**Defining a role in the access economy**

• How can companies and industries determine their amenability to disruption by access-based models?

• What business model options do companies have as customer preferences shift towards access-based models (over ownership) in their industries?

Digitalization of the customer environment also poses some important questions for governments and regulators, particularly in emerging areas where the implications of digitalization on consumer interests do not have clear precedent.

• As customer data is increasingly used to drive digitally-enabled revenue models, how should data ownership and monetization be governed across businesses and sectors?

• As an increasing number of partnerships emerge to drive new customer experiences, how can regulators identify and ascertain ultimate responsibility for ensuring customer interests are met?

• What role can policy-makers and regulators play in enabling business models that promise to drive significant gains for customers? (e.g. sharing-based models that democratize access to goods and services that were previously inaccessible under ownership-based models, especially in developing markets)
3. The Race to Meet Customer Expectations

Throughout the history of commerce, businesses have raced to keep up with changing customer expectations. As the behavior of customers evolves, new products and services are constantly needed to meet their needs. And once innovative products reach a sufficiently wide market, they too can reshape customer expectations, creating the need for further innovation.

Customer expectations of products and services have largely been shaped by the technologies that are prevailing. During the 20th century, many companies, spurred on by customers wanting access to a wide range of products at affordable prices, became adept at mass-producing goods and creating powerful brands to market them on a global scale. But over the past 20 years, we have seen something remarkable happen. A series of rapid technological advances have contributed to the transformation of customer expectations while simultaneously providing enterprises with the digital tools to offer the cutting-edge services that are needed to satisfy customers. Companies are now offering services that customers almost certainly would not even have imagined were possible five years ago, let alone become part of their everyday lives. To take just a couple of examples, drivers of Ford connected cars can now order Domino’s Pizzas directly from the dashboard; visitors to the Super Bowl can view multi-camera replays of the action instantly on their smartphone; and intelligent personal assistants such as Apple’s Siri can now respond to a wide range of requests expressed in natural language.

The pace of digital transformation will be spurred on by the very tangible and significant benefits that this transformation promises to deliver to customers. In the automotive industry alone, digitally driven disruptions and new business models promise to create as much as $1.3 trillion in cumulative value for customers through to 2025.1 For the electricity industry, customer value from digital transformation initiatives is likely to amount to almost $950 billion.1 The race to deliver what customers want is going to speed up dramatically.

Customer expectations and the digital revolution

These technological advances – what we term the digital revolution – began with the growth of the desktop Internet in the late 1990s. Wave after wave of innovation – mobile, social and, now, the Internet of Things – have dramatically altered our everyday lives. We are fast becoming used to a world in which we can access almost any music or video instantly on our smartphones; our cars can notify the service center of its maintenance requirements; and our home thermostat knows when we wake up and adjusts the heating automatically. These innovations are not restricted to the consumer market, with the expectations of business customers also changing markedly. The infographic below depicts some key technology trends that underpin shifting customer expectations and are central to the efforts of businesses to meet these expectations.

In tandem with the digital revolution, we are witnessing some significant demographic shifts, which are also having a profound effect on customer behavior. The world’s population is growing and expected to reach 9 billion people by 2050.2 At the same time, the world’s population is ageing, with those 60 years old and above expected to make up a fifth of the global population by 2050.3 However, it is the increasing influence of millennials (those born between 1980 and 2000) – and of the digitally native generations that follow them – that is having the most significant effect on customer expectations (see below).

“They (13-21 year olds, a generation I call Generation K) do not know any different, this is their world – this digital ecosystem is their normality” – Noreena Hertz, Author and Professor, University College of London
The drivers of digital revolution

**Mobile and Internet penetration.** Mobile phone penetration has increased from 1% of the population in 1995 to 73% in 2014. Internet penetration has almost doubled over seven years, to reach about 40% in 2014. The number of smartphone subscriptions is predicted to almost double to 4 billion by 2025, with nearly all of that growth coming from emerging markets where mobile technology has leapfrogged broadband Internet.

**Connected devices and sensors.** The number of connected devices in the world is forecasted to reach 30 billion by 2020 from 2.5 billion in 2009. The market for sensors that translate information from physical environments (e.g., temperature) into data is expected to grow by 36% a year, reaching $10.5 billion in 2020. Sensors combined with fast networks and increasing bandwidth are enabling real-time customization.

**Data analytics and the cloud.** As we continue to gather data across emails, sensors, mobile apps, and social and e-commerce platforms, the need for automated advanced analytics will continue to grow. By 2019 cloud applications will account for 90% of all mobile data traffic.

**User interfaces.** Natural user interfaces, which allow humans to interact with machines in increasingly intuitive ways, are becoming more common, enabling tasks to be carried out more quickly and efficiently. Physical interfaces are being replaced, for instance, by motion-tracking systems that allow users to control systems by moving parts of their body.

**Global accessibility.** The world’s middle class is set to grow from 1.8 billion in 2009 to 4.9 billion by 2030. A large part of this emerging demographic is based in developing markets where improving standards of living and income are driving increased access to digital technology and connectivity.

**Urbanization:** The United Nations estimates that almost 60% of the world’s population will reside in urban areas by 2050, up from 54% in 2014. This has already contributed to the expansion of innovative distribution and delivery models to meet consumer needs.

The combination of these social and technological trends has accelerated the feedback cycle of customer expectations, technological advances and business innovation, meaning that companies have to strive harder than ever to keep their products and services relevant. As Larry Downes and Paul Nunes have observed, the product cycle has contracted into just three stages – development, deployment and replacement – and its pace is “much faster, approximating the speed at which computing power doubles, which, as Intel cofounder Gordon Moore famously predicted in 1965, happens every two years. We’re now doubling an enormous amount of power, which greatly accelerates the rate of disruption, too.”

Meet the digital natives

Millennials are becoming the largest cohort of customers (in both the B2C and B2B markets), and their attitudes and expectations are growing in importance. There are estimated to be more than 2 billion millennials around the world, accounting for 27% of the adult population in the United States and 24% in Europe. The millennial generation is the biggest in US history, larger even than the baby-boom generation. Moreover, millennials are merely the first digitally native generation. All those who follow, from Generation Z onwards, will have no memory of a predigital era and expect digital as standard in everything they do.

Numerous studies have concluded that millennials prefer access to ownership, prize convenience and demand transparency about how the products and services they consume impact the planet and their own well-being.

Millennials are also hard to surprise. Raised as digital natives, they are more knowledgeable than older generations about the latest advances in technology. Millennials have, to some degree, the ability to understand how technology is – and can be – applied to improve their lives, increasing the pressure on companies to anticipate changing expectations. Nevertheless, they play an important role in influencing older generations by introducing them to new technologies, apps and devices that they too might adopt.

Digitally native generations are also playing a major role in expanding the influence and importance of social networks and peer-to-peer (P2P) collaboration, with research finding that people trust peer recommendations seven times more than adverts. Sharing dissatisfaction with customer experience is also common, with 44% of adults using social media to air complaints about companies or products.
What the ‘digital customer’ wants

A number of essential attributes that characterize customer expectations in today’s digital world. At every stage of buying a product or service – research, decision, purchase, payment, aftersales – customer expectations are becoming increasingly exacting.

2. **Contextualized interactions.** Whether it is personalized viewing suggestions from Netflix’s renowned recommendation engine or specific discounts for shoppers from Shopkick, customers expect a product or service that is tailored to their needs.

3. **Seamless experience across channels.** From becoming aware of a product to researching it and then buying it, customers expect a seamless service that works across all the channels they interact with the company. They also demand payment and delivery options that are hassle-free and quick to arrange. Retailers such as Amazon are constantly experimenting with different delivery options to keep up with customer expectations in this area.

4. **Anytime, anywhere.** The advent of the Internet has brought the customer expectation of real-time access to information about a product or service into the mainstream. In today’s digital age, this expectation has extended to the product or service itself, where customer experiences in industries such as financial services and e-commerce set the standard for on-demand products or services across industries.

5. **Great service (it doesn’t matter who provides it).** A recent study found that two-thirds of consumers had switched providers in at least one industry because of poor service they had received. Almost half of customers surveyed were open to products or services from ‘nontraditional’ industry players.

6. **Self-service.** Customers across industries are now willing to take greater control of their own product, service or brand experience, not only in cases where they can customize product features, but also for models that provide them with the necessary tools and information to resolve issues. As innovations such as 3D printing enter users’ homes, this aspect could gain much greater importance.

7. **Transparency.** Customers expect to be able to access transparent information, which clearly sets out the features of a product or service, before making a purchase. They also value transparency from companies about the extent of data collection before, during or after a purchase. Users want to keep control of their personal data and are comforted by the choice to opt into data sharing in exchange for an explicit value proposition.

8. **Peer review and advocacy.** Increasingly, customers attach more importance to peer recommendations than product reviews in the media or information supplied by businesses. Bad reviews carry particular clout, reaching twice as many people as positive reviews.

(Source: World Economic Forum/Accenture analysis)

Digitalization is changing customer behavior but at the same time giving rise to large uncertainties across industries. Several of these uncertainties manifest from widely held beliefs about customer expectations which are now being challenged.

For instance, rapidly changing customer expectations in the digital age are believed to be contained within industry boundaries and in the B2C world. In reality, as customer expectations become more important, their nature is also changing. Customers are beginning to judge the quality of products/services they receive not just against competitors within sectors but against the best customer service they have experienced in any industry. Customer expectations now transcend traditional industry boundaries, with customers expecting levels of personalization, on-demand access and accessibility that match the leaders in customer experience. The term “Uberization of X” is often used and is, of course, a simplification, as customers are automatically using their own set of favorite companies – whether it’s Uber, Apple, Nespresso, Fitbit or Airbnb to name a few – as their personal benchmarks to measure service standards against, and consequently leading to a convergence in models across industries.

“Digital has put the power of immediacy in everyone’s hands and every company is now being held to the same standards” – Robert Tas, Chief Marketing Officer and Senior Vice President, Pegasystems

Convergence of customer expectations across industries has also meant that some product/service features are crossing industry boundaries. For instance, **Pager** offers an Uber-like on-demand anytime service in the healthcare industry, which has largely been lagging other sectors in adoption of digital business models. Similarly, **IndusInd Bank** in India now offers banking services integrated with social media platforms and provides virtual access to branches and
relationship managers. Even some traditional businesses have been quick to learn from changing consumption behaviors and made alterations in their business models accordingly, often at the cost of cannibalizing existing sales. Daimler is a good example of a company that has been quick to embrace changing customer expectations. The luxury car maker launched the moovel mobility platform, which enables customers to choose from a range of different transport options such as car2go, public transport, taxis, ride-sharing and even rental bikes by viewing price and travel time information. The company recently expanded this offering by acquiring taxi booking app mytaxi and North American ride-sharing app RideScout.

These developments are also all-encompassing, affecting both the B2C and B2B worlds. Research found that 81% of B2B buyers said that they would choose a supplier that offers a consumer-like experience over an equally priced alternative that does not. Amazon Business is catering to this trend by introducing B2C ease of use and quality of service to a B2B platform – capitalizing on the trend of B2B e-commerce transactions surpassing B2C in terms of volume and growing to $6.7 trillion by 2020.

### Pager – introducing on-demand services in healthcare

Pager is a mobile-based service that promises to arrange on-demand house calls by doctors within two hours. The New York-based company matches users in Manhattan to a doctor from the local area, to help with checkups, illnesses and arranging prescriptions. Pager was founded by a former Uber engineer Oscar Salazar and has to date attracted $24.4 million in funding. Unlike Uber, which selects a driver automatically for the user, Pager gives customers power to select which doctor they would like for their appointment. As a consequence, Pager offers its users a convenient and speedy service, and extends greater control than might be the case with traditional healthcare services.

### Amazon Business – a B2C customer experience on a B2B platform

Amazon Business launched in April 2015, with the aim of extending its consumer-friendly platform to a specialized marketplace for businesses to buy from Amazon and third parties. The platform is flexible, allowing individuals to buy products on behalf of their company, and also offers buyers the opportunity to ask manufacturers questions about their products through the Live Expert program. Amazon Business took over from Amazon Supply, increasing the range of merchandise it offers from 2.25 million to hundreds of millions of products. The platform is taking on the challenge of providing a user-friendly service, personalized by industry vertical, offering a viable supplementary platform for many B2B sellers.

### IndusInd Bank – making banking ‘social’ in India

In September 2015, IndusInd launched the Onthego social banking feature, which facilitates fund transfers through social media platforms such as Twitter and Facebook, while also retaining traditional online banking features. To make it more convenient for customers, the service does not require users to download an additional app. The bank also launched a digital branch and video-banking facilities to cater to customer expectations of anytime, on-demand access.

Another common myth about digitalization is based on the belief that the implications of digital technologies for customers are relevant for developed markets only. In reality, customer expectations defined in developed markets are easily transferred and adopted in developing markets, and vice versa. Companies such as Didi Kuaidi (on-demand mobility) in China and Flipkart (e-commerce) in India have raced to billion dollar plus valuations by delivering the speed, convenience and on-demand access that have defined customer experience leaders in developed markets. India is now among the five largest startup communities in the world with the number of startups surpassing 4,200 in 2015. According to a Cisco survey on retail innovation in the Internet of Everything (IoE) era, 89% of Chinese survey respondents are using independent shopping apps (such as JD.com or Tmall) on a smartphone at least once per week, compared with 40% globally. In markets such as China and India (85%), tech-savvy shoppers appear to be bypassing traditional retail options. In some emerging markets, e-commerce and an associated ecosystem of enterprises offering innovative delivery methods and payment instruments have leapfrogged more conventional businesses. For example, Flipkart was among the first companies to implement cash-on-delivery payment options at scale. They have innovated to overcome barriers such as poor infrastructure or a lack of payment technology.
'Leapfrogging' of technologies in many developing markets is leading to faster adoption of newer technologies, which provides important learnings about customer behavior for companies in developed markets. Walmart.com used learnings from rapid mobile adoption in emerging markets in South America to inform its understanding of customer expectations around the mobile experience, which were later applied in the US market. Caronetas is an exclusive ride-sharing platform based in Brazil that allows users to place or find a ride and earn financial rewards that can then be redeemed at partner stores. The company allows only authenticated users (using their corporate email addresses) to add an additional layer of security and reliability – addressing possible trust barriers to access-based, peer-to-peer models in emerging markets.

Finally, several organizations and business managers still believe that customer-focused investments in digital are only relevant to sales and marketing and best driven by that function. In reality, maintaining a common vision for the end-to-end customer experience requires companies need to advocate for customer-centric digital transformation at the leadership level and establish executive ownership over their digital strategy and investments. A recent survey found that 58% of companies that define themselves as more profitable than their competitors have their CEO in charge of customer experience, whereas only 37% of less profitable companies said the same. Companies where the CEO has overall charge of customer experience initiatives are also most likely to prioritize investments in customer experience (71% of the time). Placing a digitally enabled customer experience strategy on the C-level agenda will set the stage for a wider cultural shift in organizations to put the customer at the center.

**Burberry** was able to undertake what is arguably the earliest digital transformation in the luxury goods space. A unified series of digital transformation programs led by the C-suite were implemented across multiple business areas to enhance its in-store customer experience, unify processes and integrate customer data, achieve cross-channel consistency, engage employees, secure the right skills, and develop strong IT-business relationships. The company continues to reap the rewards of strategic digital investments, experiencing 11% year-on-year growth in 2015 – citing its principal drivers of growth as its “continuing investment in retail and digital, as well as the global team’s focus on our core products.”

### Why customer expectations matter more than ever

Customer expectations have always mattered but, in the digital era, they are now more important than ever. With the advent of e-commerce, B2C and B2B customers are able to source products from around the world with a swipe, tap or click, increasing the competition that manufacturers and retailers face. Social media has given customers powerful new tools to promote brands they like or hold accountable the companies they disapprove of. A Twitterstorm started by an individual customer angered by a company’s quality of service or unethical practices can lead to an instant, global reputational crisis for that firm. Delta Airlines experienced this recently when a 1985 court case alleging discrimination was picked up and circulated millions of times across social media sites.

Peer reviews are now more influential than ever, making customer experience transparent for all. As a consequence, companies need to continually assess customer expectations and be prepared to act quickly to meet or exceed those expectations. Complicating matters for businesses is the fact that the benchmark for great customer experiences is being continuously raised at all points of the customer journey, both pre- and post-purchase. The role of digital and peer reviews in aiding discovery and comparison at the start of the customer journey is fairly well entrenched, however, digital competitors are also redefining standards during the purchase and post-purchase stage. For instance, some users rated Uber’s customer service, beyond just the convenience of on-demand mobility, “resoundingly higher” than competing taxi services.

Adding to the challenge for large organizations is the fact that digital has altered the barriers to entry in several industries. The competitive landscape has transformed dramatically over the past 20 years, with startups exploring what are relatively small niches. A very large number of companies are now focusing on distinct portions of the value chain, requiring an unparalleled level of vigilance.

The digital age is also redefining how customers perceive and interact with brands. Only 1% of millennials surveyed said that a compelling advertisement would make them trust a brand more. Brand relationships are driven more by how users perceive the brand on social media channels; how their peers are using the brand and what they are saying about it. At the same time, brands are becoming adaptive to users’ needs, opening themselves up to be shaped by the technologies that customers use on an everyday basis.
The next wave of customer expectations

In each major technological wave over the past 20 years, some businesses have emerged as leaders in the race to set the standard for customer expectations, using the adoption of consumer technology as a driver to define unique products and services. In those first years of the desktop Internet, leading companies such as Amazon, Yahoo and AOL shaped customer expectations for all others to follow, with the result that having an online presence became a must for businesses in nearly every sphere. As the mobile and social Internet has become more important in recent years, companies such as Facebook, YouTube and Uber have led the way in molding customer behavior. The challenge for business leaders today is to identify which pioneering companies are most influential in setting expectations of what customers want and understand how they can better keep up with the pace of innovation and changing expectations.

Customer expectations never stand still and are already being reshaped by the next wave of technology. Developments in the Internet of Things, mobile and software intelligence are likely to be highly influential in remolding customer expectations in the coming years (see below).

Three ways in which technology could redefine expectations in the future

Companies that are early adopters of the latest technologies in the fields of smart machines, mobile and the Internet of Things are likely to play a crucial role in forging customer expectations over the next two to five years.

1. **Internet of Things.** Innovation in this area is likely to focus on high-performance messaging infrastructure, Bluetooth beacons, predictive analytics, smart transport and IoT architecture. Pioneering companies, such as Apple, Samsung and IBM, are encouraging customers to expect constant connectivity between people and objects, along with high levels of personalization when interacting with services. Wearables will be an area where IoT will become a reality for customers in their everyday lives, particularly in health and fitness where the global market could reach 170 million devices by 2017. Customers are not far away from a world where the devices around them interact in ways that are truly transformative, such as AT&T’s DigitalLife home automation system that allows users to control connected home appliances, security and lighting, detect leakages and manage energy consumption.

2. **Mobile.** Mobile applications are set to enter a new era with advances in mobile device management, consumer telematics, facial recognition, and the wider availability of Bluetooth 4 and near field communication (NFC). It is predicted that initiatives such as Apple Pay (using NFC technology), Mercedes mBrace (allowing drivers to control their cars remotely) and 3M (advances in facial recognition) will have a significant influence on customer behavior, accustoming them to on-the-go connectivity, effortless identity verification, and instant, convenient payments using their smartphone.

3. **Software intelligence.** Building on advances in speech recognition, machine learning and virtual customer assistants, services from companies such as Google, Amazon and Nuance will encourage customers to expect increasingly conversational interactions with machines that can produce anthropomorphic customer service responses. Additionally, designers are now creating applications and platforms that automatically learn customer behaviors and preferences over time and modify offerings accordingly.

(Source: Gartner’s Hype Cycle and Priority Matrix 2015; World Economic Forum/Accenture analysis)

For businesses, the imperative is clear: keep up with the latest trends in customer expectations and deliver the innovative services that exceed or shape these expectations. The hard part is making this ambition a reality.

What do companies need to do differently?

Customers are now becoming increasingly accustomed to contextualized and relevant interactions, and businesses and industries are already seeing this become a mainstream expectation. To succeed, companies will need to evolve to a world of design doing – enhancing their design process with a much deeper understanding of the individual customer context, and at the same time, accelerating the pace at which they develop and take products to market, learning rapidly from customer responses to scale or fail.

- Businesses will need to move away from sole reliance on traditional customer research approaches to a mix that includes the application of design thinking, which helps businesses gain a deeper understanding of a customer’s context, emotional needs and drivers. This idea requires a fundamental shift from designing one product or service
for many to designing many experiences for one, with the ability to constantly learn and adapt to changing needs of customers.

- **Experiential pilots** can help businesses to observe human behavior and draw insights about any new consumption experience: *How are customers engaging with a new technology, product or service? How are customers interacting and influencing one another? What new emotions or behaviors are being formed through the customer experience?* Continuous and iterative innovation and prototyping needs to be supported by a clear understanding of how each version is impacting the customer experience.

- Today’s world requires much speedier development of consumer-led ideas that can be tested in the market and **prototyping** is one approach that can help companies achieve this. It is important to get to market fast, even if it’s only with an ‘80%-there’ product or service, and then try to understand customer reactions and how to improve it. Innovative venture capital firms such as **Bolt** have made this the basis for their model – the firm partners with early-stage technology startups to develop prototypes for their ideas, learn from customer feedback, and then consider strategies to scale the product. Though designed for startups, Bolt also provides useful lessons for traditional companies. **Iterate Studio** is a digital innovation lab that helps create strategic relationships between large companies and emerging startups in the retail, media, energy, consumer packaged goods, travel and public sectors. Enterprise members join for the benefits of Iterate Studio’s proof-of-value planning, experimentation, and analysis of emerging technologies and solutions.

- In the digital realm, companies can achieve agility by allowing their brands to adapt and shape around changing customer behaviors. Companies will have to rethink their design process, allowing their products to evolve by allowing elements of their offering to be widely distributed and shaped by other services. We call this **brand atomization**. **Spotify** has become a pioneering example of an atomized service, achieving ubiquity by enabling access through multiple third-party touchpoints (e.g., Sonos, Ford, iOS, Android and Samsung Smart TVs). The company has released software development kits for iOS and Android developers and more recently launched the Spotify + Uber integration, allowing users to remotely control music in enabled Uber rides.
4. New Battlegrounds for Winning over the Digital Customer

The need to provide a customer experience that competes with both rivals in the same industry and best-in-class companies across sectors leaves business leaders with plenty to think about. Digital technologies not only empower customers, but also give businesses a set of tools that could redefine the basis for competition across industries. We assess three areas that will be central over the next few years in the battle to attract and retain customers in a digital world.

a. Products and services to experiences

In 1999, B. Joseph Pine and James H. Gilmore made a bold prediction: offering goods and services would no longer be enough to bring businesses success. Instead companies needed to offer their customers unique and unforgettable experiences. At the top of their five-tiered pyramid of economic value however, was ‘transformation’ – their main assertion being that experiences that transformed users’ lives would have the highest value of all. Pine and Gilmore’s vision is now becoming a reality, and companies are seeing customer experience as an increasingly important differentiator alongside the quality of their core offering. Among business leaders, 89% believe that customer experience will be their primary basis for competition by 2016. More telling, however, was the finding in a survey by Forrester that ranked customer experience as the top initiative for organizations addressing the impact of digital disruption in the coming year (see below). Customer experience is also becoming a key factor in B2B markets, with a study by Avanade reporting that more than half of respondents had chosen to pay more for a B2B product because the customer experience was superior to cheaper alternatives.

Successful companies are employing the latest technologies not just to create captivating digital experiences, but to harness their digital prowess to enhance their overall customer offering, spanning the digital and physical worlds. This has been enabled by recent technological innovations, notably the explosive growth of cloud computing, the ubiquity of smart devices and connected sensors, coupled with advances in analytics and improvements to natural user interfaces. Of companies surveyed in the insurance sector, 83% agreed that digital devices are powering the shift from selling...
things to selling outcomes and experiences. The case studies below illustrate how companies have made innovative use of digital technology to successfully meet customer expectations. Each of these examples also shows that technological change by itself is not enough. Enterprises need to identify the needs of their customers and redesign their business and revenue models around these.

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**Disney Magic Bands – leveraging digital technology to improve customer experience**

Launched in 2014, after six years of planning and $1 billion of investment, Disney Magic Bands are multicolored RFID wristbands that allow guests to manage every aspect of their Disney World visit. Visitors are able to make payments, manage reservations and access hotel rooms, all simply by using their Magic Band. Linked to Disney’s guest-management system, its analytics servers and the My Magic+ app, the system allows staff to deliver a highly personalized service – for example, by creating customized itineraries or having preordered meals ready for collection at restaurants in the theme park.

Guests appreciate the convenience of not having to keep hold of several tickets or make multiple payments. So far the bands have been used by more than 10 million visitors and received approval ratings of over 90%. Disney also benefits from the Magic Bands project, gaining access to rich user data, allowing it to make efficiency and process improvements. Disney World has seen increased footfall and higher customer spending at its attractions.

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**Monsanto’s Climate FieldView – driving better outcomes for customers**

Monsanto, an agricultural products company, expanded beyond its product portfolio to offer farmers field-level actionable intelligence to improve yields. By acquiring the Climate Corporation for approximately $1 billion in 2013, Monsanto gained the means to collect a wealth of hyperlocal data about field and weather conditions. It uses this information to offer targeted intelligence to farmers in real-time, helping them lock in profits in the case of drought, heavy rain, or otherwise adverse weather conditions. The product also allows farmers to see field-level nitrogen supplies based on application, crop stage and weather.

Farmers benefit from higher yields, a lower risk of crops failing and higher profitability. The offering helps Monsanto generate huge amounts of data relating to crop patterns, weather forecasts and yields, which can be used by Monsanto to develop better farming products and offer a more personalized experience to farmers.

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In the digital age, not meeting customer expectations, often defined in industries outside your own, comes at a high cost: Accenture estimates that as much as $6 trillion of revenue is up for grabs as a result of increased customer switching driven by poor customer service. Exacerbating the issue is the fact that the costs of a substandard experience extend beyond just the customer concerned – 95% of dissatisfied customers tell others about their bad experience.

The strategy that a firm adopts to create a winning customer experience around its product or service will depend to some extent on the specifics of its business and the industry that it operates in. While traditional product- and service-focused companies are more likely to use digital technologies and partnerships with technology companies to complement and extend their existing brand positioning, they are constantly at threat from a wave of digital disruptors redefining the basis for great experiences. However, the businesses and experiences that succeed will be the ones that are able to find tangible ways of improving customer lives and delivering the outcomes that matter. Monsanto is one example of a traditional company that has changed its approach to focus on outcomes. It is easy to see, that if executed efficiently, such a service stands to transform farmers’ lives and create a completely different level of customer and brand loyalty for the firm.

If businesses are able to offer a higher-quality experience and attract new customers, this opens up further opportunities. As technology evolves, businesses are competing across new channels to gain customer mindshare (Web, mobile and now the Internet of Things and beyond), with the aim of holding the user’s attention through an engaging experience. Companies who succeed in this will then have the chance to pitch new products and services to these customers or act as gatekeepers for other businesses who want access to these users.

One way in which several traditional businesses have been able to use digital to extend their offline product or service is through online-to-offline platforms (O2O). O2O platforms provide new opportunities, especially for ‘analogue’ businesses, to integrate online and offline experiences. O2O is a combination of a payment model and foot traffic generator for merchants. By also acting as a ‘discovery’ mechanism for customers, it encourages them to make offline purchases.

‘Click and collect’ orders now account for more than 50% of online sales at retailer John Lewis. Companies such as
Groupon, OpenTable, and China’s Ffan.com have emerged as platforms that allow traditional companies to complement their brand and product offerings with the convenience, speed and anytime access desired by customers in the digital age. According to some estimates, O2O platforms offer businesses an opportunity that may be worth as much as a trillion dollars.

In the digital age, businesses will increasingly realize that looking beyond just the interactions they ‘own’ is increasingly important in the race to deliver high-quality customer experiences. Finding new partnerships that combine channels and product or service features will empower companies to develop increasingly unique customer value propositions. Take Google’s Nest thermostats: the company is partnering with businesses such as Mercedes, Jawbone, LIFX and Whirlpool to deliver increasingly personalized and digitally driven experiences within the customer’s home (such as priming home appliances and lighting to automatically learn customer preferences). If This Then That provides another example of how companies can create unique partnerships that satisfy the needs of individual customers. The platform allows unrelated apps, services and even products to interact with each other, based on rules defined by the customer. Their partnership with Deezer is exploring ways of automatically adjusting room lighting based on the song that is playing.

A focus on outcomes

The low cost and easy availability of connected sensors, coupled with breakthroughs in data analytics, have enabled outcome-based services to become a reality. In many instances, companies are using digital technologies to identify and target the outcomes that customers care about, giving them powerful tools to not only improve customer satisfaction but also enhance customer lives. This trend becomes highly relevant in today’s world where customers are prone to not only adopt more widely products and services that deliver real value to them, but also use these experiences to define their expectations across all other industries.

**Automotive.** The connected car can be considered a new digital platform within consumers’ personal digital service ecosystem. Tesla’s Smart Car, the in-car app for its premium electric cars, adapts to drivers’ behaviors for a more personalized and outcome-oriented experience—helping drivers to reduce their electricity bill by optimizing energy use while driving the car, and avoiding peak-hour rates when recharging.

**Banking.** Self-checking, greater security, predictive services to enhance wealth creation, and payment platforms are likely to be key emerging themes in personal finance. Services such as Pocketsmith track all incoming and outgoing transactions to provide users with long-distance forecasts of bank balances, while apps such as BillGuard provide users with real-time alerts of suspicious charges—improving security and resolution times.

**Connected Home.** Managing energy, shopping, security, environment, entertainment, our diaries and budgeting are all becoming possible with new advancements for the connected home. Wallflower, a fire-prevention system is able to monitor electricity and gas supplies and alert customers in the case of a hazardous incident. Meanwhile, LIFX smart lightbulbs can be programmed to turn on when householders are away—mitigating security risks.

**Education.** Personalized, automated learning services will help deliver a tailored individual approach based on unique needs with the ability to more effectively monitor how much a student has learned. Already, applications such as Elevate provide tailored learning programs based on users’ existing capability levels and continuously track performance and adjust learning exercises over time.

**Healthcare.** Digital is expected to have a profound impact on health and wellness, enabling a shift from population-based diagnoses and prescriptions to those based on individuals. A large part of this change will be driven by connectivity between mobile, wearables and implantables, with both patients and health organizations using patient information to make healthcare precise, effective and timely. For instance, Novartis is working with Google to develop a contact lens for those with diabetes that detects blood glucose through tear fluid and communicates this data to the patient and caregivers.

**Retail.** Personalized services and more interactive in-store digital experiences could help companies provide a more integrated approach to managing customer journeys across a retail brand’s physical and virtual touchpoints. Burberry’s flagship store utilizes RFID technology to trigger multimedia content relevant to each of its items on its in-store displays, resulting in a more personalized customer experience.

Source: “The Era of Living Services”, Fjord; World Economic Forum/Accenture analysis

The focus on customer experience remains predominantly on using digital technologies to improve convenience and access at user touchpoints (such as product information, purchase, billing or post-purchase customer service). While
necessary, this may not be enough to compete in the digital age and companies are already realizing this. A recent study found that 73% of businesses surveyed felt that their digital customer experiences met their customers’ expectations, but only 5% believed that they were exceeding expectations. This indicates that very few are confident that they have mastered digital to a point of differentiation from their competitors. A defining characteristic of leading companies in the future will be their ability to deliver experiences tailored around the needs of the individual and aimed at improving their life, in contrast to generic services offered to the mass market. Companies will have to evaluate their internal capacity for delivering on customer outcomes and determine if strategic partnerships have the potential to contribute toward customer experience goals.

Imperatives for companies

There are a number of crucial ingredients that are needed to create experiences that exceed customer expectations:

1. **Identify the outcomes that matter**
   The experiences that succeed will be the ones that improve customers’ lives. Competitive differentiation will be defined by the ability of companies to create value by delivering solutions to customers that lead, in turn, to quantifiable results. This is made possible by hardware becoming increasingly intelligent and providing detailed insights into the outcomes that customers are trying to achieve.

- **Develop ‘listening infrastructure’** to measure customer voice and sentiment across the customer journey. Consider text recognition and analytical models that can be applied to online communities, social media and online search patterns to identify pain points and changing customer behaviors, particularly in industries that have higher degrees of separation from the end user (such as the consumer packaged goods sector).

**Mercedes-Benz and Medalla – listening to the voice of the customer**

Mercedes-Benz has collaborated with Medalla to design a platform that streamlines customer experience metrics, allowing the car manufacturer to listen – and react – to customer sentiment in real time. ‘Real-time Voice of the Customer’ programs streamline customer experience metrics and feedback actions onto a single platform. Feedback around interactions such as purchasing, leasing or vehicle servicing is consolidated and presented on customized visualization dashboards where both corporate leaders and dealers can gain valuable insights from customer data. This standardized set of metrics and real-time feedback loop has allowed Mercedes to uncover blind spots, drive customer strategies, and even test its latest express service model, Premier Express.

- **Use hardware at the edge**, where digital and physical worlds intersect, to discover the metrics or measures of value that customers care about along their journey. In this context, hardware goes beyond just smartphones and PCs to include the Internet of Things and an array of devices that include smart washing machines, wearables, security cameras, autonomous cars and intelligent buildings. Using hardware at the edge can be achieved by adding sensors and intelligent software to existing products and services, or by creating new hardware. When adding new hardware, companies can develop the competency to build it themselves, as Amazon did with the Kindle or Echo, or they can partner with or acquire companies as Google did with Motorola, Nest and Dropcam.

- **Catalog the outcomes** your customers are trying to achieve and map those outcomes to current product and service offerings. Identify gaps in the ability of your existing product or service offerings to meet those outcomes.

- **Build outcome-based revenue streams**. Some companies are already building revenue models based on delivering customer outcomes. They include Proteus Digital Health, which identified medication adherence as a major issue for patients and are tackling this by inserting an ingestible sensor into pills. The sensor works in concert with a wearable device or smartphone to track and remind patients to take pills on time.

- **Create analytical feedback loops** to constantly measure results and improve product or service features. Enterprises can map feedback loops throughout product and service life cycles, paying special attention to customers’ preferences and desired outcomes, and the ability of their offerings to deliver on those outcomes. Insights should be used to continuously improve and tailor offerings to ensure greater accuracy and higher value for customers. For instance, Amazon Echo is a voice-operated artificial intelligence (AI) assistant that is constantly listening and using customer behavior patterns to develop increasingly personalized recommendations.
Fargo ATMs track individual user transactions so as to deliver easy and quick access to preferred information for each user through customized layouts.  

2. **Leverage the power of ecosystems to meet customer experience goals.** Identifying the right partners from a world of possibilities is not always easy. However, making customer experience as the determining factor for new partnerships presents significant potential to deliver experiences that would not be possible by a single brand alone.  

One approach is to identify partners that help meet pre-determined customer experience goals. Here, companies need to begin by clearly defining their goals, based on an analysis of customer needs and the ability of their service to meet those needs. This should be followed by an assessment of where the company holds a competitive advantage within the part of the user experience they own – whether it’s building devices or products, software and apps, providing data analytics and insights, or facilitating integrated experiences. Finally, leveraging ecosystem partners and technology startups should ultimately be the way for companies to fill in the gaps in their ability to meet those goals. **John Deere** has developed an integrated FarmSight platform that aims to serve as a one-stop shop for farmers and brings together a number of service providers to help achieve this. In addition, by combining its recent acquisition of Precision Planting with Monsanto’s weather-related FieldView service, John Deere can now offer integrated precision agriculture solutions utilizing hardware and sensors in the field and powerful weather-related intelligence.  

An alternative approach is for companies to develop open-innovation platforms and application program interfaces (APIs) to enable a wide variety of service providers and businesses to develop unique combinations that deliver increasingly relevant experiences to customers. For example, Google’s open Nest platform allows a number of different companies and services to come together to define services that customers would not have imagined. Similarly, **AT&T Drive** is using the connected car as a platform to grow customer mindshare. The company now allows customers to include connected cars – such as the Audi Q3 – in its shared data plans for no more than it costs to add a tablet.  

The approach companies ultimately choose will depend on their digital capabilities, customer experience goals, in addition to the role they wish to take in owning the customer’s overall experience. There are, however, a number of key questions that companies can think about while considering new partnerships:  

- What is the ‘permission space’ for your brand? What are the offerings that you can build as extensions to your product/service and what are the ones you cannot? For example, will customers accept healthcare advice from a bank that provides this based on credit card data of their medical purchases?  

- What kinds of programs or experiences is a potential partner bringing to the table during your brand’s interaction with the customer?  

- Does a potential partner complement your product, service or experience, or fill in gaps where your company has struggled to deliver satisfactory results?  

- Will this partner work effectively in an existing ecosystem of partners?  

- Can this partner help to listen more effectively to customers, capture insights on their behaviors and contribute to a 360° perspective that helps to advance future customer experiences?  

As strategic partnerships become more important, industries will become deeply interconnected in their delivery of customer experiences. This trend is spreading fast: 77% of executives who responded to a recent survey confirmed that they are already strengthening their digital businesses by taking part in open-innovation initiatives, using APIs to exchange data, and leveraging technology platforms to deliver better outcomes for partners and customers. 

b. **Hyper-personalization**  

Customers increasingly expect personalized and relevant interactions. More than half of all customers want more personalized experiences through every engagement channel and 70% expect more personalized experiences with the brands they interact with. Digital technology is enabling companies to meet these expectations by delivering personalization to large numbers of customers at a low cost. Moreover, spectacular advances in AI and software intelligence are enabling companies to take personalization to the next level, learning from customer data automatically to make products and services highly relevant to a very large number of customers at the same time.
The personalization of consumer products is not an entirely new phenomenon. For over a decade, customers have been able to have their M&Ms inscribed with a message of their choice, while the NikeID program has given fashion-conscious sports fans the chance to customize their shoes since 2012.

The My M&Ms and NikeID services are examples of one type of personalization, characterized by the customer having control of how the product or service they are buying is customized. But another form of personalization is becoming increasingly common, in which customer data from a wide variety of sources is analyzed in real time to deliver more relevant interactions. Examples of this type of personalization are Netflix’s Emmy Award-winning recommendation engine (which drives almost 75% of viewing activity on the site) and Macy’s partnership with Shopkick to deliver hyper-personalized offers to shoppers’ smartphones. The figure below illustrates the main differences between these two forms.

Figure 2: The Personalization Spectrum

Digital has enabled two main forms of hyper-personalization

1. Giving customers control to customize their product/experience
   - Examples:
     - Create your own suit
     - Customized shoes
     - 100+ drink choices and customization options
   - Implications:
     - Lower requirement for access to customer data
     - Requires more direct engagement from the customer (opt-in) at point of sale
     - Robust and agile supply chains to provide convenience and choice

2. Providing more relevant interactions by analyzing customer data
   - Examples:
     - Personalized in-store shopping recommendations
     - Mobile app using machine learning to monitor mental health patients
     - Music tailored to real-time mood and location
   - Implications:
     - Requires (repeat) access to customer data
     - Usage data can be captured without direct customer intervention
     - Analytical capabilities to tailor personalized offers and services

Source: World Economic Forum/Accenture analysis

As the possibilities for different types of personalization – and the specificity with which it can be delivered – increase, companies are facing a new challenge: deciding how much personalization to offer and to whom. The first type of personalization (customers choosing how to customize their products) usually does not require businesses to access significant amounts of customer data and is largely uncontroversial, especially as customers have usually opted to customize their product or service in the first place. The second type of personalization (delivering hyper-personalized services, offers or recommendations) relies on regular access to customer data. Because this form of personalization is less obvious, it can create an adverse reaction among some customers if they decide that enterprises are not being transparent about the collection and use of their personal data.

Duolingo – personalized language learning at scale

Duolingo is an AI-powered platform that offers personalized language learning to its 100 million users around the world. Valued at $470 million and backed by funding from Google Capital, Duolingo currently offers courses in 24 languages. It breaks lessons into short blocks and brings elements of gamification to the learning experience. Data about how strongly a concept has been learned is used to customize the user’s next lesson. The app is free for users, with language certification tests only costing $20, far cheaper than standard language exams. It also offers a service for schools that provides teachers with a dashboard to track the progress of individual students.
Ginger.io – personalization in mental-health care

Ginger.io is an AI-driven mobile application for mental health patients that safely and securely uses data from a patient’s everyday mobile usage (time spent on calls, text messages sent) and activity (distance traveled, sleep) to map behavior over time and then track variations from patterns as potential self-harm risk triggers.\(^{55}\) The app in several cases can predict signs of depression for individual patients up to two days before outward symptoms manifest. Currently, it offers programs to help people with chronic conditions such as bipolar disorder, depression, schizophrenia and anxiety. By continuously monitoring the user, Ginger.io claims it is more effective at targeting care to when the patient really needs it, than regular visits to a clinic would be. In this way, the Ginger.io service has the potential to improve clinical outcomes while reducing healthcare costs. Ginger.io has raised $28.2 million in funding so far with the latest round in December 2014.

Macy’s and Shopkick – helping Macy’s shoppers get their ‘kicks’

Macy’s has partnered with Shopkick, a shopping app with more than 13 million users, to offer personalized recommendations, location-specific deals and rewards (known as ‘kicks’) to shoppers.\(^{56}\) Since 2013, the shopBeacon service, which uses Bluetooth Low Energy beacons to detect when users enter the store, has been trialed at Macy’s flagship stores in New York and San Francisco. The shopBeacon service can welcome a shopper as they enter the store, even if they have not opened the Shopkick app on their smartphone. To protect customer privacy, data is anonymized and aggregated. ShopBeacon technology significantly lowers the average cost of engaging a customer and also boosts the conversion rate for engagements, reducing the cost of transactions.

Regular access to customer data is a key requirement for some types of hyper-personalization but many customers are reluctant to share personal information. Up to 90% of customers would limit the access to certain types of personal data and would stop retailers from selling their information to third parties, while 88% would prefer to determine how their data can be used.\(^{57}\) At the same time, some customers are more willing to share some kinds of data than others (see below).

“A focus on personal preference engines, and the ability to mass customize – particularly digital experiences, across multiple entities and multiple data sources about an individual, will be important to the future of healthcare” – Jamie Ferguson, Vice-President Health IT Strategy & Policy, Kaiser Permanente

What kinds of data are users willing to share?

Customers are not willing to share all their personal information and will need the right incentives to increase the amount and kinds of data they share.

Figure 3: In order to get a more personalized experience, what data are you willing to share with retailers?
Company strategies on hyper-personalization also need to factor in that preferences about levels and forms of personalization vary significantly across customer segments. Customers do not appreciate all forms of personalization and are likely to switch if personalization becomes too personal. For example, 42% of customers in a recent retail consumer survey said that a system that automatically credits purchases to a customer’s account at checkout without using a mobile or a mobile device would make them uncomfortable.

"Because we will soon have all information at our hands, we will need curation and thoughtful presentation of data based on context and what we’ve been up to” – Ripley Martin, Vice President and Head of Strategy, Philips Healthcare

Hyper-personalization will continue to evolve with technologies like artificial intelligence, virtual reality and 3D printing playing a crucial role. New forms of personalization will integrate customer control with smart machines, taking customer convenience to new levels.
Hyper-personalization: Not just for developed markets

When asked to rank areas where retailers can make the most improvement – ‘level of personalization’ ranked first for Chinese customers (31%) compared to 16% for others surveyed globally.59

While personalization and engagement may be highly valued in emerging markets, it is critical to note that Chinese customers are also more willing to share data in exchange for personalized experiences.

- 61% will share their likes, dislikes, interests and hobbies, compared with 43% globally
- 54% will share information from products they are using, compared with 35% globally

The same holds true in India, where close to three-quarters (74%) of respondents are open to providing their personal details, compared to only one-third of Germans (39%).60

Imperatives for companies

1. Establish the right incentives for customers to share data

Collecting real-time customer data is the first hurdle that companies must overcome. Both understanding how to directly incentivize customers to opt to data-sharing initiatives and establishing trust in data security and privacy will be critical for companies looking to successfully deliver on hyper-personalization.

- **Deliver a clear value proposition**: Persuading users to share personal information relies on providing them with tangible and clear value in exchange for their data. Nearly half (49%) of global consumers are aware that companies benefit from their data, but they don’t know how to trade for value in return. While financial rewards rank globally as the incentives that are most valued by customers, recent research by Microsoft indicates that emotive drivers of value can serve as effective incentives as well. These include a sense of achievement (on completion of a task or challenge), order (efficiency), or discovery (new information). For example, apps that enhance people’s productivity in their professional or personal lives give people a sense of achievement from improving their performance and achieving the goals they have set for themselves.61

- **Establish customer trust**: Communicating trust and security has become especially important, both when asking customers to opt in and when using secondary data from other sources. Customers are more likely to opt in if they feel confident that their data will not be misused or stolen. This is an area where companies need to pay particular attention. A recent survey found that 85% of executives believe that the average consumer has very limited insight into how organizations are using data related to them.62 Transparency will have to go beyond just an ‘accept’ button and companies are realizing this. The Personal Genome Project has redefined ‘informed consent’ by requiring a perfect score on a test before participants can even enter their name.63 Sage Bionetworks, a nonprofit organization, and Lookout, a mobile security firm, have taken a similar approach. Companies can alternatively form partnerships or join platforms that securely extend access to customer data across companies or industries. The key challenge here remains to ensure that customers do not feel that their data is being wrongly used or shared. As a recent study revealed, 67% of individuals are willing to share data with companies, but that drops to 27% if the business is sharing data with a third party.64

Genecloud – supporting medical research while protecting data privacy

Genecloud is a platform and cloud-based interface that enables researchers to engage with sensitive genomic data in a managed environment that enforces data-access policies for third-parties. Sensitive health and genetic data is anonymized and made accessible to researchers, who can use the information to advance personalized medicine, while ensuring individual data privacy and legal frameworks are adhered to.

2. Draw insights from ‘digital segmentation’

- Different degrees of personalization will need to be defined for different customer segments, but companies must first re-evaluate their segmentation strategies. Customer segmentation models will need to change from traditional approaches limited to standard demographics to more sophisticated approaches incorporating digital behavior. Customer data platforms empowered by AI or machine-learning tools can help companies address segmentation in
this way at a hyper-personalized level. Insights can be captured in real time to feed back into personalized experiences for individuals or customer segments that are deemed to be high value.

**Umbel – helping the Indiana Pacers build one-to-one relationships with fans**

The Indiana Pacers, a basketball team in the NBA, has worked with Umbel to build one-to-one relationships with fans. Umbel is a customer data platform that collates customer data and intelligently segments a company’s customer base. Umbel claims its Digital Genome audience analysis tool, draws inspiration from genomics research to identify individual traits within a digitally connected audience, such as a crowd at a basketball match. The tool captures data from each and every customer and converts it into real-time, actionable insights around the most valuable audience segments. Intelligent segments have even been tracked by using technologies such as iBeacons to integrate online and offline behaviors.

- Companies considering investing in personalized offers need to understand the degree of personalization that would maximize lifetime value for each customer. For many, this will be a function of their willingness to share data and their level of engagement with the brand. For instance, an individual with high willingness to share data (e.g., location, personal health and family data) but passive engagement (e.g., limited attention dedicated to a brand) is better serviced with hyper-personalized products and services that require minimal engagement. On the other hand, an individual with low willingness to share data (e.g., basic demographics, contact information) but active engagement (e.g., dedicating time to visiting a store or digital channel) could be serviced with customization solutions.

3. **Identify the right level of personalization to offer to individual customers**

Identifying whether a large part of your customer base is geared toward personalization based on their individual data versus customization is only part of the challenge. Understanding and delivering the right level of personalization to individual customers (and at low cost) is where there is greater scope for differentiation for businesses.

Analytical tools have been developed to enable companies to rely on techniques such as attribute analysis to map individual customer attributes based on emotive and psychographic factors; event sequence analysis to map individual customer journeys prior to and after a purchase; and collaborative filtering to identify information for decision making based on collaboration between multiple data sources. This analysis can provide a tremendous degree of insight into individual customers. Finally, these insights will have to adapt in real time to customer responses to campaigns and other changes in the customer context. In effect, personalization tools need to be dynamic and responsive to changing customer behaviors.

The final decision on hyper-personalization will still have to be based on the company’s assessment of the impact of these initiatives on customer lifetime value, and consequently the return on investment in new software tools and processes. In many cases, especially where companies have to choose the level of customization to offer, this analysis will have to be done at individual customer levels rather than at a larger segment level. For instance, customers with low initial lifetime value scores are best offered limited customization options through online channels, which can then be increased as repeat transactions occur.
c. Ownership to access

Today, an economic model built around ideas of peer-to-peer collaboration and on-demand access, has become big business. Companies such as Uber, Airbnb, BlaBlaCar, Didi Kuaidi, HomeAway, WeWork and Lyft have rocketed to $1 billion valuations (and, in some cases, far beyond) by offering users on-demand access to cars, homes or office space.67 The global market for shared goods and services across five key sectors is estimated to reach $335 billion by 2025.68 What is remarkable, however, is that in many cases these economic models are a manifestation of a more fundamental shift away from the desire for ownership toward a need for access. A study by PWC revealed that only 50% of consumers agree with the statement that ‘owning things is a good way to show my status in society.’ Four in five consumers agree that there are sometimes real advantages to renting over owning, and adults ages 18 to 24 are nearly twice as likely as those ages 25 and older to say that access is the new ownership.69

While sharing and the desire for access to goods and services may be age-old concepts, increased digital connectivity has enabled greater efficiency and access to services and products, through peer-to-peer markets and matching platforms. For instance, the advent of location-based GPS via mobile has allowed on-demand matching of market players; big-data algorithms have maximized allocative efficiency based on data shared by customers of what they need or can offer; and advances in analytics and cloud computers have reduced the time and cost of going to market for new entrants.70 Moreover, the growth of social has unleashed the power of peer reviews and laid the foundations for building trust in peer-to-peer transactions.

The concept of ownership over access is becoming mainstream, with more than 110 million North Americans now participating in the collaborative economy.71 Customers are attracted by the convenience of on-demand access, the prospect of financial savings and the potential for it to improve their quality of life. Research by Vision Critical found that 82% of sharing transactions were at least partly driven by a desire to save money. More than half of people surveyed recently in North America said they would consider switching from buying to sharing if it lets them save 25%.72 Also, with environmental concerns growing in importance, some users appreciate the efficient use of resources that access-based technology platforms can provide. Others value the opportunity to avoid the risks of owning an asset, such as a car, without losing access to the benefits it provides. Samuel Fraiberger and Arun Sundararajan’s econometric study,

More information can be found on the World Economic Forum site at digital.weforum.org

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“Peer-to-Peer Rental Markets in the Sharing Economy”, suggested that this democratization of access was particularly advantageous for customers with below-median incomes.13

The shift toward access-based consumption patterns holds important implications for businesses. It is easy to see that a fundamental shift from buying to accessing (or sharing) stands to have a very significant impact on traditional revenue models. Automotive manufacturers are looking at a possible future where a large part of their customer base may forgo ownership of a car in exchange for real-time access to mobility provided by disruptors such as Lyft. Alternatively, customers could develop a preference to access a wide variety of automobile models, each for a fixed period of time, rather than have to permanently pick one brand over the other. At the same time, access-based models can help companies address a large base of customers that earlier could not buy or afford the product, and in the process ‘democratize’ the privilege of owning certain types of goods. Access-based models also hold larger economic implications by potentially improving asset utilization rates (and reducing waste) in a number of industries, and spreading economic gains across several asset owners and seekers. Research at the NYU Stern School of Business has shown that sharing-based models in the automotive industry alone could lead to 0.8 to 6.6% in predicted consumer surplus gains, corresponding to billions of dollars in value creation.74

Where will access-based models emerge and where does the urgency lie?

So far, much of the disruption from access-based models has focused on two sectors: space (e.g., Airbnb competing with hotel rooms; WeWork offering an alternative to renting office space) and transport (e.g., Uber and Didi Kuaidi disrupting the taxi business). However, we are increasingly seeing access-based models spreading to other sectors in both the B2C and B2B worlds, including luxury consumer goods, and even the B2B construction and medical equipment markets (see Cohealo case study below).

Cohealo – an access-based model in a B2B model

Cohealo, a US-based technology company, has created an innovative platform offering on-demand access to medical equipment.75 It’s a pioneering example of an access-based model being used in the B2B world. Cohealo allows health systems to share equipment across hospitals, reducing the need to buy assets and boosting profit and utilization rates. With one study finding the average utilization rate of hospital equipment at 42%, Cohealo aims to boost this to between 75 and 80%. Cohealo is now being used by healthcare providers serving around 15% of the US population. Cohealo says that its service has saved hospitals $1 to $2 million each and claims that this could rise to $7 million if they use the service for longer.

Caronetas – exclusive and secure car pooling

Caronetas is an exclusive ride-sharing platform launched in Brazil that allows users to place or find a ride and earn financial rewards that can then be redeemed at partner stores.76 The platform encourages sharing and promotes environmental benefits by creating financial incentives which users can evaluate and negotiate for each trip. The company allows only authenticated users (using their corporate email addresses) to add an additional layer of security and reliability. More than 900 companies registered with the service during its first year and the platform now reaches 250,000 employees through its corporate customers.

The scale and speed of change across sectors, however, is likely to be driven by a series of factors, including the value of the ‘asset’ after adjusting for transaction costs, the level of underutilized asset capacity, the ‘shareability quotient’ accounting for user willingness to share, and a favorable regulatory environment. Sectors in which assets have high value net of transaction costs, high underutilized capacity, high shareability quotient and favorable regulatory environment are most primed for disruption by access-based models (see figure below).

Digital platforms such as Cohealo and Uber play a crucial role in reducing transaction costs, thus increasing the monetization potential of sharing assets. By bringing a large number of asset owners in contact with access seekers, platforms have reduced search costs dramatically, while significantly increasing convenience. Where the value of the asset itself is low, platforms can play a large role in increasing the attractiveness of access-based models by reducing transaction costs.

“If you are in a relatively high asset-category, and the new generation of consumers are looking for on-demand, access models, make sure you have a stake in everything,” –Professor, top-ranked business school and leading expert on the sharing economy
Figure 5: Emergence of access-based models across sectors

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<tr>
<th>Sector</th>
<th>Asset Value (net of transaction costs)</th>
<th>Underutilized Capacity</th>
<th>Shareability Quotient</th>
<th>Regulatory Environment</th>
<th>Early Entrants</th>
<th>Potential for Disruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
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<td>Medical Equipment</td>
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<td>Construction</td>
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<td>Fine Art</td>
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<td>Audio &amp; Video Equipment</td>
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<td>Media/Content</td>
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<td>Luxury Apparel</td>
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<tr>
<td>Luxury Accessories</td>
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<tr>
<td>Casual Apparel</td>
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<td></td>
<td>n/a</td>
<td>Medium</td>
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<tr>
<td>Sports Equipment</td>
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<tr>
<td>Consumer Electronics</td>
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<td>Energy</td>
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<td>Toys</td>
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<td>Personal Care Products</td>
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<td>n/a</td>
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<td>Food &amp; Beverage</td>
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</table>

Note: Blue shading represents positive correlation within each criteria; Source: World Economic Forum/Accenture analysis

Several incumbents have identified this shift in customer expectations and are taking action to benefit from it. Some have invested in digitally native rivals. *Avis*, for instance, acquired *Zipcar*, the car-sharing service, for $500 million in 2013. Others have gone further by adapting their traditional business model to take into account their customers’ preference for access over ownership (see *BMW Drive Now* case study below).

**BMW DriveNow – traditional companies can share too**

BMW is an early example of a mainstream company adapting to the collaborative economy with its own sharing service. BMW’s DriveNow service is available in San Francisco and a number of European cities. It allows users on-demand access to BMW i electric cars, based on the principle of ‘pick up anywhere, drop off anywhere’. Customers are billed by the minute, with fuel costs, insurance and parking charges in public car parks included, and with hire costs limited to a maximum of $60 a day. Although there is potential for the DriveNow service to cannibalize sales of new BMWs, this may be a necessary strategic move by an analog incumbent to meet customers’ preference for access over ownership and perhaps even expand their customer base.

The popularity of access-based models is also providing opportunities for enterprises that supply services to the companies providing these platforms. *TrustCloud* is an example of a company whose offerings facilitate peer-to-peer transactions (see case study below)
TrustCloud – servicing the peer-to-peer economy

TrustCloud aims to establish a common currency of trust between customers, providers and platforms in the collaborative economy. It is a certification service that measures trustworthiness on a scale of 1 to 1,000 by analyzing publicly available data from sources such as LinkedIn, Facebook and Google. The TrustScore aims to be an unbiased and universally recognized rating for all participants on peer-to-peer marketplaces. TrustCloud already certifies 50,000 providers in fields such as baby sitting, delivery services and dog walking. The TrustScore can provide value by increasing buyer conversion rates for trusted providers and allows platforms to differentiate themselves from competitors who do not offer the same reassurance.

Imperatives for companies

Companies need to identify the role they want to play in satisfying customer needs and embrace the core innovations of the collaborative economy, catering for consumers’ preference for access over ownership. Companies traditionally engaged in ownership models need to evaluate opportunities to disrupt themselves to meet new expectations for access before competitors or startups sweep in.

1. Identify and adopt the features that drive access-based models in your industry

The Harvard Business Review recently cited research that identified that consumers participating in the ‘collaborative economy’ are willing to switch to sharing from buying if certain conditions are met, the most important of which are price, convenience and brand (trust). It should be noted that while these factors are driving customers toward sharing models, they are also relevant factors in customer decisions to switch back to buying. Almost 70% of sharers are willing to switch to buying if offered a lower price. Similarly, almost a quarter are willing to switch to buying for a better brand or increased convenience. If ‘local’ and ‘convenience’ are added together, then this could be the second most importance factor after price.
These factors will hold different levels of importance by category of goods or service. While 40% of customers looking for car rental are willing to shift to sharing if offered greater convenience, this figure is only 18% for accommodation. Demographic factors also play a role. Whereas 71% of users in the 18-to-34 age range are willing to share rather than own accommodation, if offered a lower price, this figure drops to approximately 50% for customers over 55 years old.

Understanding the drivers of customer decisions to share rather than buy will be critical for industries and companies. Companies will need to focus on adopting the core innovations of the collaborative economy that are relevant to their particular context. The exact channel or method they use to do this will depend on a number of considerations that relate to features of the company’s product or service and its engagement with customers.

For instance, Walmart created an aftermarket called Trade In, which allows buyers to resell electronics such as mobile phones and video games, enabling lower total costs of ownership and reducing the incentive for customers to shift to sharing-based models.

2. Choose the most relevant form of participation in the collaborative economy

Access-based models currently exist in one of two forms: peer-to-peer platforms and direct lending marketplaces. Peer-to-peer platforms such as Uber, Airbnb and Cohealo connect asset owners with prospective users of those assets and play a key role in reducing transaction costs, increasing transparency and improving convenience. These models have traditionally been adopted by new entrants acting as intermediaries. At the same time, traditional companies such as BMW have relied more on direct lending models that give customers the convenience of access to a product or service. The critical difference in this model is that businesses maintain ownership of their assets, and extend access/rental options alongside their standard purchase offerings. Notably, digital technology allows companies to ensure transparency, provide security and monetize usage.

Companies can play different roles in access-based models, either by engaging in strategic partnerships with existing players or by actively launching a platform or marketplace of their own. For instance, Ford encourages new buyers to rent their cars to others through a partnership with peer-to-peer marketplace Getaround. Hotel chain Hyatt invested and partnered with home sharing platform OneFineStay to make its hospitality experience available to customers looking to stay in luxury home properties. While peer-to-peer platforms have generally been adopted by new entrants and ‘disruptors’, this can be a strong strategy for goods and services companies that have created successful customer platforms in the past (such as active e-commerce platforms or online user communities). Platforms and P2P marketplaces may be especially relevant for companies looking to retain customers by lowering their total cost of ownership.

While significant value is at stake for active facilitators of P2P platforms or direct lending marketplaces, companies must consider several factors (outlined below) when considering to launch an access-based model, either on their own or with a partner.
## Figure 7: What does it take to cater to new expectations of access over ownership?

<table>
<thead>
<tr>
<th>Criteria for Consideration</th>
<th>Strategic Partnerships</th>
<th>Peer-to-Peer Platform</th>
<th>Direct Lending Marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Base</strong></td>
<td>Extends benefits of peer-to-peer platforms/models to existing customer base; high potential to extend brand recognition to new customer segments</td>
<td>P2P platforms can help retain customers looking to lower their total cost of ownership. There is high potential to extend brand recognition to new customer segments (both new owners and access seekers).</td>
<td>Direct lending options risk cannibalization of existing customers, but have high potential to extend brand recognition to new customer segments (able to afford access-based options)</td>
</tr>
<tr>
<td><strong>Monetization Potential</strong></td>
<td>Limits potential loss of revenue from disruptive models and creates potential for new revenue segments</td>
<td>Medium reward – capture transaction/subscription fees of P2P sharing platform and potential new customers via traditional channels</td>
<td>High reward – monetize on rental fees on assets and potential new customers via traditional channels</td>
</tr>
</tbody>
</table>
| **Required Competencies**  | Internal competency requirement is limited to integrating the partnership and ensuring internal processes are adjusted to cater to new channels | New internal competencies:  
- Skill requirement in building and running customer platforms (active e-commerce platforms or online user communities)  
- Bringing marketplaces to scale across multiple locations requires: local marketing, logistics and regulatory support  
- In the case of P2P, curation and selection of high-quality suppliers in initial phases is critical to minimize variation in customer experience and increase network effects  
- Investing in identity verification, harnessing the power of peer reviews and social media and collaborating with certification services like TrustCloud will build an environment of transparency | New internal competencies are required:  
- Digital capabilities to forecast and track asset usage and drive external transparency  
- Bringing marketplaces to scale across multiple locations requires local marketing, logistics, regulatory and actuarial support |
<p>| <strong>Control over Asset Quality and Customer Experience</strong> | Limited control of the quality of products/services exchanged and customer experience through the platform | Significant control over service quality but customer experience is dependent upon variable peer interactions | Significant control over product/service quality and customer experience |
| <strong>Degree of Brand Recognition</strong> | Substantial brand recognition. Some partnerships are co-branded, extending customer mindshare but | Limited brand recognition when facilitating a P2P platform. P2P platforms typically cater to multiple brands, so must be willing to share the marketplace with competitors. | Strong brand recognition – Companies have full control over their brand positioning |</p>
<table>
<thead>
<tr>
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<th>Direct Lending Marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>also risking negative association in the case of poor platform execution</td>
<td>Established brands better positioned as trust is found to be a key factor in sharing-based models</td>
<td>High risk. P2P platforms are susceptible to regulatory risks, trust barriers in peer-to-peer transactions, and insurance liability</td>
<td>Moderate risk. Regulatory and trust risks are similar to traditional business models. Need to work with insurers to understand how to best structure coverage over fragmented usage of assets.</td>
</tr>
</tbody>
</table>
5. Recommendations

Customer expectations never stand still

For businesses to succeed in the unrelenting race to keep up with customer expectations, they need to retain an intense focus on remaining agile and responsive to the latest technological innovations and developments in customer expectations. As the rate and scale of disruption accelerates, and customer expectations evolve, companies face an increasingly important need to change the way they track and respond to customer expectations. This presents some specific and urgent questions for businesses to answer:

Outpacing customer expectations

- How can businesses best combine digital tools with techniques such as design thinking and experiential pilots to assess customer expectations and needs?
- How can companies build agility in revenue models to meet rapidly changing needs in the digital age? Can tools such as iterative innovation and prototyping be easily adopted by organizations?

Developing compelling customer experiences

- How can companies identify and assess the customer experience strategies that will drive differentiation for their business? Which digital tools and techniques can help deliver outcome-driven experiences to customers?
- How can interoperability and ecosystem partnerships be leveraged to define experiences that go beyond just one brand?

Bringing hyper-personalization to life

- To what extent will shifting toward digital segmentation tools be effective in identifying and delivering the right level of personalization for the right customers?
- What incentives can individual businesses offer customers to share data in exchange for personalized products and services? What can be done to improve trust in data privacy and security?

Defining a role in the access economy

- How can companies and industries determine their amenability to disruption by access-based models?
- What business model options do companies have as customer preferences shift toward access-based models (over ownership) in their industries?

Digitalization of the customer environment also poses some important questions for governments and regulators, particularly in emerging areas where the implications of digitalization on consumer interests do not have clear precedent:

- As customer data is increasingly used to drive digitally enabled revenue models, how should data ownership and monetization be governed across businesses and sectors?
- As an increasing number of partnerships emerge to drive new customer experiences, how can regulators identify and ascertain ultimate responsibility for ensuring that customer interests are met?
- What role can policymakers and regulators play in enabling business models that promise to drive significant gains for customers? (e.g., sharing-based models that democratize access to goods and services that were previously inaccessible under ownership-based models, especially in developing markets)

The race to keep up with customer expectations is a particularly challenging one. It is a sprint. With the accelerating pace at which technology advances and customer expectations change, enterprises need to be faster than ever to keep up. At the same time, it is also a marathon. Customer expectations never stand still and are already being reshaped by the next wave of technology. There is no finish line in sight.
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7. Endnotes

1 World Economic Forum / Accenture analysis


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