Introduction

WE have it on good authority that the only constant in life is change. Yet, given the magnitude of the change we witness daily and the staggering pace at which it now unfolds, the term "constant" seems inadequate as we attempt to define and understand the highly mutable world around us. A whole generation living today has lived with the internet for only half of their lives, while another knows only the on-line life.

In many cases, such changes are being driven by a confluence of business and technology forces fueled by innovation. On the business front, globalization continues apace with specific focus on emerging markets to pursue top-line growth. Customers are perpetually connected forcing the evolution of sales channels and marketing priorities. The continued pursuit for profitability and cost efficiency is driving the evolution of supply chain networks. Barriers to market entry are collapsing as entrepreneurs with low capital investment needs challenge established market players. For Food and Beverage companies, the convergence of health trends and the Food Safety Modernization Act present significant implications to food and product safety and the broader growth agenda.

Meanwhile, on the technology front, five macro forces continue to drive enormous transformation: digital, analytics, cloud, the renaissance of core systems, and the changing role of IT within the enterprise. These forces are not just fueling innovation and giving rise to new business models, they are also enabling historic advances in materials, medical, and manufacturing science, among many other areas. For example, the evolution of near-field communications in labelling will provide previously untapped insight for traceability, fraud protection and food and product safety.

To help make sense of it all, we offer Deloitte's *Technology Trends* report, our annual in-depth examination of current technology trends, ranging from the way some organizations are using application programming interfaces to extend services and create new revenue streams, to the dramatic impact connectivity and analytics are having on digital marketing; and from the evolving role of the CIO to changing IT skill sets and delivery models.

The theme for this year's report is *the fusion of business and IT*, which is broadly inspired by a fundamental transformation in the way C-suite leaders and CIOs collaborate to leverage disruptive change, chart business strategy, and pursue potentially transformative opportunities.

The list of trends we spotlight has been 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 technology alliances, industry analysts, and competitor positioning

- Crowdsourced ideas and examples from our global network of practitioners

As in last year's report, we have also included a section dedicated to six "exponential" technologies: innovative disciplines evolving faster than the pace of Moore's Law whose eventual impact may be profound. Furthermore, from an industry perspective, we have included specific perspectives for the trends that are most relevant for Consumer Products and Retail organizations.

Over the next 18–24 months, CIOs and other executives will have opportunities to learn more about these trends and the technologies that could potentially disrupt their IT environments and, more broadly, their company's strategies and established business models.

In the coming fiscal year or next, how will you apply what you learn to develop a response plan, and how will you act on your plan? More importantly, how can you leverage these trends and disruptive technologies to help chart your company's future?

The time to act is now . . . don't be caught unaware or unprepared.
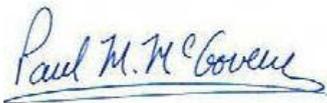
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Consumer Products and Retail Technology Thought Leaders

	CIO as chief integration officer	Ambient computing	Dimensional marketing	Core renaissance	Amplified intelligence
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Ed See, Principal Deloitte Digital			✓		
Darwin Deano, Senior Manager, Technology	✓			✓	
Jarrod Phipps, Senior Manager, Deloitte Consulting Innovation		✓			
Gautam Narayan, Senior Manager, Technology				✓	✓
Michael Hayes, Senior Manager, Monitor Deloitte			✓		
Nitin Rao, Manager, Information Management					✓
Mayank Singhal, Consultant, Technology Strategy & Architecture		✓			
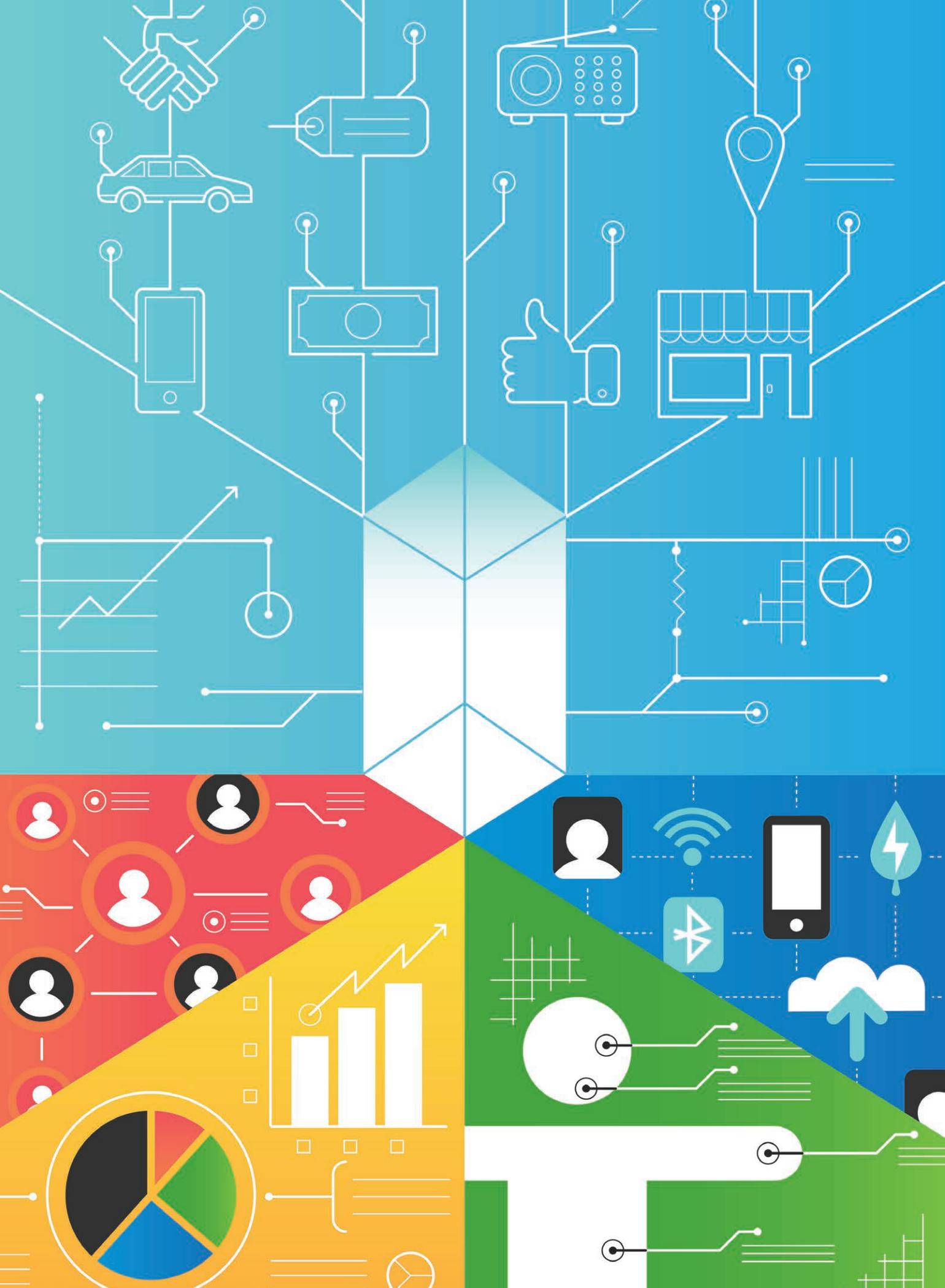
Dimensional Marketing in Retail

New rules for the digital age

Marketing has evolved significantly in the last half-decade. The evolution of digitally connected customers lies at the core, reflecting the dramatic change in the dynamic between relationships and transactions. A new vision for marketing is being formed as CMOs and CIOs invest in technology for marketing automation, next-generation omnichannel approaches, content development, customer analytics, and commerce initiatives. This modern era for marketing is likely to bring new challenges in the dimensions of customer engagement, connectivity, data, and insight.

ACCORDING to MBA textbooks, marketing is the "art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value."[1] This core mission hasn't changed. However, marketing has evolved significantly in the last five years, driven by the rapid convergence of customer, digital, and marketing technologies. Marketers have access to an unprecedented amount of data to inform targeted marketing campaigns. Channel access is ubiquitous, as are touchpoints of all kinds—offline and on. Consumer messaging has morphed into social engagement, allowing companies to view their brands from the outside in.

The result is a magnification of customer expectations in terms of relevancy, intimacy, delight, privacy, and personal connections. Increasingly, organizations no longer market to masses. They are marketing to individuals and their social networks. Indeed, marketing itself has shifted from the broadcast of messages to engagement in conversations, and now to the ability to predict and rapidly respond to individual requests. Organizations are increasingly able to engage audiences on their terms and through their interests, wherever and whatever they are. And customers are learning to expect nothing less, from both B2C and B2B enterprises.

What does all of this mean for the CMO? And the CIO? To begin with, CIOs and CMOs should embrace the reality that the marketing levers of the past no longer work the same way, if at all. The front office of marketing has been recast around connectivity and engagement—seamless contextual outreach tailored to specific individuals based on their preferences, behaviors, and purchase histories. At the same time, marketing's back office has been transformed by new technologies for accelerating and automating campaigns, content, and positioning—fueled by data and analytics. Together, these new dimensions are ushering in a new breed of marketing: *dimensional marketing.*

The four dimensions

In simpler times, linear constructs such as the four Ps (product, price, promotion and place) served us well as the foundational ingredients of marketing strategies. In the era of dimensional marketing, however, many companies are adding four new dimensions to the original marketing mix: engagement, connectivity, data, and technology. The concept of dimension is important. It reflects how the levers are now integrated and interrelated.

Experience is all: The engagement revolution

Over 86 percent of Americans have Internet access.[2] Fifty-eight percent have smartphones, and 42 percent have tablets.[3] Consumers are now using new technologies to research products and shop through a variety of channels. These connected consumers can buy from retailers regardless of geography or store opening hours. The consumer experience now demands a balance of form and function. Experiences should be personalized, contextual, and real-time to "me" in the environment and with the method that makes the most sense in the moment. This is a dramatic shift from the days of catering to broad demographics and customer segments. Organizations are armed with deep, granular knowledge of individuals; just as importantly, they have access to multiple channels through which to conduct personalized outreach. Gartner's 2014 Hype Cycle for Web Computing found that "Many big data use cases are focused on customer experience, and organizations are leveraging a broad range of information about an individual to hyperpersonalize the user experience, creating greater customer intimacy and generating significant revenue lift."[4] Every experience reflects the brand, transcending campaigns, products, sales, service, and support across channels. User experience and great design should be cornerstones of every solution, which requires new skill sets, delivery models, and interactions between the business and IT. Behind the scenes, content and digital access management are critical to a seamless integration of campaigns, sales, services, supply chains, and CRM systems.

Relationships are interactions: The connectivity revolution

One-way communication with consumers is a thing of the past. Marketers should build sustained relationships through a deep and meaningful understanding of individual customers. After all, effective relationships drive loyalty, build communities, and cultivate influencers. Meaningful relationships also require dialogue. The shift from omni-channel to omni-directional communication across channels is giving communities and individuals the opportunity to create new levels of engagement. A recent Deloitte study commissioned by eBay found that being broadly present across channels, and enabling each channel to serve the customer at any point through the purchase journey, raised brand awareness and drove loyalty.[5] The study also found that leading retailers with a presence across store and non-store channels succeeded in capturing additional sales from non-store channels due to increased awareness of their products, expanded market share and/or a greater share of sales captured from competitors, and access to fast-growth channels. Social (both social technology and real-world social behavior) plays an important role by activating audiences and sustaining (or heightening) their interest through tailored, relevant content delivered on their own terms and in their own words.[6]

Intelligence is targeted: The information revolution

Deriving meaningful customer, sales, and product insights requires an appetite for enormous amounts of data and analytics. Gartner's Hype Cycle for Digital Marketing found that "The hype around data-driven marketing is largely justified, and data-driven

marketing will help make marketing better, faster, and more cost-effective while better aligning marketers with the marketplace, not to mention enterprise objectives, through richer, more reliable metrics."[7] And a recent Teradata survey found that 78 percent of marketers feel pressure to become more data-driven, with 45 percent agreeing that data is the most underutilized asset in the marketing organization.[8] Real-time analysis can drive adjustments and improvements to marketing campaigns and promotions. Intelligence gives us the technical capability to close the loop and measure real business results by providing multiple ways to interpret and make use of data. Better targeting and visibility across the full customer life cycle enhances

the use of standalone tools in areas such as campaign automation and bid management systems—indicative of the trend to understand individuals versus broad segments.

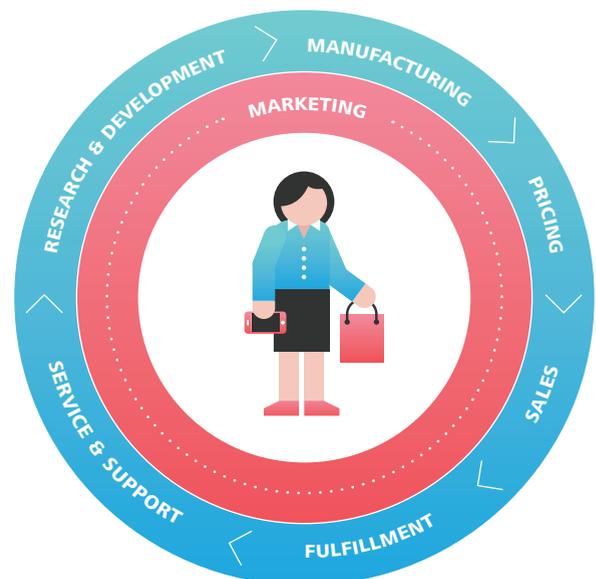## Channel orchestration is multidimensional: The technology revolution

Channels and customer touchpoints are constantly multiplying. Marketers now own or manage the marketing platforms, architecture, and integration required to provide a consistent experience across channels. Although marketing has evolved from broadcast to interactivity and now finally to digital, many organizational capabilities still remain in silos. With dimensional

The evolution of marketing

THE TRADITIONAL MODEL Marketing began as an isolated step occurring at the end of a linear business process focused on brand and awareness. Core technology functions such as ERP, data, and analytics were bolted on to marketing as needed.
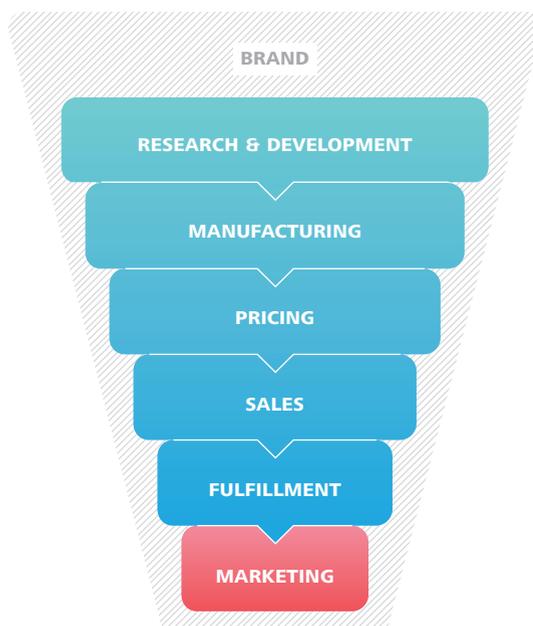
THE NEW MODEL Today's marketing is a multifaceted entity with hooks into all steps of the business and product cycle. With the customer as the main actor, the business aims to integrate engagement, connectivity, information, and technology in order to create a personalized, contextualized experience.

BRAND

RESEARCH & DEVELOPMENT

MANUFACTURING

PRICING

SALES

FULFILLMENT

MARKETING

RESEARCH & DEVELOPMENT

MANUFACTURING

MARKETING

PRICING

SALES

FULFILLMENT

SERVICE & SUPPORT

marketing, traditional, digital, customer, and enabling business systems are converging into one integrated offering that operates simultaneously in harmony. This harmony demands platforms that are deliberately designed to accommodate multiple devices and touchpoints. Contextual architecture should provide data, images, video, and transactions dynamically—and be based not just on who the customers are, but where they are, what they've done, and what they're likely to want next.

A digital platform divided

The stage is set for technology and analytics to play a more impactful role in this new world—delivering seamless, contextual, and hyper-targeted customer and prospect experiences, and helping marketing departments repatriate duties from agencies through their own capabilities for automation, precision, and efficiency. CMOs, working in partnership with CIOs, should command a richer, data-driven, targeted repertoire of campaigns, promotions, and properties across multiple channels for varied customer types and objectives. Customer awareness, acquisition, conversion, and retention are top priorities and require attention and investment.[9]

Organization-wide platforms to target, provision, deploy, and measure digital assets are needed and should be integrated across:

- Channels: offline and online and across paid, earned, and owned media

- Context: based on the individual's behavior, preferences, location, and other cues

- Campaigns: pricing, promotions, and offers tailored to an individual in a specific point in time

- Content: internally and externally sourced, with increasing focus on social media and video, and optimized for mobile

CIOs should be prepared for a sizeable increase in marketing technology initiatives— akin to the wave of automation in the worlds of finance and supply chain. Marketing's expanded scope will likely require changes far beyond traditional marketing systems, with integration into CRM and ERP systems in areas such as pricing, inventory, order management, and product R&D. And, as analytics, mobile, social, and the Web become marketing's digital battleground, CIOs should expect aggressive pushes in these areas. These forays could affect the organization's enterprise strategy in each domain. CIOs should not settle for being responsive, informed parties as the revolution unfolds; they should be seen as a strategist and act as a catalyst.

Consumer Products (CP) and Retail Perspective

The new dimensions of marketing—engagement, connectivity, information, and technology—are, in many respects, the offspring of the retail industry, as the end-point transaction is made with the consumer. In the retail industry, a prolific amount of consumer data is captured, the technology for serving customer needs is critical, and the sale is often dependent on the strength of the customer engagement. As a result, retailers are evaluating software platforms and best-of-breed technology providers in order to adequately capture and address consumer behavior, particularly since consumers aren't operating in a vacuum; today's consumers have fully integrated the digital world into their physical world. Too keep up with the technologically savvy consumer, it is critical for the retail industry to embrace today's consumer by adopting an omnichannel paradigm.

- **Engagement:** Everywhere we look, there are digital screens, digital set top boxes, and digital smartphones, making information quite literally at a consumer's fingertips. Consumers now have the ability to research information on the move and to make purchasing decisions on the fly, but retailers also have control with The Internet of Things (IoT) –a term used for embedding sensors into everyday objects and connecting devices to capture longitudinal data. The IoT is viewed as a digital disruptor, enabling a new generation of interaction points between retailers and consumers along a consumer's path to purchase. With more interaction points, the number of opportunities for retailers to engage with customers increases. It is vital for retailers to take advantage of these engagement opportunities and for retailers to engage with their customers in a manner preferred by today's consumer. Since customers have embraced blending the digital and physical worlds in their shopping experience, many customers expect retailers to offer digital purchase options. Now more than ever, customers want to buy what they want, when they want to buy it and how they want to buy it. Yet, retailers, by and large, have been slow to recognize these heightened consumer expectations. Many retailers are stuck in the old paradigm of selling what they want to sell (what the merchant bought), when they want to sell it (weekly events), and how they want to sell it (stack 'em high and watch 'em fly). Instead, retailers need to be responsive to the customer's new reality **by establishing interactive communications platforms that customers assume are there, but few retailers have actually implemented.**

- **Connectivity:** In today's super-connected, digital landscape, retailers should connect and engage with their customers via a medium (digital) that is preferred by their customers, especially since 84 percent of store visitors use digital in their purchasing process. The outdated approach of sending 150 annual "push" marketing campaigns through catalogs, direct mail, and anonymous emails can be ineffective. Customers are demanding relevant and customized information, and as a result, retailers need

to respond with new methods for carrying out an open and personalized dialogue with each customer every day. Interactive marketing, the ability to automate dialogue with a customer based on smart behavior-based response technology should take center stage, as research indicates that customers only prefer to interact with sales associates 20 percent of the time.[i] Customers prefer virtual interactions, yet little has been done to adopt a smart communications platform that can be your friend. **If a retailer is not interacting in the manner preferred by their customers, then their customers will likely find someone else with whom to interact.**

- **Information:** Retailers live in a data-rich environment, where information is collected on transactions, customers, behaviors, experiences, and customer movements in and around the store. Despite having access to this mine of data, many/most retailers are struggling to determine the context of each behavior and each shopping trip. Part of the problem is that most retailers today (save for some luxury retail sales associates) don't ask the question, "Why are you shopping for this today?" Retailers still tend to treat customers at arm's length by not having conversations with customers, not connecting with customers on a personal level, and not understanding the context of the customers' shopping journey. Providing personalized product recommendations and offers without understanding the shopping context can actually lead to lost sales and smaller baskets as customers become frustrated with what is presented to them.[ii]

- **Technology:** We're quickly approaching a world where digital will no longer be a separate entity. The digital world will be ubiquitous, and, as a result, developments in technology must support this new world, especially in-store hardware for the retail industry. Soon, novelties such as new wireless point-of-sale terminals, informational kiosks, associate handhelds and tablets, magic mirrors in fitting rooms, and interactive screens and walls will likely become everyday appliances. The onslaught of digital will become the norm similar to previous disruptors, the telephone, the TV, and the cell phone. Technology will continue to be the support mechanism that enables changing world trends, and once this hardware surge for the digital world ends, we'll see another disruptor on the horizon. **The retail industry is at a critical point where it is must now support omnichannel communications capabilities (real-time, 24/7, automated, personalized, context-aware digital interactions) in addition to the omnichannel merchandising functionality (inventory visibility, ship to and pick up at store, fulfillment at every store) that has been the focus of the last few years. Customers are still King in retail and they're waiting for retailers to talk WITH them, not AT them. Applying the tenets of Dimensional Marketing can help get the retail industry get there.**

Footnotes

i   Deloitte LLP (2014). "The New Digital Divide"
ii   Petulla, Sam *2014). "Why Ad Personalization Might Not Be All It's Cracked Up to Be"

Lessons from the front lines

Consumerized insurance

Amid growing competition in the insurance industry, some providers in the B2B space are taking steps to differentiate their brands and increase market share by adopting a more consumer-centric approach to marketing. In contrast to traditional product-centric strategies, this approach—which some industry trend watchers refer to as "the consumerization of B2B marketing"[10]—integrates different aspects of dimensional marketing such as customer experience, relationships, analytics, and technology to deliver seamless, personalized interactions across a variety of platforms.

One insurer, faced with increasing brand parity within retirement and insurance services, determined that it would need to improve its digital positioning and overall retention of assets under management to better differentiate its brand in the marketplace. The company developed a solution that featured a redesigned Web experience, a financial wellness scoring tool for customers, and a new CRM system. It also stopped trying to focus solely on educating people about product offerings and, instead, began emphasizing real testimonies from other customers. This new foundation of customer-centric marketing tools is expected to deliver a 40 percent increase in retention, as well as improved brand recall and purchase intent.

Another provider was looking to sell direct insurance to small businesses, an area traditionally underserved by large insurance providers due to the complexity involved (providing real-time, online quotes for these businesses requires considerable knowledge of unique risks and regulations that vary by geography and industry, as well as advanced analytics and predictive models to advise significant underwriting requirements). With this challenge in mind, the company set about designing a website with a front end that would be sufficiently user-friendly to prevent potential customers from getting turned off by a complicated, lengthy quote process. The end result was a responsive, intuitive site with predictive models as the DNA of the process; the site also incorporates clean UX design principles on top of a REST service layer. Customers are now able to easily and independently navigate the quote process in addition to customizing, purchasing, and managing their policies through this site.

The impact of the trend toward the "consumerization of B2B marketing" is rippling beyond messaging and rebranding. As B2C companies expand into the enterprise market, enterprise customers are increasingly expecting the same highly engaging, intuitive approach across all interactions. For the insurance industry in particular, this means simplifying, streamlining, and humanizing their messaging and technology platforms in ways that reduce the frustration customers can feel when dealing with complicated financial instruments.

Dimensional platform

Traditionally, marketers focused on demographics, organizing channels into silos, and optimizing traditional metrics such as above- vs. below-the-line spend or working vs. non-working dollars. Media buying evolved into a process in which marketers perform audience analysis, establish segments, and target each segment with banner ads, offers, and other tailored content requiring considerable human involvement and expertise. With each new channel or segment, the process complexity and content permutations increase.

Enter Rocket Fuel Inc., which has developed a marketing platform featuring an artificial intelligence (AI) engine for

automated, programmatic media buying and placement. Instead of relying on static, predefined customer segments, algorithms make decisions on media buying and placement based on real-time information—blending audience analysis, campaign management, pricing optimization, and dynamic budget allocation.

Rocket Fuel also provides ways to link channels across a full customer lifecycle. A telecommunications customer using the platform can drive placement of banner ads timed to coincide with delivery of direct mail offers, or send a text-based offer to speak to a live customer service representative if a high-value customer visits the company's website multiple times in a day.

John Nardone, Rocket Fuel executive vice president and general manager, says, "The goal needs to be relevance, not personalization." Consumers may not respond to something simply addressed to them, but they will likely respond to something *relevant* to their lives, tastes, and desires. In a time of generic junk mail, spam, and ubiquitous banner ads, understanding who each consumer is, what motivates them, and what their unique needs are matters more than ever. Rocket Fuel's platform helps to drive contextual interactions across channels—online and off.

Digital first

Six years ago, Telstra, Australia's largest telecommunications and information services provider, needed to find a new strategy to remain competitive. In 2010, Telstra was facing declining revenues and narrowing profit margins. The overall market was changing, with customers dropping fixed-line services. The internal and external environment was shifting: the company had completed a multi-year privatization, competition was rising, and non-traditional competitors in the digital space were emerging.

"The company decided that focusing on customers should be our number-one priority,

and it has been ever since," says Gerd Schenkel, Executive Director, Telstra Digital. One of the other changes facing the industry was the increase of digital channels and service options for customers. "Our customers' digital choices continue to increase, so we needed to make sure we were offering digital solutions our customers valued."

Telstra's multifaceted approach for creating a high-quality online experience for customers leverages data, digital tools, and dimensional marketing techniques to transform customer engagement, service, and the traditional vendor-customer relationship. The first step—one that is ongoing—was to learn more about what customers wanted in a digital experience: specifically, how operational data can be turned into insights in ways customers find not just acceptable, but valuable. An example comes from smartphone users: As customers continue to consume more and more data, it is important to be transparent with customers about their usage to help prevent bill shock. Through digital channels, Telstra is in a position to proactively approach customers with early warnings of potential billing implications, as well as to trigger offers tailored to their individual needs. Doing this yielded a valuable insight: With dimensional marketing, traditional boundaries between marketing, sales, and service are disappearing. Almost every customer touchpoint presents opportunities to market, sell, and provide service. When service improves, customer satisfaction typically rises. Sales will likely follow.

On the service front, Telstra is taking a similar proactive, data-centric approach. By tracking and analyzing customer support data, Telstra discovered that customers often require additional support with billing and similar inquiries that depend on the company's legacy back-end systems. Telstra is now routinely measuring current and expected customer experiences, resolving issues, and proactively contacting the customer.

In sales, Telstra has launched the ability to push tailored offers to customers using the company website. It has also deployed several algorithms to proactively offer online customers live chat with a sales representative if it appears that they need help. The company plans to extend this capability to its service pages. A similar focus has been placed on connectivity. Telstra's "CrowdSupport®"[11] community and "Mobile Insider" program are activating influencers and advocates, soliciting more than 200,000 pieces of user-created content for servicing, product demonstrations, and broader brand promotion.

Telstra's most recent initiative, "Digital First," will build a digital ecosystem designed to elevate customer engagement by empowering both the customer and the company. The ecosystem aims to consolidate customer data into a single, detailed profile available for any interaction across online and offline channels: website, call center, retail store, or a service event. This would allow a Telstra representative to see a customer's history, usage, service issues, preferences, past interactions—and, with permission, even social media activity and a photograph. This broad, detailed view of the customer should help the company provide a more consistent experience and better satisfy customer needs. For example, rather than greeting customers with a generic "How may I help you?," having such data readily available could allow employees to greet them and provide an update on what is being done to address their specific concerns.

Schenkel says that, though Telstra is still in the early stages of its digital journey, its initiatives have already begun to pay off. "They've delivered significant value. What's more, Telstra customers continue to be happier with their online experiences, with all key digital satisfaction measures improving considerably in 2014."

My take

**Ann Lewnes, chief marketing officer,
Adobe**

Over the past few years, data and visibility into data have, in large part, transformed virtually *everything* about marketing. In this new customer-focused, data-driven environment, marketing is mission-critical: Adobe's overall success is partly contingent on marketing's ability to deliver personalized, engaging experiences across all channels.

The need to create such experiences has led us to develop an even deeper understanding of our customers, and to construct advanced platforms for creating, deploying, and measuring dynamic content. Along the way, we've also pursued opportunities to leverage technology to improve marketing's back office, as well as to evolve our relationships with traditional agencies.

Roughly 95 percent of Adobe's customers visit our website, which translates to more than 650 million unique visits each month. A variety of applications make it possible for us to know who these customers are, what they do during each visit, and—through integration with social channels—whom they are connected with. We have applied personalization and behavioral targeting capabilities, which help us provide more engaging experiences based on individual preferences. We have also layered in predictive and econometric modeling capabilities, opening the door for assessing the ROI of our marketing campaigns. Whereas 10 years ago, marketing may have been perceived as something intangible or unquantifiable, we now have hard evidence of our contribution to the company's success.

Increasingly, companies are using marketing to drive digital strategies. Moreover, the expanding scope of dimensional marketing is driving increased connectivity among various enterprise groups. For example, at Adobe, marketing and IT are collaborating in ways that move the entire company forward. Historically, these two groups were isolated from each other; marketing bought its own technology and software and kept them relatively siloed, apart from the core. Today, marketing's systems integrate into corporate systems. If you want to develop a comprehensive, data-driven view of customers, you need access to customer data in CRM, financial databases, and other systems. And, while marketing has its own group that conducts Web analytics and insights, we rely on IT to provide integration, data platforms, visualization, and security.

It is critical to team with the CIO and the broader IT organization. Luckily, Adobe's IT organization very much wants to support marketing's strategies and efforts, which has helped the relationship between our two groups evolve into one of shared responsibility.

Digital marketing has fundamentally transformed the way we think about marketing's mission and the way we work to fulfill it. It took us a long time to get to where we are today, and the journey was not without challenges. Along the way, we had to retool the organization and reskill our people. But now we've arrived at a good place, and we have instilled a strong sense of confidence and motivation throughout the marketing organization. Though in the past we may have been somewhat of an organizational outlier, today we are proud to have our identity woven throughout the fabric of the Adobe organization.

Cyber implications

DIGITAL has changed the scope, rules, and tools of marketing. At the center are customers and the digital exhaust they leave as they work, shop, and play. This can be valuable information to drive the new dimensions of marketing: connectivity, engagement, and insight. But it also creates security and privacy risks.

"Fair and limited use" is the starting point—for data you've collected, for data individuals have chosen to share, for derived data, and for data acquired from third-party partners or services. There are questions of what a company has permission to do with data. Laws differ across geographies and industries, informed by both consumer protection statutes and broader regulatory and compliance laws. Liability is not dependent on being the source of or retaining data; controls need to extend to feeds being scanned for analytics purposes and data/services being invoked to augment transactions. This is especially critical, as creating composites of information may turn what were individually innocuous bits of data into legally binding personally identifiable information (PII).

Privacy concerns may limit the degree of personalization used for offerings and outreach even when within the bounds of the law. Even if the information is publicly available, customers may cry "Big Brother" if it seems that an inappropriate amount of personal information has been gleaned or a threshold level of intimacy has been breached. Derived data can provide insights into individual behavior, preferences, and tendencies, which in the hands of marketers and product managers is invaluable. In the context of cyber security, these insights can also help organizations identify potential risks. Organizations should clearly communicate to customers the policies and boundaries that govern what data is being collected and how it will be used.

Public policies, privacy awareness programs, and end-user license agreements are a good start. But they need to be joined with explicit governance and controls to guide, monitor, and police usage. User, system, and data-level credentials and entitlements can be used to manage trust and appropriate access to raw transactions and data. Security and privacy controls can be embedded within content, integration, and data layers—moving the mechanics into the background so that CMOs and marketing departments inherit leading practices. The CISO and CIO can bake cyber security into the fabric of how new services are delivered, and put some level of policy and controls in place.

Finally, understanding your organization's threat beacon can help direct limited cyber security resources toward the more likely vectors of attack. Dimensional marketing expands the pool of potentially valuable customer information. Organizations that are pivoting their core business into digital assets and offerings only complicate the matter. Core product IP and the digital supply chain come into play as digital marketing becomes inseparable from ordering, provisioning, fulfillment, billing, and servicing digital goods and services.

Asset and rights management may be new problems marketing has not traditionally had to deal with, but the root issues are related to the implications described above. Organizations should get ready for the radical shift in the digital marketing landscape, or security and privacy concerns may slow or undermine their efforts.

Where do you start?

DIMENSIONAL marketing has the potential to succumb to its own transformational promise. As with any massive undertaking, objectives, priorities, and expected outcomes should be clearly defined. Below are steps that many leading organizations are taking to prepare themselves to operate in this new environment:

- **Customer-led.** Digital agencies can spend too much time focusing on a single approach, or even self-serving tactics such as "storytelling." If marketing focuses on what your company is saying rather than what customers are asking for, your organization may not be focused on the pillars of dimensional marketing: listening, being personal, and focusing on authentic engagement. Instead, you should anchor your efforts on the end-to-end customer journey by understanding customer needs, actions, and motivations, from awareness through retention, across channels. These insights should carry more weight than the pursuit of particular tactics. It would be better to disregard the notion of customer loyalty to a brand, and embrace the concept of a brand becoming loyal to the customer.

- **Data, data, data.** Capturing, correlating, and capitalizing on customer information is at the heart of dimensional marketing. Depending on their roots, marketing technology vendors tend to emphasize either current customers or the wider pool of prospects. But both are relevant. Early efforts should focus clearly on targets; next should come an analysis of the history, preferences, and context of those audiences. Don't limit yourself to today's marketing signals; determine how ambient computing,[12] wearables,[13] and other trends may play into your ability to collect and interpret signals. Big data and predictive analytics should play a role in how you invest in specific audiences and targeted priorities.

- **All together now.** Marketing automation should mean much more than email campaign management. It is almost a given that a holistic approach requires Web, mobile, social, broadcast, and direct mail. Social graphs should source not just Facebook, Twitter, LinkedIn, and Instagram, but also specialized blogs and industry- or domain-focused communities. Analytics, digital offerings, and back-office marketing tools (from lead management to search engine optimization to pricing engines) should be geared toward omnichannel and cross-dimensional capabilities.

- **(Contextual) content is king.** As video, mobile, and other digital assets emerge as the building blocks of campaigns and servicing, content management becomes central to dimensional marketing. Many content management systems have a narrow focus on document management or just Web content management. This narrow focus leaves these systems ill-equipped to deal with the impending explosion of content types and deployment needs. Authoring, provisioning, and measuring usage and effectiveness need to be seamless processes. These should be combined with the ability to collaborate with in-house and contracted professionals, as well as with a mix of third-party agencies.

- **Social activation.** Social media topped the list in a recent survey of digital advertisers' spend and priorities.[14] Organizations need to move from passive listening and impersonal social broadcasting to social activation:[15] Social activation entails precise targeting of influencers, development of contextual outreach based on tangible, measurable outcomes, and cultivation of a global social content supply chain that can create meaningful, authentic social campaigns. In short, social activation should inspire individuals to carry out the organization's missions in their own words, on their own turf, and on their own terms. Companies should build and nurture perceptions, instead of focusing on empty metrics such as volume or unfocused sentiment.

Bottom line

GARTNER'S 2014 CEO survey found that "CEOs rank digital marketing as the No. 1 most important tech-enabled capability for investment over the next five years."[16] And with marketing's expanded scope likely including the integration of marketing systems with CRM and ERP systems in areas such as pricing, inventory, order management, and product R&D, IT's mission, if they choose to accept it, is to help drive the vision, prioritization, and realization of dimensional marketing. IT can potentially use its mission as a Trojan horse to reinvent delivery models, technology platforms, and IT's reputation across the business. Who better than the CMO to help change the brand perception of the CIO? And who else but the CIO can help deliver analytics, mobile, social, and Web while maintaining the enterprise "ilities"—security, reliability, scalability, maintainability, and interoperability? The stage is set. It is time for the next wave of leaders to deliver.

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Brinker's deep insights and experience enable him to understand the particular needs of a client's business, develop practical business solutions, and bring change that can produce results. In his 20-plus years at Deloitte, he has delivered solutions to clients in a variety of industries and applications, which has given him a balanced perspective across the complex technology landscape. He has served dozens of clients in the retail, hospitality, technology and media sectors.

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