

Understanding the “Mobile Shift”: Obsession with the Mobile Channel Obscures the Shift to Ubiquitous Computing

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Executive Summary

The rapid adoption of smart phones and tablets represents an unprecedented transformation in the way consumers access the web and other digital services. This “mobile shift” poses fundamental challenges for virtually every business, and calls into question most established assumptions about how to create, nurture, and sustain profitable customer relationships. Some observers argue that this means “fixed” websites are in radical decline, and that successful enterprises must adopt a “mobile first” approach and prioritize the user experience on mobile devices. Others maintain that mobile access, while undeniably important, is “just another channel” among others.

Each of these perspectives has its merits, yet they both fail to fully grasp the nature of the transformation that is taking place today.

“The transition from a PC or notebook to the ‘always on’ smart phone or tablet is not primarily about the smaller, more portable, mobile device. It is rather about the fact that computing services are now available virtually wherever and whenever the user desires them. The mobile shift marks an evolutionary leap to the era of ubiquitous computing.”

Mobility initiates ubiquity. This is the true import and impact of the mobile shift. Mobile is, no doubt, a channel. But it is not “just another channel,” because ubiquity imposes the need to erase the distinctions between channels and modes of interaction. As we enter the era of ubiquitous computing, winning brands will offer *transparently de-channeled* customer experiences. To achieve this goal, organizations must:

- Avoid confusing the need to accommodate diverse *mobile devices* and form factors with the crucial demand to satisfy *mobility* and always-on access, regardless of the device.

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- Stop thinking in terms of channels, and start thinking in terms of task orientations –and the relative value to the consumer (and thus to the organization) of easily accomplishing a given goal.
 - Plan for software solutions, processes, vendor relationships, and agency partnerships that enable immediate insights into changing demands and rapid, agile adjustments in digital services.

The Massive and Disruptive Adoption of Mobile Devices

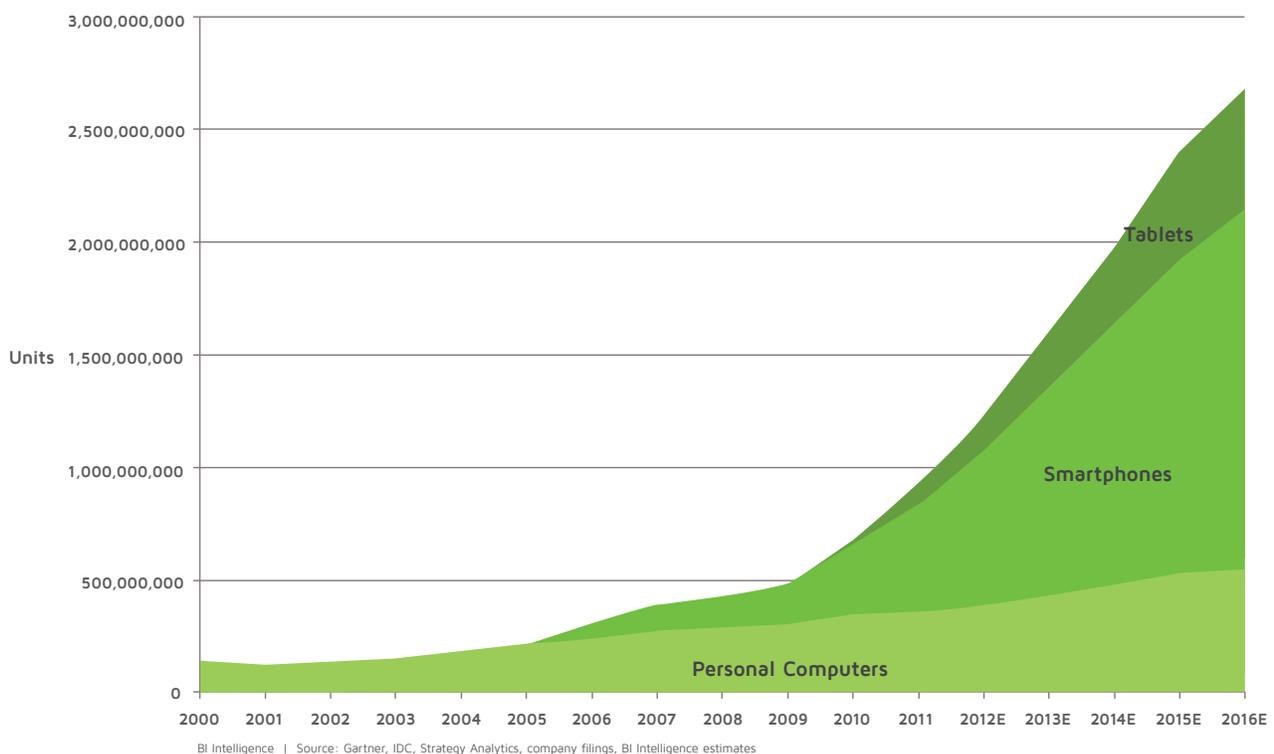
Just when you think you've become accustomed to the rapid pace of change in the digital age, along comes another incomprehensible growth rate. How's this for acceleration: Zero to two billion in under a decade. According to BI Intelligence, smartphone sales will reach about 1.5 billion in 2016, less than nine years after the introduction of Apple's iPhone in mid-2007.¹ To that you can add approximately 500 million tablet computers, plus all of the devices purchased previously and still in use.² In short, within 3 years there will easily be over two billion smart mobile devices in the hands of consumers and employees worldwide.³ (See Figure 1.)

In addition, Flurry Analytics' August 2012 report concluded that the adoption of devices using Apple's iOS and Google's Android operating system have exceeded that of any consumer technology in history, with adoption rates 10X that of personal computers in the 1980s and 3x that of the recent social web.⁴

These kinds of numbers document far more than a voracious appetite for mobile devices. First, they allow us to see that smartphones are desired far more for their "smarts" – computing power, web access, and app functionality – than for their ability to make phone calls. (A task at which many new phones fail dramatically.)

Figure 1

Global Internet device shipments forecast





Granted, this “mobile shift” (in the more basic form of data services for mobile phones in addition to voice) was said to be “the next big thing” every year since about 2000. But should we be more astonished by how long it took to arrive, or by how foolish we were to expect it before the introduction of smart phones – complete with “proper” mobile browsing experiences and 1000s of apps? In retrospect, the data services touted near the turn of the millennium are now recognizable for what they were – monochrome, 1.5-inch-screen phone equivalents of Atari’s Pong and Space Invaders. In comparison, the average smartphone today has far more computing power than existed in all of NASA at the time of the moon landing in 1969 – and users are eager for more.⁵

Second, the dramatic and wholly unanticipated adoption of the iPad (3X the adoption rate of the iPhone for the first eight quarters after launch) underscores the mobile transition in computer usage.⁶ By virtue of its screen size alone, a tablet competes with a PC in ways that smartphones cannot. Here again, initial predictions – of unit sales as well as usage patterns – have been constantly revised. The first detailed studies about the impact of the iPad (and later other tablets) determined that they served as a “third device” in addition to the smartphone and the laptop PC. By the end of 2011, however, many analysts conceded that the tablet could replace the laptop for numerous personal and corporate scenarios.⁷

Firms respond to new mobile demands

Even in the midst of worldwide economic turmoil, there are clear signs that businesses as well as govern-

ments are responding to the profound transformation in customer and constituent relations that accompany the mobile shift.

In an exhaustive worldwide analysis of mobile trends and spending published in late 2012, Tata Consulting (TCS) found that the percentage of interactions with customers (across sales, marketing, and customer service) using mobile devices ranged from 22% in North America to an astonishing 48% in Asia Pacific.⁸ (Europe and Latin America registered 28% and 42%, respectively.) And one can assume that such mobile interactions have exploded from very low levels prior to the availability of smart phones in 2007 and tablets in 2010.

TCS found that the average company across the four global regions planned to spend between \$13 million and \$22 million in 2012 to be “mobile consumer ready” – including the development of apps (dedicated mobile apps or mobile optimized websites) for consumers, sales teams, and customer service. Predictably, all companies in the study plan for significantly increased app development, mobile interactions, and overall spending on mobile readiness by 2015.

Similarly, a McKinsey Group survey of 250 CIOs in late 2012 found that 56% reported strong demand from employees to support a wider range of mobile devices at work, and over 70% planned to institute “BYOD” (bring your own device) programs to allow employees to access company repositories and applications with personally-owned devices. In addition, 30% of the CIOs said they felt tablets could foreseeably replace laptops “in the coming years.”⁹

“Mobile First” — Design Approach or Channel Strategy?

Today, the growing importance of mobile devices finds expression in a popular rallying cry: *Mobile First!* Venture capitalists, product managers, usability experts, and IT analysts all preach the “mobile first” gospel. Mobile first dominates design decisions, investment strategies, conference agendas, and marketing messages.

“Pity the would-be entrepreneur whose start-up business plan does not embrace mobile first.”

Invoked so often by so many in such a wide variety of contexts, mobile first has acquired a broad range of meanings and implications. At minimum, it is necessary to distinguish between mobile first as:

- **A web site design philosophy:** As articulated initially by Luke Wroblewski, mobile first in this sense is a response to the poor results achieved when websites designed for large screens are displayed on mobile devices.¹⁰ Many organizations initially supported mobile web browsing by removing elements, content, or functionality from the established, “fixed” site. (So-called “graceful degradation.”) In contrast, Wroblewski urges designers and developers to think of building from the small screen up (thus, “mobile first,”), adding content, images, and features as the real estate allows, in a process of “progressive enhancement.”¹¹
- **A usability practice:** This second sense of mobile first extends beyond web site design to the broader realm of user experience (UX) and interaction. It is based on the realization

that mobile UX is often (vastly) superior to the experience with fixed sites and established enterprise applications such as CRM and expense tracking. Mobile apps and sites have to deal with limited screen size; support focused, task-specific orientation (and temporal immediacy); and be usable with virtually no instruction or training. Five years into the mobile era, designers have learned that these “constraints” in fact enforce a rigor and elegance that often improve overall usability.¹² By applying the lessons derived from mobile UX, designers can also optimize the usability on fixed computers.

- **A customer engagement strategy:** From this perspective, mobile first turns from the requirements of the devices to the specificity of mobile as a channel. Geoffrey Moore argues that mobile computing enables the transition from “systems of record” (established enterprise applications and repositories) to “systems of engagement.”¹³ In contrast to the “browse now, act later” character of the internet for most of its 20-year history, mobile systems of engagement aim to address (and even anticipate) needs and desires with an immediacy and contextual relevance that is far more likely to result in a favorable response by consumers or constituents.

Does the mobile channel take priority?

In light of the astonishing adoption metrics and the perceived advantages of mobile interaction, many observers see a decisive shift from desktops and



laptops to the mobile channel. On this view, “fixed” websites are fast becoming relics of a bygone era, and successful companies will have to become obsessed with the mobile channel. “We are entering a post-PC era,” said Steve Jobs in 2010 with the introduction of the iPad.¹⁴ “The web is dead,” announced an infamous cover story in Wired Magazine a few months later, arguing that the web browser (as well as web browsing) has been swamped by apps, proprietary platforms, peer-to-peer networks, and other “walled-garden” systems.¹⁵

More recently, the investor MG Segler began a blog post by writing “Mobile” 740 times in a row and asking, “It’s obvious, right?” “I now dread using my computer,” he continued, “The value of the desktop web is increasingly an illusion. Given the rate at which [...] mobile devices are improving, a plunge is rapidly approaching.”¹⁶

The error of picking channel “winners”

The enthusiasm for mobile computing is obviously genuine and constitutes an immensely powerful force for innovation and transformation. Nevertheless, reports of the death of the PC and the fixed web are greatly exaggerated. The argument for the priority of the mobile channel overlooks at least three crucial factors:

- **Mobile device development is in its infancy:** Smartphones and tablets have proven capable

of supplanting PCs for some tasks, but they are still early forms of mobile computing platforms. For example, browser-capable “smart watches” and wearable screens like Google Glass are already just around the corner.¹⁷ The ongoing – and unpredictable – development of devices will constantly create new capabilities, as well as new limitations, that cannot be accommodated by a simple mobile-device-versus-PC dichotomy.

- **The platform is often dictated by the task:** PCs continue to have the right functionality and form factor for many common tasks. The mobile app for Abu Dhabi International Airport, for example, supports onsite tasks like locating a parking space and consulting a map.¹⁸ Tasks requiring more time and research, however, are more appropriate for the complete web site. Or again, it’s hard to imagine that MG Segler would enjoy creating slide presentations or working on spreadsheets without a PC.
- **Mobile is not pervasive, and it won’t be soon:** For all of the dramatic growth, mobile devices accounted for little more than 10% of all internet traffic in mid-2012.¹⁹ Even the impressive numbers for customer interactions over mobile from the TCS report cited earlier (today ranging from 22% to 48%) tell a different story when we look at the projections for 2015 – namely a low

“Reports of the death of the PC and the fixed web are greatly exaggerated.”



of 39% in North America up to 59% in Asia Pacific. That implies, first, a dramatic slowdown in the growth rate of mobile interactions – Asia Pacific, for example, increases just eleven percentage points between 2012 and 2015 after a meteoric rise since the introduction of the smart phone. Second, these projections mean that a significant 40% to 60% of customer interactions will still take place on non-mobile channels in 2015.²⁰

The mobile shift does not mean that the rest of the world ceases to exist. Consumers love mobile access and apps, but they still visit websites on adult-sized displays, interact with brands on social sites, and even use their smart phones to make an actual phone call to customer service. In terms of a comprehensive customer experience, in other words, it is folly to shift too much attention to the mobile channel at the expense of other touchpoints.

The True Meaning of the Mobile Shift is Ubiquitous Access

Stunned by mobile adoption rates, and mesmerized by the sophistication and convenience of smartphones and tablets, we think of the mobile shift as a movement away from one type of computer and delivery channel to another. The debate between the proponents of mobile primacy and the advocates of channel parity is largely about the *extent* to which these new handheld devices will supplant older, larger, types of computers – and the effect this could and should have on the content that is delivered and the interactions that are managed through this channel.

In other words, both parties in the debate tend to treat channels as competing silos and device choice as a zero sum game. If mobile adoption is exploding, we must be in a post-PC era. If apps are popular, the web must be dead. But the introduction of mobile into the established PC and web world is not simply the addition of yet another channel option that must compete for limited attention. Unlike laptops, which usually displace desktop PCs, and cell phones, which have gradually replaced landlines, mobile devices *expand*

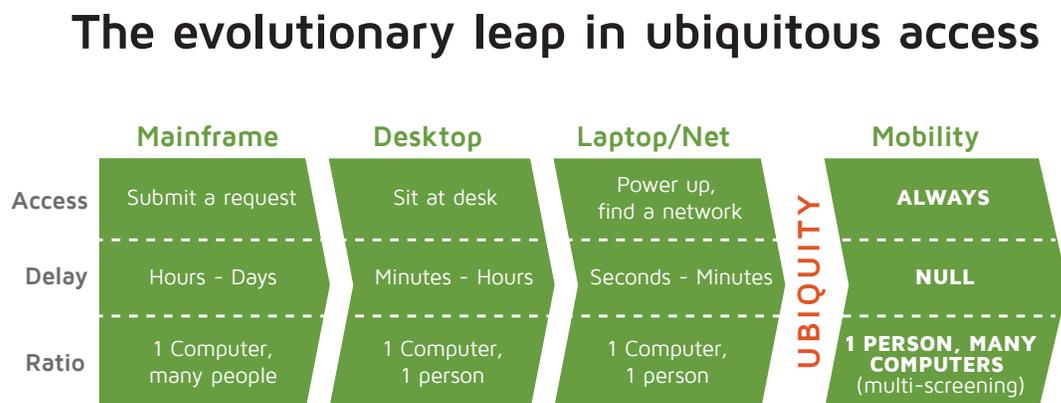
opportunities for computer usage and media consumption.

In short, the mobile shift is not about the shift *to* mobile devices from fixed PCs. It is, rather, about the shift *from* fixed and restricted access to computing services to *ubiquitous access*. (See Figure 2.)

While ubiquitous access to computing services – that is, digitalized information, interactions, relationships, and functionality – was launched and initiated by “always on” mobile devices, it is not restricted to them. On the contrary, as numerous studies on “multi-screen” habits have shown, ubiquity means not only moving seamlessly between different devices but also using several devices simultaneously.²² Indeed, ubiquity means that the inherent nature of the internet can finally be realized, forty years after the development of the internet protocol – not just networked machines but fully networked, plugged-in humans and societies.²³

Mobility initiates ubiquity. This is the true import and

Figure 2





impact of the mobile shift. No doubt, we are only at the very beginning of this new stage of development. We can foresee how ubiquity will grow in the near term, with RFID (Radio Frequency Identification), smart appliances, wearable computers, etc. But the truly profound impacts remain hidden by the ever-accelerating pace of change and the unpredictability of adjacent possibilities. Nevertheless, mobile should not be seen as the “flavor of the day” that will soon enough be superseded by web TV or Google Glass – because if and when such things do become established, they will only add to the “1 person, many computers” paradigm at the base of ubiquity.

“ Mobile is a verb. It’s not a thing, but an action. It’s you as a person who [is] mobile, and we are mobile because we use different devices, in different locations, in different modes every day. ” ²¹ (Thomas Baekdal)

Conclusion

Ubiquitous access and the well-documented appetite for using multiple screens and device types both sequentially and simultaneously bring peace to the winner-takes-all hardware wars favored by the proponents of mobile device primacy. And these same phenomena rattle the complacency of the advocates of channel parity. Mobile is (in a limited sense) a channel. But it is not “just another channel,” because ubiquity imposes the need to erase the distinctions between channels and modes of interaction. As we enter the era of ubiquitous computing, winning brands will offer *transparently de-channeled* customer experiences. To achieve this goal, organizations must:

- **Ramp up mobile skills without losing sight of the multi-device reality.** Marketing professionals know very well that they lack expertise in the new realm of mobile customer experience. In a 2011 survey by Forrester, 93% of customer experience professionals said that a mobile CX strategy is a priority.²⁴ But marketers must avoid treating mobile as a silo and face up to the even greater challenge of creating multi-channel, multi-device, multi-screen experiences. As Thomas Baekdal notes, creating a customer experience for a single channel “is like creating a car that can only be used on highways.”²⁵
- **Invest in high-value relationships and transactions.** Even with recognition of the multi-channel imperative, marketers still have a “media buy” mentality – and with good reason, since it is impossible (and foolish) to invest in all touchpoints equally. But investment decisions should be based not on channels but on

task orientations, and the relative value to the consumer (and thus, to the organization) of easily accomplishing a particular goal. A given task flow may require supporting a consumer across multiple devices over days or weeks, including non-digital channels such as print magazines or call centers.

- **Create a solid but flexible content foundation.** Content remains the key to multi-device customer experience and web content management (WCM) solutions are at the heart of the supporting software ecosystem. Organizations must build very solid and scalable content platforms that are still flexible enough to respond to rapid changes in engagement strategies, device requirements, and market opportunities. Organizations should plan for software solutions, business processes, vendor relationships, and agency partnerships that enable immediate insights into changing demands and rapid, agile adjustments in digital services.

Endnotes

- 1 As forecast by BI Intelligence, based on cited sources and BII predictions. Available at (requires subscription): <https://intelligence.businessinsider.com/global-internet-device-shipments-forecast>.
- 2 In September 2012 IDC forecast tablet sales of 261.4 million units in 2016. Article available at: <http://www.bizjournals.com/sanjose/news/2012/09/20/tablet-sales-forecast-rises.html>
- 3 DCG projections based on named sources. Note that even this number does not take into account the impact of known new mobile devices such as web-enabled watches and wearable screens such as Google Glass.
- 4 See the August 27, 2012 blog post, “iOS and Android Adoption Explodes Internationally,” available at: <http://blog.flurry.com/bid/88867/iOS-and-Android-Adoption-Explodes-Internationally>.
- 5 The assertion about smartphone computing power compared to NASA was made by Intel CEO Paul Otellini in January 2012. See <http://forwardthinking.pcmag.com/ces/292745-intel-enters-smartphone-chip-race-for-real>. For an informed discussion of the merits of this claim, see <http://www.eng-tips.com/viewthread.cfm?qid=321038>.
- 6 A comparison of the sales history of iPod, iPhone, and iPad is available at: <http://aaplinvestors.net/stats/iphonesipod/>.
- 7 For a discussion of iPads as a “third device” for mobile professionals, see <http://www.eweek.com/c/a/Messaging-and-Collaboration/Apple-iPad-is-a-Go-For-The-Mobile-Enterprise-737258/>. Compare Forrester’s blog post from March 2012, http://blogs.forrester.com/ted_schadler/12-03-07-apples_new_ipad_in_the_enterprise_laptop_replacement_gets_closer.
- 8 See Tata Consultancy Services’ September 2012 report, “The New Digital Mobile Consumer: How Large Companies Are Responding.” Available at www.tcs.com/digitalstudy.
- 9 See the September 2012 McKinsey Quarterly article, “Mobility Disruption: A CIO Perspective.” Available at (may require registration): https://www.mckinseyquarterly.com/Business_Technology/BT_Strategy/Mobility_disruption_A_CIO_perspective_3019.

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- 10 Luke Wroblewski's first blog post on mobile appeared in November 2009. See <http://www.lukew.com/ff/entry.asp?933>. His book on the topic was published in 2011. See <http://www.abookapart.com/products/mobile-first>.
 - 11 A variation of the mobile first design philosophy is called "320 and Up," with reference to the 320 pixel screens on some smart phones. The 320 and Up design template was developed by Andy and Sue Clarke of the design firm Stuff & Nonsense. See <http://stuffandnonsense.co.uk/projects/320andup/>.
 - 12 For an example of how mobile app user experiences have influenced web site designs, see <http://designmodo.com/web-appification/>.
 - 13 The white paper "Systems of Engagement and the Future of Enterprise IT," written by Geoffrey Moore for AIIM, was released in 2011. Available at: <http://www.aiim.org/futurehistory>.
 - 14 See the March 5, 2011 blog post, "Apple Moves Us Into The Post-PC Era." Available at: <http://www.myfavoriteapple.com/apple-moves-us-into-the-post-pc-era/>.
 - 15 The lead article for Wired Magazine's September 2010 edition is "The Web Is Dead: Long Live The Internet." Available at: http://www.wired.com/magazine/2010/08/ff_webrip/. For a detailed discussion and counterpoint, see http://voices.washingtonpost.com/fasterforward/2010/08/no_wired_the_web_is_not_dead.html.
 - 16 MG Segler, <http://massivegreatness.com/mobile> September 20, 2012.
 - 17 For one example of the emerging "smartwatch" technology, see <http://www.getinpulse.com/>. Wikipedia calls Google Glass an "augmented reality heads up display." See http://en.wikipedia.org/wiki/Project_Glass.
 - 18 For more information about the Abu Dhabi airport app, see <http://www.abudhabiairport.ae/english/airport-information/mobile-website/>.
 - 19 Mary Meeker, "Internet Trends," presented at the D10 Conference on May 30, 2012. Available on SlideShare at: <http://www.slideshare.net/kleinerperkins/kpcb-internet-trends-2012>.
 - 20 See Econsultancy's September 2012 article on why Spotify, the mobile music service, decided to create a browser-based version. As the author notes "despite all of the opportunity in mobile, the web continues to evolve and there is



often real value in creating compelling web experiences, even if you start with mobile.” Available at: <http://econsultancy.com/de/blog/10668-as-more-companies-shift-to-mobile-spotify-discovers-the-web>.

- 21 See Thomas Baekdal’s October 23, 2012 blog post “It’s a Mobile + Multi World.” <http://www.baekdal.com/insights/its-a-mobile-multi-world>.
- 22 See for example the August 2012 Google report (in conjunction with Sterling Brands and Ipsos), “The New Multi-Screen World.” Available at: <http://www.thinkwithgoogle.com/insights/library/studies/the-new-multi-screen-world-study/>.
- 23 To be sure, the idea of ubiquitous computing is older than the iPhone, and encompasses more than the convenience of always-on web and app access. As first formulated by Mark Weiser at Xerox PARC in 1988, the broader concept of ubiquitous computing envisions an “internet of things” in which everyday objects are digitally aware and capable of communicating with each other. Still, the basic concept of ubiquity is already fulfilled with mobility as we know it today. The urban professional with a laptop, a smart phone, and a tablet – as well as a networked home music system and a smart TV – may seem remarkable to those old enough to remember phones with cords and floppy disks, but s/he embodies the paradigm of “one user, many devices” long ago dictated by the proponents of ubiquitous computing. See http://en.wikipedia.org/wiki/Ubiquitous_computing.
- 24 Source: Meagan Burn’s May 1, 2012 Forrester blog post, “Customer Experience Programs Need To Move From Talk To Action.” Available at: http://blogs.forrester.com/megan_burns/12-05-01-customer_experience_programs_need_to_move_from_talk_to_action.
- 25 Thomas Baekdal’s blog and associated reports are a rich source of insights on mobile and larger digital marketing challenges. See <http://www.baekdal.com/insights/defining-a-market-in-the-connected-world-you-are-not-in-kansas-anymore/>.



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