A Consumer Products Perspective

Tech Trends 2014

Inspiring Disruption

Deloitte University Press

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Introduction

WELCOME to Deloitte's fifth annual *Technology Trends* report. Each year, we study the ever evolving technology landscape, focusing on disruptive trends that are transforming business, government, and society. Once again, we've selected 10 topics that have the opportunity to impact organizations across industries, geographies, and sizes over the next 18 to 24 months. The theme of this year's report is *Inspiring Disruption*.

In it, we discuss 10 trends that exemplify the unprecedented potential for emerging technologies to reshape how work gets done, how businesses grow, and how markets and industries evolve. These disruptive technologies challenge CIOs to anticipate their potential organizational impacts. And while today's demands are by no means trivial, the trends we describe offer CIOs the opportunity to shape tomorrow—to inspire others, to create value, and to transform "business as usual."

The list of trends is developed using an ongoing process of primary and secondary research that involves:

- Feedback from client executives on current and future priorities
- Perspectives from industry and academic luminaries
- Research by alliance partners, industry analysts, and competitor positioning
- Crowdsourced ideas and examples from our global network of practitioners

As in prior years, we've organized the trends into two categories. Disruptors are areas that can create sustainable positive disruption in IT capabilities, business operations, and sometimes even business models. Enablers are technologies in which many CIOs have already invested time and effort, but that warrant another look because of new developments, new capabilities, or new potential use cases. Each trend is presented with multiple examples of adoption to show the trend at work. This year, we've added a longer-form *Lesson from the front lines* to each chapter to offer a more detailed look at an early use case. Also, each chapter includes a personal point of view in the *My take* section.

Information technology continues to be dominated by five forces: analytics, mobile, social, cloud, and cyber. Their continuing impact is highlighted in chapters dedicated to wearables, cloud orchestration, social activation, and cognitive analytics. Cyber is a recurring thread throughout the report: more important than ever, but embedded into thinking about how to be secure, vigilant, and resilient in approaching disruptive technologies.

For the first time, we've added a section dedicated to exponential technologies, working with Singularity University to highlight five innovative technologies that may take longer than our standard 24-month time horizon for businesses to harness them—but whose eventual impact may be profound. Examples include artificial intelligence, robotics, and additive manufacturing (3-D printing). The research, experimentation, and invention behind these "exponentials" are the building blocks for many of our technology trends. Our goal is to provide a high-level introduction to each exponential—a snapshot of what it is, where it comes from, and where it's going.

From a Consumer Products lens, we provided industry sector specific perspective on majority of the topics including CIO as a venture capitalist (how to leverage brand categories perspective for portfolio planning), crowdsourcing (specific strategies including crowdfunding, flexible workforce and data analysis contests), wearables (discussing the Empowered Employee and the Persistently Connected Consumer) and digital engagement (Omnichannel Brand Engagement, Ubiquitous Sensors and other topics).

Each of the 2014 trends is relevant today. Each has significant momentum and potential to make a business impact. And each warrants timely consideration—even if the strategy is to wait and see. But whatever you do, don't be caught unaware—or unprepared. Use these forces to inspire, to transform. And to disrupt.

We welcome your comments, questions, and feedback. And a sincere "thank you" to the many executives and organizations that have helped provide input for Tech Trends 2014; your time and insights were invaluable. We look forward to your continued innovation, impact, and inspiration.

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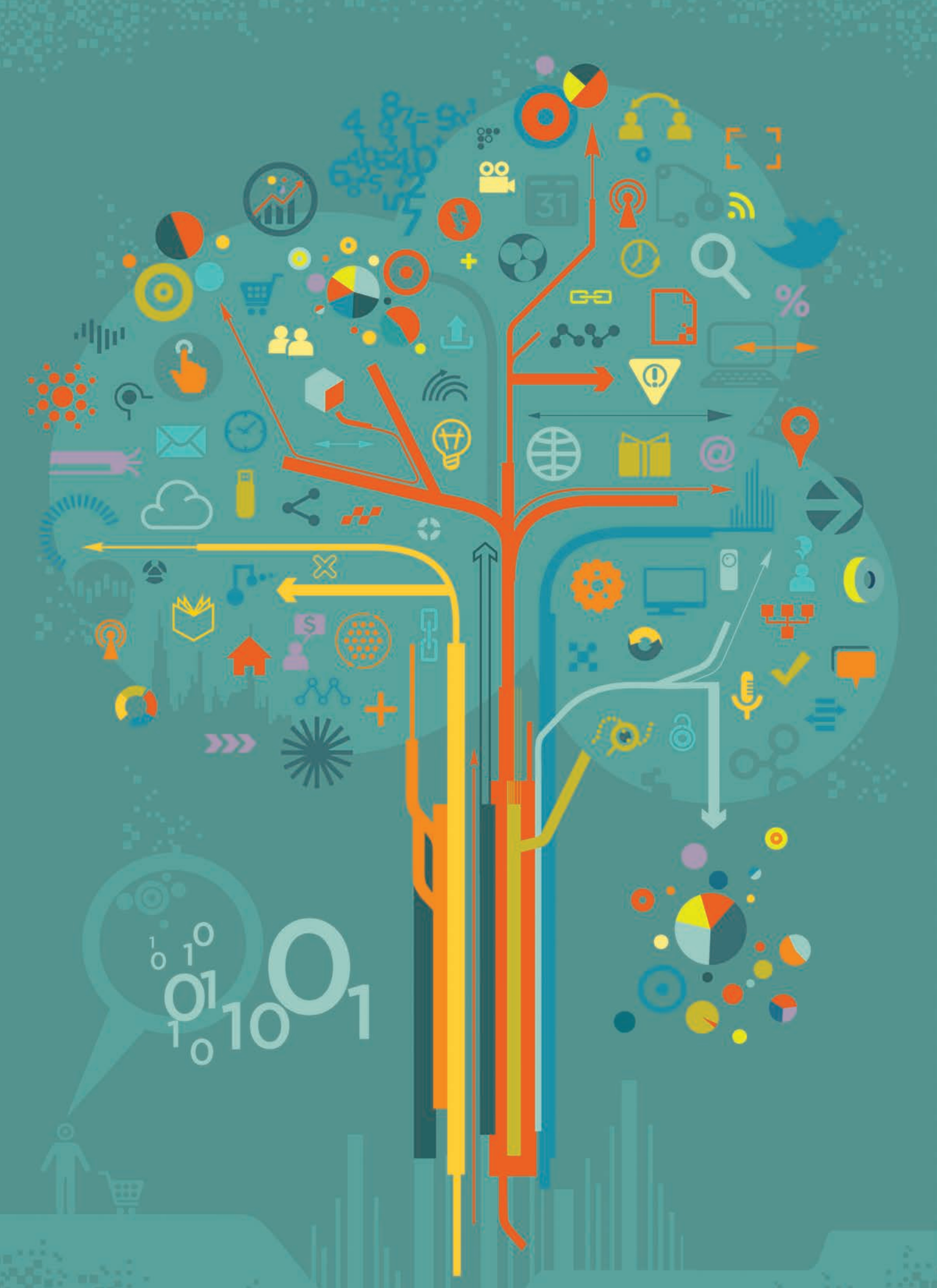
Disruptors



Digital engagement

Context + content for marketing . . . and beyond

Content and assets are increasingly digital—with audio, video, and interactive elements—and consumed across multiple channels, including not only mobile, social, and the web, but also in store, on location, or in the field. Whether for customers, employees, or business partners, digital engagement is about creating a consistent, compelling, and contextual way of personalizing, delivering, and sometimes even monetizing the user's overall experience—especially as core products become augmented or replaced with digital intellectual property.

DIGITAL is at the heart of business—reshaping customer interaction, rewiring how work gets done, and potentially rewriting the nature of competition in some markets. Today's digital technologies include mobile, social, and the web, but wearables[1] and the Internet of Things could dramatically expand the definition in the years ahead. The underlying intent is simple: using technology to design more compelling, personally relevant, engrossing experiences that lead to lasting, productive relationships, higher levels of satisfaction, and new sources of revenue. Driving digital *engagement*.

First stop: Sales and marketing

Tapping digital channels to advertise, market, sell, and provide customer care is far from new terrain for many companies. Early efforts have focused on coverage and consistency: Do I have a digital presence where my customers are spending time?[2] Do the various channels provide consistent information, services, and brand experience? Even as some companies struggle with these foundational elements, customers expect new levels of digital engagement.

Today's markets demand intimacy and synchronization across channels—providing seamless, personalized experiences to customers who are time-, place-, and context-aware. Customers want to be able to connect via mobile, web, call centers, kiosks, and emerging technologies–and they expect the experience to pick up where the last interaction left off. Second-screening (providing synchronized, complementary content simultaneously across two channels) has gained popularity in media and entertainment, with other industries following suit. And it doesn't stop with digital. Sometimes dubbed *omnichannel*, digital engagement also looks to connect the digital experience with physical interactions—in-store, on-site, and via customer and field service personnel.

Digital engagement requires a commitment to content as a discipline, backed by a technical and operational backbone. This backbone enables the rapid creation, delivery, and curation of assets, personalized to the individual according to location, activity, historical behavior, and device or service. This enables personally relevant and timely interactions that are "just right" in their level of detail, utility, and privacy.

For CIOs, many of the foundational moves in digital engagement may be happening outside of their direct control. Chief marketing officers and newly minted chief digital officers

Digital engagement in action

are likely defining the roadmap for big parts of the digital backbone—content management, web analytics, campaign management, search engine optimization, email optimization, and social listening. Realizing the full potential may require hooks into customer relationship management (CRM), sales force automation, e-commerce, and back-office processes such as order, inventory, pricing, and fulfillment management—areas IT is well-prepared to help drive. The CIO can also provide guidance and stewardship for responsible adoption of these digital technologies, preserving the "-ities" of security, reliability, scalability, interoperability, maintainability, and capacity.

Let's get digital: New products (and markets)

The implications of digital engagement are even more interesting when you look beyond sales and marketing. It is a universal opportunity, regardless of whether a company's product or service assets are physical or digital. But as more industries' core products and services are replaced or enhanced by digital offerings, the same commitment to digital content, asset, and intellectual property (IP) management moves from marketing enabler to strategic imperative.

The media and entertainment industry has been leading this charge as a significant percentage of revenue continues to move from physical to digital channels across the industry.[3] Financial services, retail, and health plans are also undergoing transitions to digital. And with the advent of embedded sensors and low-cost connectivity, life sciences, consumer, and industrial products companies are increasingly enhancing their core products with digital services—from turbines to soft drink dispensers to toys.

Pharmaceutical companies are creating companion apps to support patients—creating new value beyond the molecules while inspiring brand loyalty. Ball bearing manufacturers are including on-vehicle

sensors to offer adjacent services for fleet management and route optimization. After impressive consumer adoption, fitness trackers are being endorsed by health plans for wellness programs. The broader "quantified self" movement has brought new players into hardware and software markets, from consumer apparel companies to retailers. Users are trading their personal information for enhanced experiences, sometimes even paying for the privilege.

Longer term, the progression of 3D printing may cause a fundamental shift in product strategy, bringing a rise in digital-only products in these traditional industries. When a spare part can be downloaded and produced by customers themselves, effectively protecting, managing, and monetizing the underlying digital IP may become as critical as managing any other product. At a minimum, new approaches for managing digital assets and rights will probably be needed. But the implications may be far more disruptive—requiring rewired sales structures and incentives, reshaped channel partnerships, and new ways to take orders, provision products, monitor usage, bill, settle, service, and support.

The enterprise awaits

There is tremendous opportunity to apply digital engagement principles within the enterprise to reengineer how your own employees interact, work, and grow. The same digital backbone put in place for external stakeholders can be used to drive internal engagement across almost every process and domain.[4]

Now is the time for CIOs to help their businesses define a digital vision while helping marketing integrate its activities with those of sales and operations. Perhaps more importantly, the CIO can secure IT's role in helping to drive the company-wide transformation behind enterprise digital adoption and in making a longer-term strategic pivot from physical goods to digital services.

Consumer Products Perspective

It's an exciting time for technology in the Consumer Products space with manufacturers bringing recent technology advances to the forefront in their attempts to better engage consumers. The use of social media, online consumer research, and in-store engagement, sometimes through augmented reality, are helping to build Digital Engagement with customers before a purchase has even been made. Consumer products organizations continue to innovate and push the envelope to leverage technology to create new avenues for digitally engaging the consumer. Recent innovate trends that will impact how consumers can engage with consumer products organizations include Omnichannel Brand Engagement, Ubiquitous Sensors, 3D Printing, and Delivery 3.0.

Omnichannel Brand Engagement

Omnichannel is about providing a consistent, intuitive, and contextual experience for users whether they are interacting with companies in-store, via web, mobile, call center, or emerging technologies. Emerging technology trends such as social activation and wearables can provide manufacturers and retailers with an opportunity to create an enhanced customized brand experience for consumers.

Manufacturers can use social activation to increase interactions with their customers and also provide high quality content that encourages brand loyalty. Consumer activity on social media platforms can enable retailers and manufacturers to identify trends and provide customized products and services.

Wearable devices, on the brink of widespread adoption, can collect real time data on the consumer and companies can use that information to provide a seamless customer experience. Wearables can enable retailers and manufacturers to tailor content delivered directly to the device allowing for a more immersive consumer experience. The sales team required for a large retail store can be virtually eliminated and retailers can share comparative product data directly with the consumer. However, the digitization of personal information and constant sharing across multiple devices raises concerns of privacy and security that companies need to address. Devices will need to be more secure and stronger authentication technologies including pulse recognition, finger print scanners, and retina scanners will likely need to augment or replace traditional password authentication.

Ubiquitous Sensors

The machine-to-machine communication advancements along with a sophisticated approach to sensorization of appliances and devices has allowed consumer products manufacturers to extend their engagement capabilities from the point of sale (a device knows where and when it has been purchased) through maintenance cycles and end of life or upgrade. Microelectromechanical systems (MEMS) are slowly forming the backbone of every consumer product. MEMS provide multiple avenues for companies to engage with their customer and the products provide real time customized services based on the data captured by MEMS. Tasks such as automatic replenishment of water filters and air filters, reminders of service intervals, and vent cleaning create an ongoing, repeatable sales channel but also help appliances run optimally for longer, enhancing brand reputation and the likelihood of a repeat customer. Retailers could use sensors to evaluate trends in their stores and then apply that information to customized advertising campaigns or product nutritional values. Devices within a home communicating with each other can also make life easier for a homeowner. When washers and dryers talk to each other they are able to synchronize their finish times and adjust activities to manage water and power usage for efficiency. Toothbrushes with sensors can capture data and tell how long you have brushed, beep when you missed brushing, and even tell which areas you have skipped while brushing. As sensors become smaller, more cost effective, and ubiquitous, they are disrupting the existing interaction channels between humans and appliances and bringing in an era of interactive appliances providing customized services based on usage patterns.

Consumer Products Perspective

3D Printing

The implications of digital engagement extend beyond sales and marketing and building brand loyalty. With technological advances such as 3D printing, consumer products companies have the opportunity to enhance or even replace their core products with digital offerings. We anticipate the rapid growth of 3D printing particularly in retail where consumers will be able to request personalized, custom-made accessories to accompany an off-the-shelf product. The ability to customize the product to meet the consumer's need will flourish to everyday products from its current niche segment. Think about custom outfits for dolls or unique designs for cell phone cases that will be manufactured in store while you wait. It will enable companies to reach consumers across the globe instantly and with no cost of establishing a sales and supply chain network. "On-Demand" manufacturing of products in stores or directly by consumers reduces inventory, transportation and packaging costs as well as helps create a brand reputation for sustainability. 3D printing will exponentially minimize the time taken for a product to go from design, to prototype, to the consumer's hands.

Manufacturing can also be pushed to the retailer allowing companies to focus their resources on design and brand recognition. 3D printing can help companies conduct targeted testing of products in certain markets by sharing the design directly with the consumers and having them 3D print it from their home. This helps gain immediate feedback on new products and will also accelerate the ability to launch newer products in the market. The world's largest online retailer has recently allowed companies to sell 3D-printed consumer goods on their store front.

Other implications of 3D Printing include rights management of digital IP. If companies can simply share their product "Blueprint" for consumers to print at home, new regulations and rights management structures need to be developed.

Delivery 3.0

Instant gratification and same day delivery may be the next frontier for manufacturers and retailers. Consumers want to receive the product before the initial euphoria around the shopping experience fades away. Shutl and large internet retailers have heralded a new era of same day delivery. Companies will need to capitalize on their existing infrastructure, supply chain and utilize shared infrastructure to meet this growing need. Some companies are experimenting with drones to navigate the high traffic areas like New York City, San Francisco and Los Angeles. With advancements in sensors, "just-in-time fulfillment" will become more mainstream and seamless. New "Just-in-Time" delivery methods will be enabled by Machine-to-Machine sensors: Sensing a need to replace the water filter, refrigerators will be able to automatically place and order for a replacement. A compressor needing repair will be able to auto-schedule a service by synching your availability with local servicers. Several companies are also evaluating customer buying trends to provide an automated order placement option to satisfy customer's need for instance gratification and also to be actively engaged with customer. Apparel retailers can utilize buying trends to automatically deliver the latest collection even before the season begins to increase brand loyalty.

The last few years have seen terrific growth and innovation in the digital channels that enable enterprises to more closely engage their customers. Social media has reached the mainstream and the new technologies described above allow organizations to more closely connect to consumers both in the home and while on Main Street. It's an exciting time for the sector and one that is crossing the threshold from experimenting in advanced technology to making it a core component of how the enterprise engages the consumer.

My take

Strategies for CPG brands – Insights from a recent study

CPG executives aren't blind to the growing importance of digital commerce in their customers' shopping habits. Indeed, 92 percent of CPG executives in a recent study[5] agreed with the statement, "The e-commerce channel is a strategic sales channel for CPG companies."

Yet there is a disconnect between these executives' expressed opinion and their companies' readiness to execute. Only 43 percent of CPG executives in the study thought that their company had a clear, well-understood digital commerce strategy. In other words, the perceived importance of digital commerce to CPG companies has not, in most cases, translated into a fully developed strategy and plan to capitalize on the digital commerce channel. Furthermore, fewer than one in seven CPG executives self-assessed their company's digital commerce capabilities as "advanced" across 15 digital commerce areas, including e-commerce vision, processes, talent, and having a single view of the consumer. One retail executive in the study reinforced this point: "CPG executives tend to have very little consumer experience from a retail perspective. They may not fully understand what is going on, since e-commerce for CPG products represents very small [market] share."

The disparity between CPG executives' and consumers' views of future e-commerce activity is even more striking. Consumers' expressed intent to purchase CPG products online far outpaced executives' expectations for both the short term and medium term time horizons. Executives expected 35 percent growth in one year and 76 percent growth in three years; consumers who were already purchasing products online, on the other hand, expected to buy 67 percent more in a year's time and 158 percent more in three years. This difference suggests that CPG executives, while appreciating e-com¬merce's growth potential for the products they sell, may be underestimating the size of the opportunity.

What about the potential for digital commerce to drive incremental revenue, as opposed to revenue cannibalized from other channels? Here, too, CPG executives' views differed from consumers' in ways that suggest that e-commerce may become a more significant channel than many executives believe. CPG executives felt that only 2 percent of the past year's growth in e-commerce revenue came from completely new sales representing incremental revenue. In contrast, consum¬ers stated that 10 percent of their online food, household consumable, and personal care purchases over the past year had been com¬pletely new—that is, purchases that they would not have made at all had the online purchasing option not been available. That said, nearly one out of four CPG executives surveyed do believe that sales via e-commerce represented primar¬ily, though not completely, incremental sales.

Digital commerce is poised to become an important revenue driver for CPG com¬panies. Companies that can create compelling, personally relevant experiences are setting the stage for new levels of digital engagement and may be able to entice consumers to increase their online shopping. Working with retailers to make products widely available online is essential, as is a strat¬egy that considers how shoppers use digital technologies to make decisions throughout the path to purchase. Besides the revenue the digital commerce channel may generate, companies can also benefit from the insights into con¬sumer preferences and buying habits that can be obtained from data collected online. These insights can in turn be used to create a more engaging customer experience and build more personalized relationships with customers.

The research sends CPG brands a clear message: The market is ready for Digital Engagement. Are you?

Lessons from the front lines

Driving new savings, sales, and loyalty

Many global brands have a legacy of semi-autonomous regional marketing teams delivering local solutions—an approach that may not add up to a sum greater than the parts. Instead, they may find themselves paying for the same digital marketing services in multiple regions to multiple agencies with little to no economies of scale. The result can be millions of dollars in duplicate spend, an explosion of inconsistent websites, a fragmented customer experience, and lost opportunities to enrich customer engagement.

Recognizing that there was a better way, one leading auto manufacturer created a business case for a new, global digital marketing organization. The new organization could potentially cut tens of millions of dollars in avoidable spend by consolidating processes, governance, and technology enablers and by reducing the company's dependence on external agencies—all while retaining local differentiation where needed.

The company's global digital marketing approach now includes a unified customer experience with regional variations, a governance structure with the authority to direct spending, and a transparent operating model that brings the digital tools and services to the business. With this new approach, digital teams have the opportunity to focus on more ways to engage customers rather than on the daily blocking and tackling of managing websites and e-mail campaigns.

New ways of digitally engaging the consumer

Consumers are spending more and more time online across multiple devices trying to find the best deal or the best product for their needs. The days of solely relying on a network of retail or brick and mortar stores is behind us. Consumers want the same personalized service to be made available online. A study revealed that 83 percent of consumers do some research online on a product before making a final purchase.[6] To capitalize on its lucrative customer base a global hair care product manufacturer set out to revamp its online customer experience and build a highly integrated and immersive site. This organization is reimaging its online experience by focusing on high quality content, videos for different demographics, and strong online marketing. The company set up a dedicated video site to inform consumers on its various products. Videos of products are posted regularly and the site has a loyal following of over 35,000 subscribers as of March 2014. The site provides a more engaging customer experience and allows consumers to select the right product by providing customized recommendations based on the consumer's style, skin tone, and texture. The company has successfully been able to eliminate the differences between its online experience and the experience provided at its displays in brick and mortar stores.

Moving at digital speed

Consumer product companies are expanding on their omnichannel agenda and are constantly interacting with their customers via traditional stores, the web, mobile platforms, and social media. They are frequently collecting and processing large volumes of customer data, which is putting more and more strain on their IT infrastructure and requires constant upgrades to be able to store and process this massive data influx. With market pressure to cut costs and simplify IT operations, companies are looking at better ways to support their vision. Large, global organizations have

started to use flexible infrastructure like to meet their increasing IT needs. Moving to the cloud helped Unilever improve their business efficiencies. It was able to quickly replicate its digital marketing success in one region to multiple regions across the globe. A marketing campaign that usually took two weeks to launch now only takes two days.[7] This allows Unilever to refocus its energy from finding ways to manage IT spend and storage requirements to analyzing data trends and providing a richer customer experience.

A new personalized digital shopping experience

One of the largest apparel manufacturers has plans to achieve $36 Billion in revenue by 2017. To do this, the company is focusing heavily on where its customers are spending more time—the digital world. This organization is expanding its reach and presence in the direct-to-consumer segment to connect with its customers and increase product adoption. It plans to use brick and mortar stores as testing grounds for new products and share the experience gained with retailers to provide a more customized support to the end customer. The apparel company is focusing on providing a digital experience to the consumer that blurs the lines between physical touch points and online research. It is engaging the customer across multiple digital platforms including its web site, social media, mobile app, and its wearable devices that monitor and track customer fitness activities. The company is moving a larger part of its marketing activities online to connect with its customers. Non-traditional advertising spend almost reached $800 million in 2010. The company is creating a medium for consumers to interact with them as well as other consumers through any of its online platforms in a seamless manner. Consumers can connect with colleagues through its app and also earn points that could be used towards online purchases from its site. More than 6 million customers form part of the digital ecosystem. These customers are constantly sharing their product information with the company and other customers. Analyzing the data for trends and consumer preferences allows the organization to provide more customized service and increase brand loyalty.

Another company that is at the forefront of building a robust digital experience is Burberry. Burberry has a strong online presence across its digital platforms, and recently decided to move in the reverse direction and bring its online experience to its stores. Its flagship store in London has been digitally outfitted to provide the customer with a more enriching and engaging experience than a traditional brick and mortar store can typically provide by combining the physical attributes of a store with the capabilities of online stores. Radio-frequency identification (RFID) chips are attached to certain products. When a customer picks up a product and approaches one of the screens, information about the product, how it was made, as well as complimentary products are displayed for the consumer. Customers have become accustomed to the rich interface they experience online and Burberry is focusing to providing a single vision across all its direct-to-consumer avenues. Burberry recently introduced a program called Customer 360, a personalized shopping experience that is driven by buying patterns and data. The program analyzes customer purchase history, likes, interaction history and shares these insights with the sales team on the floor, who in turn use digital devices to provide a more direct and connected buying experience.[8] This immersive digital environment has enabled Burberry to increase revenues and enrich their customer experience.

The one-stop digital shop

Adobe, a global software company focused on creativity and digital marketing solutions, had a product marketing website that was one of the most trafficked sites on the Internet, with more than 35 million unique visitors per week (75 million including download users). But the company wasn't capitalizing on its site traffic for online purchases, and instead directed customers to alternate sources where they could purchase its products.

Adobe wanted to increase its online direct-to-consumer revenue by transforming its website into a seamless product marketing and e-commerce site—one that would not only be functionally richer, but also engage each customer. In the process, it also wanted to leverage its own digital marketing capabilities, especially its online marketing analytics capabilities—which had been bolstered through its acquisition of online marketing and analytics company Omniture—and its digital experience capabilities, enhanced through its acquisition of Day Software. In parallel, Adobe decided to undergo a strategic shift to move from its traditional model of selling boxed software to a subscription-based, cloud-driven software model—a transformation that prepared the company to be almost completely digital.

In pursuit of those goals, Adobe created an engaging, integrated marketing and e-commerce site to showcase and sell its products. Personalized for each customer based on his or her navigation profile and past purchases, it included a customized product carousel with relevant products for each customer and a recommendation engine that allowed Adobe to push related promotions. Responsive design allowed for a seamless experience across browser, tablet, and smartphone—dynamically rendering high-definition visuals, video content, and contextual product and promotion information based on the user's profile and specific channel. And the site allowed customers to explore Adobe's subscription services, the Creative Cloud for digital media and the Marketing Cloud for digital marketing, alongside traditional products—accelerating awareness and adoption of the new products. The site was built using a combination of Adobe's digital marketing capabilities, including Experience Manager for Content Management, Test&Target for improving site functionality, Recommendations for driving cross-sell and up-sell, and SiteCatalyst for driving online analytics and reporting.

In addition to personalizing the customer experience, the website provided an intuitive authoring environment for back-end management of content and workflow—simplifying the process of updating the site and decreasing the time needed to make changes from weeks or months to hours or days. Maintenance complexity dropped as the global page count dropped by 40 percent, and marketing efficiency increased by 78 percent. The self-managed nature of the site also led to decreased operational costs, as built-in intelligence drove promotions and offerings automatically, saving time that would have otherwise been spent on manual intervention.

Adobe achieved significant results from its efforts around digital engagement. Its online revenue has increased 39 percent since the project began three years ago—surpassing the $1 billion mark in 2013. Checkout conversions increased 16 percent, with a 48 percent increase in lead conversion. Revenue per visit increased on targeted content. But perhaps more importantly, Adobe transformed its own digital presence into a leading example of how to put its tool set to use—showcasing the opportunity for digital engagement at a time of dramatic innovation in sales and marketing.

Where do you start?

MANY companies have content management systems to support certain types of information on the web, but few have gone beyond that to tackle the broader range of digital content. That's likely because they're looking at content the wrong way. Content is still isolated or tied to specific business units or geographies when it should be anchored to a customer or product. Complicating matters, the volume of content is out of control—especially with the rise of big data signals. Even the fundamentals need attention. Many companies lack processes and systems to understand the real costs of their activities, and they have no easy way to know which content elements are current, which should be retired, and how they should come together to support business operations. Some companies use third parties to maintain and manage their digital content, thereby delegating what may have easily become a source of competitive advantage. The potential scope is huge, but in practice, attention should be focused on five specific areas:

- **Web, mobile, and social content enablement.** Digital engagement should be seamless across channels. Achieving this will likely require responsive design and digital content that can be dynamically rendered and delivered based on the end user's context—in different formats, with varying granularity, and with different actions exposed. Day-parting, behavioral analytics, and social activation[9] are parts of this drive toward context-rich personalization. As Yahoo! CEO Marissa Mayer said, "The ultimate search is the one where *you're* the query"—taking into account your history and preferences.[10] That starts with a robust content backbone—technically and operationally.
- **Self-service and governance.** Centralizing digital content management can enable more efficient and effective communication. Which tools, skills, and resources are needed to allow the business to create, deliver, and curate the content its customers and other stakeholders need? Managing the platform and campaigns at the core—while allowing for personalization and activation on the edge—enables a mix of global control and localization. Some organizations are looking to build in-house digital supply chains to manage the full lifecycle of web, mobile, social, and on-premise content, allowing real-time experimentation and responsiveness.
- **Ease of access.** Instead of holding content captive in a particular repository, unlock it. Make content easily accessible across multiple channels, countries, and stakeholders—potentially including customers and enthusiasts.
- **Digital IP and asset management.** What information assets are you managing? Who controls them? Where are the assets located? How are they protected today? Are there plans to monetize them? Do you have the resources needed to edit and improve them? Which parts of your business will become digital in the next two years? What competencies and practices should be put into place to make that happen? How do you manage rights for IP usage across and beyond the enterprise? What new revenue streams are possible?
- **Cost reduction.** Take time to inventory digital content across the enterprise. At what rate is new content being developed, and how does it break out by function? Streamlining the distribution and management of digital content, regardless of where it resides, is the first step toward containing costs.

Bottom line

Digital engagement is a way to drive new investments in marketing, similar to those that have improved finance, supply chain, and customer relationship management over the past few decades. Beyond efficiency and cost savings, digital engagement presents new ways to enhance customer loyalty and competitive advantage—riding the wave of changing behaviors and preferences for contextual interactions. Organizations should "think Big Mother (relevant, useful services) rather than Big Brother (omnipresent, creepy intrusions)."[11] And with more parts of the business becoming digital, the CIO has the opportunity to build a new legacy for IT—a responsive, forward-looking organization, an enabler of innovation, and a driver of digital engagement.

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Endnotes

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Special thanks

Mariahna Moore—for being the heart, soul, and "buck" of this year's report—where every detail started and stopped, big or small. Your tireless leadership, spirit, and drive are truly inspirational and a singular reason we hit every ambition without compromising seemingly impossible deadlines.

Cyndi Switzer, Stuart Fano, Jill Gramolini, Kelly Ganis, and **Heidi Boyer**—the veteran dream team that makes Technology Trends a reality. Your passion, creativity, and vision continue to take the report to new heights. And your dedication, energy, and commitment never cease to amaze.

Dana Kublin, Mark Stern, and **Elizabeth Rocheleau**—for the tremendous impact made in your first year Tech Trending—from the phenomenal infographics to coordinating our volunteer army to jumping into the content fray.

Finally, a special thanks to **Mark White**, the founder of our Technology Trends report series and an invaluable contributor, mentor, and friend. Thanks for all of your continued support as we build on your legacy.

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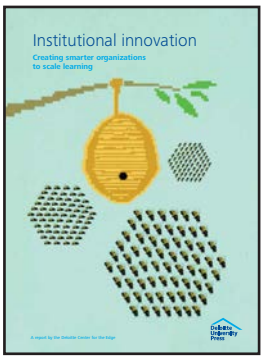

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