

MICROSOFT PRESENTS

# **DOLLARS, BITS, AND ATOMS:** *A Roadmap to the Future of Marketing*

Report authored by

**Rob Salkowitz, MediaPlant**

director of content and strategy,  
principal author and investigator

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## **ABSTRACT**

Technology is driving unprecedented disruption in marketing and advertising. Where is it all going and what does it mean to today's marketing decision-makers? This paper and forecast map present a high-level view of the changing landscape for marketers. It is the first in a series of five to be released in the coming year, produced by MediaPlant with the support of Microsoft, based on conversations with industry thought leaders, technology innovators, and outside experts. Our goal is to provide a schematic for understanding the causes, manifestations, and implications of change and a roadmap for organizations looking past the next bend in the road.



*Most of the elements of familiar “future of marketing” scenarios are present in today’s technology landscape or very close to maturity.*

# TOWARD THE CONNECTED CUSTOMER

**SOCIAL AND TECHNOLOGICAL MEGATRENDS** ARE SHAPING THE FUTURE OF COMMERCE. APPS AND DIGITAL DATA, ALREADY UBIQUITOUS, ARE EVOLVING AND BECOMING EMBEDDED INTO EVERY ASPECT OF BUSINESS AND LIFE, RAISING EXPECTATIONS AND CHANGING THE CUSTOMER EXPERIENCE.

## **KIMI SOGENO WALKS INTO THE TRENDY BOUTIQUE**

in Dubai after receiving an alert that the dress featured in her favorite videos and seen in the pages of her most-read digital fashion app-zines is in stock at that location.

Staff are notified of her arrival and an associate is sent to the back room to obtain the dress and several other items in her size, along with another style that two of her friends recently purchased, in colors that match her recent taste in shoes and accessories, as she enters the store. Kimi tries on a few of the samples while comparing prices and evaluating reviews in the peripheral vision of her heads-up display. After making her selection, she is presented with a few add-on items at promotional prices. She selects one and completes the transaction using a combination of credit and loyalty points. Several of her friends are automatically informed of her new purchase and she receives an invitation to show off her new items over tea at a nearby café later that afternoon.

Meanwhile, another shopper in the same store is left alone to browse at her leisure. Her privacy settings make her data visible only to close friends or qualified business contacts because she finds over-sharing distasteful. Associates in the store attend to her with old-fashioned service skills; the apparel she selects wins her over with its combination

of quality, value, and the brand’s reputation for using fair labor practices.

Contextual awareness, cross-media content, social integration, personalization, and connection between the customer, the physical space, and the digital data stream: nearly every “future of retail” presentation of the past decade has offered these features as enticements to marketers looking for ways to bring new technology to bear on the old, familiar challenges of brand awareness, consumer engagement, and customer experience.

But Kimi’s story is no longer crystal ball gazing: most of the elements of this scenario are present in today’s technology landscape or very close to maturity. Creating a marketing experience is increasingly a straightforward matter technically, with the hard challenges being the creation of effective, attentive campaigns based on an understanding of customer lifestyles.

So how do we get from here to there? We need a map.

This paper brings together ideas from industry leaders in marketing, advertising, customer experience, and technology to show where today’s trends in marketing are leading and how organizations can plan their current and future investments to make the vision real.

## Foundations:

# WHAT'S DRIVING CHANGE?

**BROADLY SPEAKING**, change in the world of marketing is coming as a result of global social megatrends (demographics, fragmentation of mass markets, the rise of emerging economies, and so on) and innovations in technology (social, mobile, Big Data, and the cloud). See sidebars for more detailed discussion.

The main byproduct of these drivers is rising expectations, coupled with the constant danger of exhausting people's attention. Next-generation consumers have grown up marinated in digital media and take connectivity, interactivity, and participation for granted. A decade of institutional attention and cultivation has brought forth a bumper crop of tech-sector startups—not just in the traditional centers of

innovation like Silicon Valley and New York, but around the world. These upstarts are creating lean and ingenious solutions to all kinds of business challenges, many of which have vast and disruptive implications for marketing organizations. Young people, young companies, and young societies around the world are now defining global culture, forcing global business to respond.

A few visionary brands and agencies are riding these trends to create new modes of engagement with customers: vivid new ads and marketing campaigns that command attention and beckon participation; convenient customer experiences that remove transaction friction, locking in loyalty; and campaigns that use data

to target and measure performance, leading to better outcomes and predictable costs.

Customers who are exposed to this kind of service start to wonder why all product and service experiences do not take place at a uniformly high level. They become impatient with service that fails to comprehend their problem or anticipate their desires; they become

bored with ads that don't delight; they become contemptuous of brands that do not stay consistently true to their ideals and principles.

As a result, marketing tactics that may have been good enough for the '00s are rapidly approaching their sell-by date as we move deeper into the '10s. Those not moving forward fast enough will soon find themselves slipping further and further back.

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*Marketing tactics that may have been good enough for the '00s are rapidly approaching their sell-by date as we move deeper into the '10s.*

## Drivers of Change: Social Megatrends



**DEMOGRAPHIC CHANGE:** The aging of the Baby Boom and the rise of the Millennial and post-Millennial generations are causing a shift in social attitudes, workplace dynamics, and consumption patterns. Young consumers (and, increasingly, their parents and grandparents as well) have greater sophistication when it comes to technology and marketing, plus a spending mindset limned by half a decade of austerity, debt, and uncertainty.



**GLOBALIZATION AND FLUIDITY OF KNOWLEDGE:** Global access to information has unlocked the inherent wealth and knowledge of billions around the world, creating vibrant new centers of innovation and a new class of consumers in some of the world's youngest and fastest-growing nations.



**FRAGMENTATION OF MASS CULTURE:** The public has lost trust in the large institutions and authoritative voices that predominated the past century, turning instead to subcultures defined by ideology, interests, and consumption patterns. Gaining the ear of customers now depends on speaking in human tones as a welcome participant—rather than as an invasive presence—in a trusted subculture, and behaving consistently: traits especially prized by Millennials. Brands that fail risk being summarily disqualified by entire consumer segments.



**ENTREPRENEURIAL INNOVATION AS A RESPONSE TO GLOBAL CHALLENGES:** The past decade has seen massive investment by governments, education, outside institutions, and the financial community in the development of an ecosystem of entrepreneurs and startups worldwide. This, in combination with the retrenchment of governments in the face of various social, environmental, and economic issues, has led to a new kind of entrepreneurship that combines social and commercial goals while building on technology platforms that enable small startups to scale up more quickly than ever.

## Drivers of Change: Technology Megatrends



**BIG DATA:** The flood of information from mobile devices, sensors, social media, public sources, and third parties, combined with transactional and customer data collected within the enterprise, offers unprecedented insights into behavior and more robust predictive analytics.



**SOCIAL COLLABORATION:** Social media platforms give ordinary people a greater voice and provide new ways for user-created content and ideas to come to the fore. They serve as rapid and unpredictable scaling mechanisms and force every institution to engage authentically and immediately with the public or face dire consequences.



**PERVASIVE COMPUTING:** Mobile devices, wearable computers, gesture-based interfaces, augmented reality, and the “Internet of Things” (smart objects and sensors) are all manifestations of the interpenetration of digital technology into physical space.



**THE CLOUD:** Enterprise data processing is becoming a utility, managed in central facilities and distributed on a pay-per-use, as-needed basis over the network. The cloud provides small companies access to the same performance, capabilities, and security as an enterprise without the need for capital investment, dramatically changing the economics of scale for any computing-based business.

## TODAY'S PAINS, TOMORROW'S CHALLENGES

### OUR CONVERSATIONS WITH INDUSTRY LEADERS

and marketing executives discovered a litany of hot-button issues and challenges facing the industry in 2013:

**BIG DATA:** New sources of data from social networks, location-based systems, digital devices, and e-commerce are helping brands target customers with greater precision and make decisions with greater confidence. Companies are walking a fine line between using data strategically to create personalized experiences for customers and engaging in overly intimate behavior that customers find “creepy.”

**“BIG STORY”:** If Big Data represents the analytic left brain of marketing, storytelling represents the right-brain, creative side. In a noisy market, clear and impactful stories help consumers form durable emotional connections to brands. Starbucks and Siemens are two examples of brands using human-scale storytelling to communicate at the level of values, not products.

**NATIVE CONTENT:** Owned content that resembles news, features, and editorials is joining and in some cases superseding earned and paid media as a way to build

awareness and communicate information to consumers. Content strategy has become a critical discipline within marketing organizations, and companies like BuzzFeed and the Daily Mail are using sophisticated data-driven techniques to develop content engineered to capture attention.

**RAPID RESPONSE:** Social media can amplify the reach and impact of paid advertising by factors as large as 50x or 100x, provided brands are nimble enough to plug into conversations and capture the spirit of the moment. Nabisco’s “Dunk in the Dark” campaign capitalizing on an unexpected power outage at the 2013 Super Bowl has become an instant icon of this approach, and many brands ranging from Coke to Microsoft are building “brand news desks” to monitor current developments.

**APPS AS MEDIA:** Smartphones and tablets have propelled the app into a mainstream channel for delivery of content, branding, and customer experience. Many brands are building functional or content-rich apps as a way to reach customers on mobile devices, where display ads and other web-oriented techniques do not scale well.

**VIDEO EVERYWHERE:** 2013 may be the tipping point in the erosion of television as the primary channel for video content. Video-on-demand, streaming services like Hulu, customized programming on YouTube, and video-over-network technologies have made it imperative for brands to widen their video strategy and prepare their video content for delivery across multiple platforms and formats.

**EXPIRED MODELS—ABORT, RETRY, FAIL:** The success of new engagement models highlights the diminishing returns and utility elsewhere in the marketing ecosystem.

- Abysmal click-through rates, privacy defaults on browsers, and opaque, deceptive metrics are forcing web-based advertising to rethink decade-old strategies for banner and display ads.
- Search engines are evolving to deliver more personalized and vivid content across platforms, and the practices of SEO need to evolve with them.
- No one in the industry seems satisfied with the quality or performance of mobile ads, and the emergence of the app ecosystem has called into question the viability of the mobile web as a delivery platform.

- The venerable media buying system, optimized for network broadcast advertising and organized around discrete media silos, is wildly out of sync with the realities of the multiscreen, multiplatform world and the plethora of new ways to deliver video content.

Each of these areas is new and vibrant enough to capture the attention and resources of CMOs. The danger is that investments made to meet the challenges of the here-and-now might not scale or be appropriate as conditions evolve. The Future of Marketing Roadmap is meant to help visualize those connections across the marketing-technology space.

*Investments made to meet the challenges of the here-and-now might not scale or be appropriate as conditions evolve.*

# A Framework: DRAWING THE ROADMAP

**THE FUTURE OF MARKETING FORECAST MAP** is a visual guide connecting today's most pressing marketing challenges and technologies with ones likely to emerge during the next 4–7 years. The goal is to help organizations plan their current investments in technology, talent, and business structures to account for changes in the marketplace.

The map features four main structural elements:

**PRIORITY AREAS OF FOCUS:** Forecasts on the map align to three major marketing objectives: driving *Brand Awareness*, creating deeper *Customer Engagement*, and enabling *Personalization and Measurement*.

**TIMEFRAME:** Time forecasting on the map is relative rather than absolute (*The New Now, Next, and Sooner Than You Expect*) because the pace of innovation is often faster than we expect; however, certain innovations necessarily precede others in development and maturity.

**INNOVATION CLUSTERS:** Forecasts are grouped around six themes—three of which are familiar in today's marketing lexicon (*Social, Big Data, and Content*), and three which will emerge soon (*Digital/Physical Blend, Context, and Connected Customer*). These represent a combination of technologies and marketing priorities that are driving the emergence of new approaches.

**FORECASTS:** The forecasts are specific initiatives or developments in the world of marketing that our research suggests will become major areas of investment in coming years.

## Priority Areas of Focus

The Forecast Map lists three priority areas of focus for marketers along the left edge:

**BRAND AWARENESS:** *The traditional focus of marketing—how brands expose audiences to content and imagery to create emotional connection, awareness, and demand.* This has already expanded from old media channels to digital, mobile, and multiscreen. The next challenge is integrating campaigns across and between media, with messages becoming more implicit, context-aware, and connected.

**CUSTOMER ENGAGEMENT:** *How brands interact with customers and create differentiated experiences.* Most brands now see social media as a key venue for customer engagement, creating a sense of immediacy and authenticity in their digital interactions. Moving forward, the ability to bring digital and physical experiences together in compelling ways

will lead to even richer opportunities at every stage of the customer journey.

**PERSONALIZATION AND MEASUREMENT:** *Tools and techniques that marketers can use to create custom experiences and 1-to-1 relationships with customers, then measure the results.* The rise of Big Data enables greater precision in every aspect of marketing and operations, greater predictability of outcomes, and better understanding of leverage points. This is quickly driving us toward personalization at scale, where brands use what they know to customize and optimize every transaction.

Two additional vectors of change, **Organizational Structure** and **Drivers of Innovation**, will be addressed in subsequent papers.

## Clusters of Innovation

The six large colored areas on the map represent clusters of innovation: technologies that are shaping trends in marketing, business, and the wider world. The first three of these are fairly well-known and well-understood today:

**CONTENT:** The Content cluster captures the various vehicles for delivery of brand imagery, stories, and information to customers through traditional and digital channels.

**SOCIAL:** Social media platforms give ordinary people a greater voice and provide new ways for user-created content and ideas to come to the fore. They serve as rapid and unpredictable scaling mechanisms and force every institution to engage authentically and immediately with the public or face dire consequences.

**BIG DATA:** The flood of information from mobile devices, sensors, social media, public sources, and third parties, combined with transactional and customer data collected within the enterprise, offers unprecedented insights into behavior and more robust predictive analytics, along with new requirements for skills, practices, and tools.

As we move from the present into the near future, we will see the emergence of three additional innovation clusters:

**PHYSICAL/DIGITAL BLEND (UBIQUITOUS COMPUTING):** This cluster addresses the proliferation of current and near-future technologies that allow us to physically interact with the digital world (e.g., Xbox Kinect and related devices), overlay digital content onto the physical world (Google Glass and various “augmented reality” applications for mobile devices), and measure and digitize physical space (sensors and location-based devices). Acting together, these technologies will bridge the gap between the real and virtual, and give brands powerful new ways to create experiences that engage customers. Note that Physical/Digital Blend represents the logical successor to “Mobility” (marketing for mobile phones and devices), which, like “web-based marketing,” has sunken deep enough into the firmament of the marketing discipline as not to require special mention in a forward-looking plan.

**CONTEXT:** The Context cluster represents the move from explicit actions required by marketers and customers (“click here to apply this coupon,” “please scan your loyalty card at the register”) to implicit, anticipatory behavior on the part of apps, ads, and in-person interactions. Today we have growing mountains of data about customer backgrounds, behavior, preferences, and even location. Soon apps will begin knitting together that information by communicating at a deeper level, enabling marketers to offer increasingly personalized experiences at the precise time, place, and format that they are most useful and relevant to consumers.

**CONNECTED CUSTOMER:** This cluster represents the meeting point of all the trends present in this forecast map—the place where implicit, personalized, and contextual marketing blend with more disruptive changes like digital currency, automated purchasing agents, and personalized pricing to orient marketing the full 360 degrees around each individual customer experience.

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*Clusters of innovation are technologies that are shaping trends in marketing, business, and the wider world.*

# DOLLARS, BITS, AND ATOMS: A ROADMAP TO THE FUTURE OF MARKETING

Marketing is in a state of transition, driven by changes in technology, demographics, and society. This map visualizes trends identified by industry leaders and experts, showing relationships between technologies and marketing tactics, and where the industry is headed.

## BRAND AWARENESS

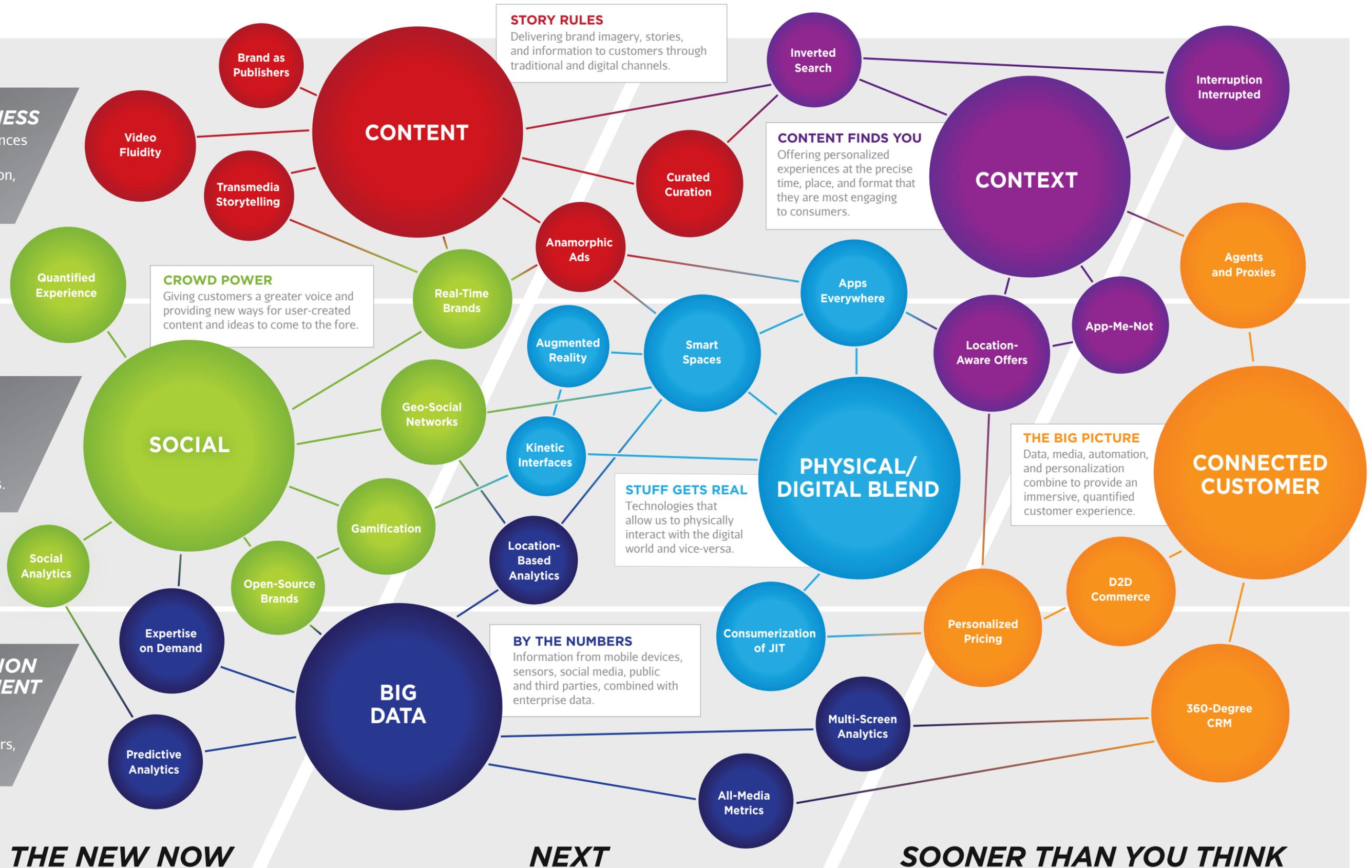
How brands expose audiences to content and imagery to create emotional connection, awareness, and demand.

## CUSTOMER ENGAGEMENT

How brands interact with customers and create differentiated experiences.

## PERSONALIZATION AND MEASUREMENT

Ways to create custom experiences and 1-to-1 relationships with customers, then measure the results.



# Forecasts: THE NEW NOW

CUTTING-EDGE MARKETING IDEAS THAT TAKE FULL ADVANTAGE OF TODAY'S MOBILE, SOCIAL, CLOUD, AND BIG DATA TECHNOLOGIES.

● **BRANDS AS PUBLISHERS:** Native content (for brand-building and attention-getting) and optimized product copy (to drive online transactions) have become critical elements in the digital marketing efforts of many major brands, turning them into content publishers even if their core competencies lie elsewhere. In the short term we will see increasing diffusion of effective practices around content strategy and a growing number of players coming to market with solutions for content optimization, cross-platform content delivery, and automated content management.

● **VIDEO FLUIDITY:** Consumers have a growing number of ways in which to consume both real-time and prepackaged video content: websites like YouTube, on-demand services, streaming video for web and mobile (such as Vine and Instagram), app stores, video over IP rebroadcasters (such as the startup Aereon), and more. The mainstreaming of IP-enabled smart TVs, which can receive video content from both new and traditional sources, further blurs the boundaries. Marketers are increasingly looking for ways to land their video assets on as many of these screens and platforms as possible, while embracing metrics that better reflect the full reach and audience composition of their efforts.

● **TRANSMEDIA STORYTELLING:** Brands are creating increasingly rich and layered campaigns that cross media boundaries in an effort to reach demographic groups that fall through the cracks of traditional advertising. These campaigns integrate traditional media, guerilla and viral tactics, Twitter/Facebook engagement, product placement, games,

live events, and more to create an immersive experience that generates buzz and engagement. Red Bull is one brand that is especially good at integrating social, video, and live events to reach its young, active target demographic. The creative and production skills required to build and manage these campaigns are likely to be in high demand, as the number of trained and experienced practitioners is small.

● **QUANTIFIED EXPERIENCE:** Ratings and recommendations are everywhere, soliciting and displaying customer feedback about every aspect of their experience on dedicated systems (Yelp, etc.) and open platforms (Twitter, Facebook, etc.). Consumers are recognizing that it is sometimes easier to get the attention of service departments by complaining on social media than by using traditional channels, creating reputational issues that marketing departments alone cannot fully address. Brands are already deploying dashboards and engaging specialized firms to monitor and manage their aggregate reputation. Expect better tools to facilitate rapid response, quarantine, and escalation of service, and greater connections between marketing and other customer-facing processes within organizations, as well as processes that make ratings easier, more convenient, and less explicit for consumers.

● **REAL-TIME BRANDS:** “Real-time brands” is the proactive counterpart to the more reactive “quantified experience” trend. Brands have discovered the value in plugging into current events and social channels to create energetic and lively conversations with consumer communities. This can generate buzz on its

own or amplify the impact of paid media. A couple of high-profile success stories have motivated more marketing organizations to develop rapid-response capabilities, which can involve the tighter integration of marketing and PR, sales, and operations. Some experts we surveyed expect this trend to eventually cool off into a more sustainable model where brands acknowledge socially generated brand challenges and opportunities instantly, but take somewhat longer to generate a response.

● **GEO-SOCIAL NETWORKS:** Apps like Foursquare have found successful ways to integrate GPS/location capabilities of mobile devices with the community/collaboration features of a social network, and many others have followed suit. Brands are only beginning to tap into the vast potential of these networks to connect customers to physical locations, service delivery, offers, and one another. The maturation of geo-social networks, along with several related technologies (augmented reality, smart spaces), points the way toward a more seamless blend of physical and digital environments.

● **SOCIAL ANALYTICS:** Social analytics are the data output of social networks, providing a rich and detailed understanding of individual and social behaviors. Because this information is so complex, it requires a lot of data science expertise to unpack into useful insights, and even the leading social platforms have so far demonstrated only a rudimentary capability to make effective use of it for marketing purposes. Improving the utility of social analytics is the focus of an enormous amount of investment from organizations ranging from large corporations to startups to government security agencies. For marketers, the challenge will be using that information without trespassing on consumer privacy concerns.

● **EXPERTISE ON DEMAND:** The rise of Big Data is creating enormous demand for data science experts. Marketing departments are pressed to

compete for this talent with financial services, high tech/engineering, and well-funded startups, and often lack the expertise to properly evaluate prospective hires. We will likely see even large brands turning to outside specialists or companies like Kaggle, a startup that uses crowdsourcing and gamification to tap communal expertise to solve specific data-related problems on a per-use basis.

*On the minds of marketers:  
real-time branding, content, and  
data-driven personalization.*



3 items in your  
size on this rackReduced Price  
20-60% savings hereShorts seen today in:  
fashionfrēk**Lena Chao dress**

★★★★☆

(Matches 8 items you own)

👍 1,523 people like this

Ani, Cyn, Darcy, Annie, (6 others)

List price \$398 / db279

**Just4U price \$267 / db155**SALES HELP | ADD TO LIST | **BUY NOW**

SOCIAL WEB

SHOPPING CART

**CYN:** YES! Do it!

🕒 September 19, at 01:52 PM

**MIRIAM:** OMG Kimi,  
that's so cute!

🕒 September 19, at 01:50 PM

**KIMI:** What do you think,  
should I go for it?

🕒 September 19, at 01:48 PM

**habillée**  
BOUTIQUEGold Shopper discount for  
**KIMI SOGENO**

List price: \$398 / db279

**Your price: \$267 / db155****BUY NOW****USE DIGIBUCKS**

● **PREDICTIVE ANALYTICS:** Today's killer app for Big Data is figuring out exactly who your customers are and what they'll do next. Organizations we talked to said the biggest challenge in implementing real-time analytics was not integrating the new data sources (social, location, third party), but exposing enterprise data from their own legacy systems, which were built to be archival repositories, not real-time transactional systems. Solving this problem requires collaboration along the frontier between IT and marketing, unexplored territory in many enterprises. As long as this remains a bottleneck, large organizations will have difficulty tapping into the full potential of the data revolution. It also requires knowing how to ask the right questions and understand the answers.

● **OPEN-SOURCE BRANDS:** For the past several years, leading companies such as Ford Motors, Starbucks, and Frito-Lay have benefited enormously from collaboration with customers to create brand awareness and get input on product development. The next step on this path is opening the brand to technological collaboration by publishing open APIs and encouraging developers to build apps using shared data. One example of this is a 2012 hack-a-thon sponsored by The Home Depot and Kraft Foods to spur independent mobile app development. This approach looks likely to gather steam as it aligns with the interests of brands, technology developers, and consumers.

● **GAMIFICATION:** Brands are tapping into the competitive spirit and desire for peer recognition by implementing online contests, leader boards, and branded game apps for social and mobile platforms. We are also seeing the emergence of games that promote social objectives, raise money for causes, and promote awareness of sensitive issues, as well as the burgeoning

global popularity of massive multiplayer online (MMO) games like World of Warcraft, which inculcate a variety of real-world team-building, negotiation, and economic skills. Shortly we will see evolution of both the technological experience (with the integration of kinetic interfaces and augmented reality) and gameplay itself as it becomes more embedded into a variety of social, consumer, and business scenarios.

● **KINETIC INTERFACES:** Gesture and voice-based inputs are becoming common on video games and consumer electronics, changing expectations about how people interact with digital information. A few retailers like Build-A-Bear and Styku have successfully integrated these technologies into their in-store and online experiences, allowing customers to customize products and measure apparel to order using natural input. Other interesting innovations are coming from healthcare advances such as the patient-centered medical home. We are just scratching the surface of the possibilities for this mode of interaction.

● **LOCATION-BASED ANALYTICS:** The spread of GPS-enabled mobile devices has given rise to a slew of apps that aggregate data from tens of thousands of users to provide rich insights into everything from vehicle traffic to environmental impact. One startup, Placed, uses location data to track foot traffic to retailers, finely segmented by line of business and geography. This and similar efforts can provide data points that allow marketers to correlate advertising and promotions with store traffic and competition, and correct for factors like weather and traffic. Logistics companies such as UPS are, unsurprisingly, at the forefront of these efforts as well. Before long, this data will be an indispensable component of marketing analytics for all companies with physical operations.

# NEXT

## MARKETING INNOVATIONS HIGHLY LIKELY TO ARISE FROM A WAVE OF TECHNOLOGY DEVELOPMENT THAT IS VERY CLOSE TO MARKET OR ALREADY BEING PROTOTYPED.

● **ANAMORPHIC ADS:** The multiscreen world is a challenge for advertisers who have to constantly develop versions of ads that target different devices and formats. New technologies are coming very soon that allow ads to travel seamlessly across platforms, configuring themselves for optimal display, as well as ads embedded with metadata that make transactions possible even when ad content and imagery have been removed from their original context and pinned or shared on social media.

● **AUGMENTED REALITY:** The first generation of augmented reality apps involved overlaying digital imagery onto the real world by using the cameras built into smartphones and tablets, or using scanable QR codes to unlock digital content. Google Glass is the first announced device to make that process even more seamless and natural for consumers. The marketing applications for augmented reality are vast, as is the potential to annoy and overload customers with intrusive advertising painted directly onto their retinas. The next few years will see marketers probing the limits of acceptable use for this technology. Successes will be spectacular, but failures will be numerous.

● **CURATED CURATION:** The concept of users “voting with their clicks” to identify relevant content is the basis for online search engines dating from the turn of the century and still in use today. In the meantime, social platforms like Pinterest, Reddit, and Tumblr depend on the active efforts of users to curate online content based on their tastes and interests. These two models are converging and

machine-based systems are learning more about how and why humans curate particular content, and building that knowledge into search algorithms. The next generation of search will have a more curated—thus human and relevant—look and feel in both the collection and display of results. Search-based ads will need to evolve to capitalize on this new approach.

● **INVERTED SEARCH:** Even as traditional search engines evolve beyond the search-box-and-results-list model, the whole structure of search is being inverted by personalization and Big Data. Social platforms and other online data repositories now know enough about consumer behavior at an anonymized but individual level to proactively discover and tag content, including marketing materials and offers, that correlate to likely interests.

● **LOCATION-AWARE OFFERS:** As brands get more capable at mashing up location data and customer data in real time, it becomes possible to target personalized offers, content, and even competitive product/price information to customers at the precise “moment of truth” where they are best able to take advantage of it—either online or on a mobile device. Because conversion rates on the offers can be tracked, it will be possible to keep optimizing content, timing, and delivery until the process becomes seamless for customers.

● **SMART SPACES:** Mobile devices are not the only source of geo-specific location data. Spaces and environments are being fitted with cameras, sensors, and display panels that can serve as venues for personalized advertising (in the

manner of *Minority Report*), or, less intrusively, as another source of data that can be correlated to gain more insight into consumer behavior. The use of smart spaces in conjunction with models and simulations will likely play a part in the development of virtual showrooms such as Audi’s Audi City project.

● **APPS EVERYWHERE:** Apps have become the standard delivery model for new software functionality to today’s mobile, tablet, and desktop computers. We are now seeing the development of apps for IP-enabled consumer electronics (smart TVs, appliances, etc.), automobiles, and home/office infrastructure (security systems, power and lighting, etc.). This will be ubiquitous in the next two years. Brands will drive much of the investment and innovation in the app space, relying on technologies like anamorphic ads to automate and simplify the delivery of marketing content to many different application environments.

● **CONSUMERIZATION OF JIT (JUST-IN-TIME):** Just-in-time manufacturing revolutionized industrial production and logistics by taking the slack out of inventories and supply chains. Now, just-in-time is coming to the consumer market through a variety of mechanisms. Crowdfunding, exemplified by the Kickstarter platform, not only aggregates fan and community interest to fund unusual creative projects, but also enables

preordering at scale while reducing risk for producers. This allows them to bring products to market only after revenue targets have already been met. Brands will very soon discover ways to integrate crowdfunding with existing loyalty and gift-card programs (prepayment is the highest form of loyalty). Amazon is already disrupting retail with same-day delivery of online goods, forcing competitors to adapt. Advances in 3-D printing have profound implications for marketing as well as product development. Networks of service professionals, consultants, and craft artisans delivering one-off services or projects online are becoming more robust and commonplace by the day. Lastly, marketers will need to contend with community sharing systems—either non-profit (like tool libraries) or commercial (Car2Go, Airbnb)—that reduce demand for large consumer goods and disintermediate lucrative service networks.

● **MULTISCREEN ANALYTICS:** Distributing content to multiple screens is one challenge for marketers, but the more difficult step is determining who is watching what content on what screen, and when. Purely digital video platforms like Hulu and Netflix include very precise, data-collecting capabilities, but they only furnish information about their own systems, which is rarely the whole story. Marketers today are also starting to use apps like Shazam, which can recognize and identify ambient

sounds from a mobile phone mic, to encourage consumers to “raise their hand” when they are watching a particular commercial spot in exchange for exclusive incentives. Similar mic-and-camera features mounted on next-generation home entertainment devices can serve the same purpose less intrusively. In the near future, the ability to collect and correlate multiscreen analytics will become much more implicit, relying on correlations between data sets to narrow down consumer behavior to the household, if not the individual, level.

● **ALL-MEDIA METRICS:** Audiences follow properties across media channels, but media is still sold in silos. A marketer that wants to reach the audience for, say, *The Walking Dead*, needs to target cable television, periodical comics (print and digital), graphic novels, social media, websites, video games, and certain live events like Comic-Con—as well as media channels that target the several dozen adjacent subcultures where the same audience is likely to participate. There are few easy ways to streamline that process under the current system, and even fewer to measure the performance of a campaign across all different channels. As Big Data analytics improve, they will give marketers a precise view of the media footprint of any given audience, as well as the right channels to reach the same customers in a different context.

# SOONER THAN YOU THINK

## FORESEEABLE DEVELOPMENTS ARISING FROM THE CONVERGENCE OF BUSINESS AND TECHNOLOGY FACTORS DURING THE NEXT 4-7 YEARS.

● **INTERRUPTION INTERRUPTED:** The solid boundaries between programming and advertising have been dissolving for decades with the rise of product placement, fully sponsored programming, and native content. Interruptive ads such as banners, video prerolls, and overlays are especially grating and ineffective in digital media. As devices and applications become more aware of user behavior and preferences, the mode of serving ads will become more contextual and implicit, and the methods for weaving sponsored content into various forms of entertainment will become more seamless. Well before 2020, we will be at a point where nearly every ad is in some way tailored, targeted, and personalized, delivered in the flow and context of whatever the recipient is doing.

● **APP-ME-NOTS:** The increasing sophistication of data-based marketing and personalized advertising is bound to rub some consumers the wrong way. Before long, backlash against intrusive methods will encourage the development of powerful and effective digital countermeasures that enable people to avoid tracking and personalization, either by appearing invisible or by spoofing data to host systems. We are already seeing stirrings of that from startups like Vortex and Spotflux. Smart companies will figure out ways to anticipate and respect the privacy thresholds of customers on an individualized basis, and allow traditional, intuitive modes of sales, service, and personal interaction to coexist alongside more data-driven methods.

● **AGENTS AND PROXIES:** The endpoint of context and data-driven personalization is apps that accurately anticipate and automate

various routine consumer behaviors. Self-driving cars, now being pilot tested, are one real-world manifestation of this. So is TiVo's recommendation engine for shows you might like. In the digital domain, apps that can learn from user behavior such as commonly purchased consumer items or media consumption habits will do more of this work in the background, acting autonomously or on generalized instructions, as the agent and proxy for the customer. This is likely to change consumption patterns significantly, and place a premium on establishing and maintaining brand loyalty at all costs.

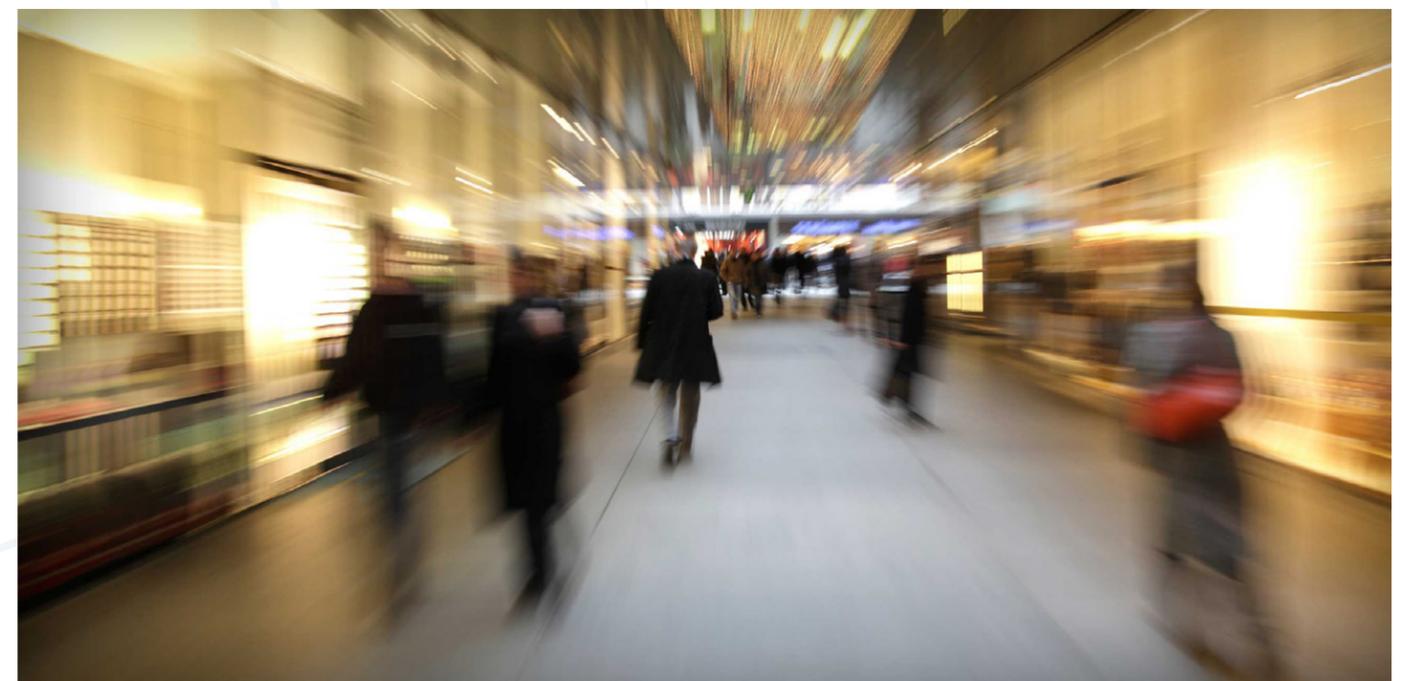
● **PERSONALIZED PRICING:** Charging customers different prices for the same product evokes a visceral negative reaction ("discrimination!"). It is tolerated in cases where variable pricing reflects supply and demand (as in airline reservations and tickets to sporting events), but retailers found engaging in this activity generally incurs intense disapproval. However, at some point in the near future, we will reach a stage where individual consumer behavior is fully quantified and the incremental value of each transaction can be assessed in the context of that customer's total value to the business. Many customers will be enrolled in loyalty programs, have some kind of earned status based on their history, and collect tokens from various other forms of brand engagement (winning contests, participating in games, performing incentivized activities like social networking or watching ads). When these are brought to bear in a purchase, along with any time/location-based contextual promotional offers, the result will almost always be a unique price for each customer, reflecting that customer's specific profile and level of engagement.

● **D2D COMMERCE:** News reports in 2013 acquainted the wider world with Bitcoin, a medium of exchange that exists only in the digital world. Bitcoin, a mathematical construct created through the exertion of lots of computational power, is controversial because it is not sanctioned by banks or governments and is allegedly untraceable, leading to concerns about illicit use. Meanwhile, millions worldwide engage in massive multiplayer online games (MMOs) like World of Warcraft, which feature complex economies in which digital goods discoverable only through long gameplay can be, and are, transferred to other players in exchange for real-world money. It is only a matter of time before these two constructs converge, giving

rise to an entirely new economic model where assets created purely in the digital domain, at scale, can be used to make payments in either digital or real-world transactions.

● **360-DEGREE CRM:** This is the endpoint of the Big Data cycle, when organizations are able to smoothly integrate and correlate data from multiple internal and external sources to gain a clear picture of each customer on an individualized basis, and then push that information out to every customer-facing process (marketing, sales, service, etc.). But having this information is not the same as using it effectively. Being able to anticipate customer needs and reduce the

amount of information overhead ("can I get your name, number, and last four digits of your social...") in customer engagements will add convenience, but the benefits can be negated if encounters with sales and service personnel are overly scripted, or if the use of personal data in the interaction appears creepy and intrusive. In these early days of Big Data, when so much of the heavy work remains to be done and so many fundamental questions remain unanswered, it might seem premature to be concerned about the final phase of implementation. But designing the processes by which data is used to influence the total customer experience should be on the minds of all marketers down the road.



# Marketing and Tech: CONNECTING THE DOTS

**THIS PAPER AND FORECAST MAP** are meant to be the beginning of a conversation about the direction of marketing and technology in the 2010s, presenting a palette of issues and information for business leaders to consider during strategic planning. Subsequent papers in this series will dive into specific themes and forecasts in greater depth.

Gartner Research predicts marketers will control more of the IT spend than IT departments by the middle of the decade, which means marketers will need to familiarize themselves with issues of technology architecture as well as capabilities. The forecasts made in this document trace a path from present developments in marketing to their logical outcomes based on the trajectory of social and technological trends.

By showing thematic connections between today's hot-button issues—social, mobile, Big Data, content—and the challenges of tomorrow, the sponsors of this research hope to engage both marketers and technologists in more detailed discussions to address topics such as:

- What are the advantages of addressing marketing technology as a platform strategy, as compared with deploying individual “point solutions” opportunistically to tackle separate challenges?
- What should marketers know about apps and app development that will help them enable some of the more innovative forecasts on this roadmap?
- What specific solutions are available to help enterprises update and integrate legacy data systems into the foundations for a Connected Customer infrastructure?
- How can marketers bring compelling elements of consumer technology, including video game elements, gesture-based interfaces, location-based social networks, and high-quality cross-platform content, to augment customer experience in online and physical settings?
- How can a managed ecosystem of partners, developers, and innovative startups help accelerate the speed and success of next-generation marketing technology?

## NEXT STEPS

**IN COMING MONTHS**, we will present additional research reports looking at the implications of these forecasts on the internal structure of marketing organizations and agencies; the trajectory of innovation in the startup ecosystem; the integration of content, social media, and data to drive sales in B2C and B2B engagements; and further explorations of the forecasts, case study examples, and themes introduced here.

*Marketers will drive a greater share of IT spending by mid-decade.*

# DIGITAL MARKETING BY THE NUMBERS

- Global mobile data traffic grew **70%** in 2012, reaching **885 PETABYTES** per month by the end of the year.  
—Cisco Visual Networking Institute, 2013
- **DATA** generated by the “Internet of Things” will increase by **>35% ANNUALLY** 2010-2015.  
—McKinsey Global Institute, 2011
- Over **50%** of respondents to a recent industry study report their organization **STRUGGLES** to analyze **DATA** currently being produced.  
—DataXU, 2012
- Over 50% of **US CONSUMERS** now carry a smartphone. **44%** use it in-store for **PRICE** and **PRODUCT** info.  
—McKinsey Global iConsumer Research, 2013
- **9 OUT OF 10** mobile **SEARCHES** lead to action. Over **50%** lead to purchase.  
—SearchEngineLand
- **95%** of mobile phone users have **LOOKED UP** local info. **61% CALLED. 59% VISITED.**  
—ThinkInsights/Google
- **SPONSORED CONTENT** displayed in the newsfeed has **46X** the **CLICK-THROUGH** rate of ads in the right-hand column.  
—eMarketer, 2013

## About this report:

**DOLLARS, BITS, AND ATOMS: A ROADMAP TO THE FUTURE OF MARKETING** is the first of a series of research papers looking at the convergence of digital technology and marketing during the next 5–7 years. Researchers gathered material and conducted interviews from February through June, 2013. Sponsorship for this research was provided by the Microsoft Developer Platform Evangelist (DPE) group. All interview subjects were apprised of this in advance. Participation or citation in this report does not imply any relationship with or endorsement of Microsoft or its products. Contents of this report are © 2013 MediaPlant, LLC. Permission required to quote extended excerpts, redistribute, or syndicate.

## About the Author:

**ROB SALKOWITZ** is an internationally recognized author and expert in entrepreneurship, innovation, and the disruptive effects of technology on business. He is author of four books: *Young World Rising: How Youth, Technology and Entrepreneurship are Changing the World from the Bottom Up* (Wiley, 2010), *Generation Blend: Managing Across the Technology Age Gap* (Wiley, 2008), *Listening to the Future* (with Daniel W. Rasmus, Wiley, 2009) and *Comic-Con and the Business of Pop Culture* (McGraw-Hill, 2012). His work has appeared in *Fast Company*, *Forbes*, *Bloomberg Businessweek*, *Entrepreneur*, and the *New York Times*. He is a cofounder and partner at MediaPlant, where he serves as director of strategy and content.

## About MediaPlant:

**MEDIAPLANT** is a communications firm specializing in B2B marketing, strategy, and technical development. Founded in 1999, the company and its principle partners have completed projects for Microsoft, HP, Herman Miller, Watchguard, Ford Motors, and many other global leaders. MediaPlant has offices in the Pioneer Square neighborhood of downtown Seattle, Washington. For more information, see [www.mediaplant.net](http://www.mediaplant.net).

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