Customer Experience In The Post-PC Era

by Tony Costa, April 12, 2013

Traditional Interaction Models Are Poised To Fail In The Post-PC Era
Ubiquitous wireless connectivity and the proliferation of mobile devices have fundamentally changed the way customers engage with products and services. Companies can no longer assume that traditional approaches to experience design are viable.

Post-PC Experiences Are Natural, Adaptive, And Anticipatory
In the post-PC era, customers expect experiences to provide services aligned with their needs and abilities, in the right context. To deliver on this, experiences need to become natural, adaptive, and anticipatory.

Successful CX Teams Prioritize Technologies That Cede To Human Needs
Throwing emerging technologies at consumers is a strategy destined to fail. Rather, CX teams need to adopt a new mindset that prioritizes technologies based on their ability to satisfy unmet user needs rather than replicate existing solutions.
Customer Experience In The Post-PC Era

by Tony Costa
with John Dalton and Andia Vokshi

WHY READ THIS REPORT

The rapid consumer adoption of mobile devices, new interfaces, and the changing behaviors they encourage have fundamentally changed how customers engage with companies. Gone are the days when companies could assume PC-based interactions and undivided attention. In the post-PC era, customers expect experiences to come to them — regardless of which device (or devices) they are using — and to provide services aligned with their needs and abilities, in the moment. In this report, we explore how consumer experience expectations have changed and why companies need to deliver experiences that are natural, adaptive, and anticipatory. Further, we address the need for customer experience designers to adopt a new mindset focused on aligning new technologies with user needs, and we provide examples of how designers are doing this with natural language and spatial gesture technologies.

Table Of Contents

2 Mapping A Customer Journey? Detours Ahead
5 Welcome To Customer Experience In The Post-PC Era
10 To Succeed In The Post-PC Era, A New Mindset Is Required

RECOMMENDATIONS
12 Prepare For Customer Experiences In The Post-PC Era

WHAT IT MEANS
13 Design Rules The Post-PC Era
15 Supplemental Material

Notes & Resources

Forrester interviewed 24 vendor and user companies, including Critical Mass, Expect Labs, IBM Research, Immersion, Intel Labs, InvenSense, Leap Motion, Maluuba, Microsoft, Movea, N-trig, Nuance Communications, Oblong Industries, Playcast Media, PrimeSense, Recon Instruments, Rosetta, SapienNitro, SoftKinetic, Strategic Polymer Sciences, Taptera, ThoughtWorks, Tobii Technology, and USAA.

Related Research Documents

Contextualization
November 19, 2012

Executive Q&A: Customer Experience Design
June 22, 2012

The Future Of Mobile Experiences Is Context
October 26, 2011

KEY TAKEAWAYS
MAPPING A CUSTOMER JOURNEY? DETOURS AHEAD

Ubiquitous wireless connectivity and the proliferation of mobile devices have fundamentally changed the way customers engage with products and services. Rather than participate in discrete single-channel interactions, today’s customer journey involves:

■ **Multiple devices.** Customers rely on a growing arsenal of networked devices to get things done (see Figure 1). Two-thirds of US online adults (ages 18 or more) own two or more types of Internet-connected devices, and nearly a third own three or more. What’s more, they no longer turn to one device to accomplish their goals. According to Google, 38% of customers who start planning a trip on a PC or laptop continue the activity on a smartphone or tablet; 34% who start watching a video on a laptop or desktop resume their viewing on a smartphone or tablet (see Figure 2).

■ **Multiple locations.** Accessing the Internet is now more common in living rooms and bedrooms than in the office or at work for Net-savvy adults in the US, and usage in the kitchen is not far behind (see Figure 3). Further, significant numbers of consumers are now accessing the Internet outdoors, while traveling or commuting, or in restaurants.

■ **Multiple activities.** From watching TV to driving a car, multitasking is on the rise. Seventy-four percent of mobile phone owners and 18% of tablet owners say that they use their devices to access the Internet in the car. Eighty-four percent of tablet owners say that they use their tablets while they’re watching TV. Fifty-seven percent of smartphone usage time is spent while a consumer is interacting with either a TV or a desktop PC.

---

**Figure 1** Adoption Of Internet-Connected Devices Expands To Include New Devices

<table>
<thead>
<tr>
<th></th>
<th>Laptop/netbook</th>
<th>Desktop</th>
<th>Smartphone</th>
<th>Tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 ownership</td>
<td>69%</td>
<td>65%</td>
<td>47%</td>
<td>19%</td>
</tr>
<tr>
<td>Percentage-point change from 2011</td>
<td>+7%</td>
<td>+2%</td>
<td>+8%</td>
<td>+11%</td>
</tr>
</tbody>
</table>

Base: 57,499 US online adults (ages 18+)

Source: North American Technographics® Online Benchmark Survey (Part 1), Q2 2012 (US, Canada); North American Technographics Online Benchmark Survey, Q3 2011 (US, Canada)
**Figure 2** Internet Use Is Happening In More Locations Than Ever Before

Source: "The New Multi-Screen World," Google, August 2012

Source: Forrester Research, Inc.
**Figure 3** Interactions Are Fragmenting Across Multiple Internet-Connected Devices

**“Where do you access the Internet on your . . . ?”**

<table>
<thead>
<tr>
<th>Location</th>
<th>Tablet Access</th>
<th>Smartphone Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living room</td>
<td>72%</td>
<td>67%</td>
</tr>
<tr>
<td>Bedroom</td>
<td>63%</td>
<td>65%</td>
</tr>
<tr>
<td>Kitchen</td>
<td>40%</td>
<td>53%</td>
</tr>
<tr>
<td>Home office</td>
<td>26%</td>
<td>31%</td>
</tr>
<tr>
<td>Car</td>
<td>48%</td>
<td>74%</td>
</tr>
<tr>
<td>Public transit</td>
<td>51%</td>
<td>68%</td>
</tr>
<tr>
<td>Daily commute</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>In stores</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>School</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>Work</td>
<td>20%</td>
<td>26%</td>
</tr>
<tr>
<td>Friend’s house</td>
<td>28%</td>
<td>34%</td>
</tr>
<tr>
<td>Restaurant</td>
<td>30%</td>
<td>65%</td>
</tr>
<tr>
<td>Outdoors</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Outdoors</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Friends’ house</td>
<td>28%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Living room</td>
<td>72%</td>
<td></td>
</tr>
</tbody>
</table>

Base: 3,668 US online adults (ages 18+) who own a tablet and go online on a tablet weekly or more often (multiple responses accepted)

Base: 11,094 US online adults (ages 18+) who own a smartphone and go online on a smartphone weekly or more often (multiple responses accepted)

*Source: North American Technographics® Online Benchmark Survey (Part 2), Q3 2012 (US, Canada)*
Traditional Interaction Models Have Run Out Of Gas

Rapidly evolving interactions of this complexity pose serious challenges for customer experience professionals striving to satisfy today’s consumer. The sobering new reality:

- **The desktop is no longer center stage.** Long the dominant interaction model for digital experiences, the desktop — replete with its folders, trash can, and static user comfortably seated at her workstation — is quickly losing relevance. In its wake, firms must cope with nomadic customers demanding targeted content anytime, anywhere, and on multiple devices.

- **Screens are shrinking — and disappearing.** Diminutive screens — 3.5 to 5 inches for smartphones and 7 to 10 inches for tablets — are now the norm for millions of consumers. That’s a drastic reduction in real estate from the typical 13-to-20-inch monitor. And a new generation of devices, including the Pebble watch, Fitbit, and Jawbone Up, has even smaller displays, or none at all. In this context, familiar navigation and input methods well suited for large stable screen sizes, such as left-hand navigation, rollover menus, and form-based data entry, make no sense.

- **The keyboard and mouse are not long for this world.** Surging sales of touchscreen-enabled smartphones and tablets are eclipsing desktop PCs and laptops. In 2012, smartphones outsold desktop PCs for the first time, and shipments of tablets in 2013 are expected to surpass sales of laptops. As a result, clicking on links and typing is quickly giving way to tapping, pinching, touching, and throwing content. Other interfaces such as touchless gesture and voice, popularized by the Kinect for Xbox 360 and Apple Siri, continue to gain traction. Already, 19% of US online consumers who own an Xbox 360 have used Kinect’s gesture capabilities to manipulate content, like scrolling through movies on Netflix.

WELCOME TO CUSTOMER EXPERIENCE IN THE POST-PC ERA

The rapid adoption of mobile devices, new interfaces, and the changing behaviors they encourage mark the dawn of a new age in customer experience. In the PC era, customers went to a computer to access content that was mediated through a host of peripherals, controls, menus, and navigation elements, forcing customers to adapt their abilities to those of the technology. In the post-PC world, customers expect computers to come to them and provide services aligned with their needs and abilities, in the moment. These emerging interactions are:

1. **Natural.** The rise of new interfaces such as touchscreens, motion sensors, cameras, and microphones — available on virtually every smartphone and tablet — narrows the gap between intuitive human communication skills and networked resources.

2. **Adaptive.** Unprecedented access to services via the cloud and an expanding ecosystem of consumer devices mean that customers expect services to be universally available, accommodating their shifting behaviors and device choices.
3. **Anticipatory.** Mobile behaviors are inherently staccato, with customers dipping in and out of applications throughout the day. Successful next-generation experiences must reliably appreciate the customer’s changing context for each interaction, respond appropriately, and learn to anticipate future needs.

### 1. Natural Interfaces Redefine Good Design

Time-honored traditions in user interface design — menus, buttons, and page-based layouts — no longer cut it in the post-PC era. Today, interfaces are dissolving into the experience, generating interactions that are:

- **Direct.** Accessing content once required browsing menu options and carefully selecting a link. But with touchscreens, the content is the interface. To open, close, or change views in Flipboard, Pinterest, and thousands of other popular applications, customers only need to tap or swipe what they see on the display. To stay abreast of this innovation, Microsoft recently scrapped decades of Windows GUI design heritage in favor of a more progressive touch-centric UI in its newest operating system, Windows 8.

- **Multisensory.** Android and iOS have expanded the range of human-computer interactions to include speech, video, touch, and gesture — often integrated together in a single multisensory experience. Customers can make navigation requests using their voice and receive turn-by-turn directions that are both visual and prompt the customer with auditory cues at the appropriate time. Motion sensors, initially included to detect device orientation, now include multiaxis gyroscopes that completely change the dynamics of completing a task. Samsung’s Smart Motion Gestures lets customers mute their phone and answer calls by raising the device or flipping it over. Want to undo typing on an iPhone? Shake it.

### 2. Adaptive Services Build Trust And Expand Reach

As customer interactions fragment across devices, services must perform reliably across an expanding interface landscape that includes PCs, laptops, smartphones, tablets, and, increasingly, TVs and cars. To maintain relevance and credibility with the connected consumer, firms must build experiences that are:

- **Polymorphic.** Making experiences available across multiple devices is already table stakes. The popular note-taking service Evernote, for example, is available on nearly every device and platform combination in use. The new frontier is designing experiences that transform themselves to take advantage of simultaneous multiple-device usage (see Figure 4). Electronic Arts’ Scrabble for the iPad connects up to four iPhones, letting players use their iPhone to manage tiles and flick letters to the game board. Similarly, Xbox SmartGlass lets viewers control what they’re watching on TV while reading interactive commentary on a tablet at the same time.
■ **Persistent.** Designing experiences that remember a customer’s prior interactions and let her resume those tasks on different devices, at different times, is a mark of application maturity (see Figure 5). Gaming services such as OnLive have set a high standard for this kind of performance. But they’re not alone — Amazon.com Kindle, Microsoft Office 365, and Netflix also let customers pick up reading, editing, or viewing content on another device. Cloud-based virtual assistants from Artificial Solutions and Nuance push the notion of persistence even further by letting customers make a voice query on one device and then continue the interaction on another, all while maintaining context.

*Figure 4* Gaming And Media Apps Lead The Way Toward Polymorphic Experiences

**Xbox SmartGlass** acts as a smart remote control — letting you browse content, control what you are watching, and access interactive companion guides and behind-the-scenes commentary for programs while they are being watched.

![Xbox SmartGlass](image)

**EA’s Scrabble for the iPad** connects to up to four iPhones running the Tile Rack app. Players can then use their iPhones to manage their tiles, flick letters from their iPhones to the iPad game board, and check words in the built-in dictionary.

![EA’s Scrabble for the iPad](image)

**Apple AirPlay** enables games such as MetalStorm: Wingman to be controlled from an iPhone, iPad, or iPod touch while the action unfolds on your widescreen TV.

![Apple AirPlay](image)

Source: Microsoft; Electronic Arts; Apple

Source: Forrester Research, Inc.
3. Anticipatory Experiences Drive Meaningful Engagement

As consumers adjust to post-PC realities, they expect companies to provide the right mix of content and functionality at the right time and right place. To achieve this level of performance, experiences must be:

- **Contextual.** Mastering context requires understanding how to map functionality to what people are most likely to need at a specific moment and place. Wal-Mart’s latest iPhone app features a “store mode” that reveals features such as in-store product searches, an interactive map, and promotional information that are only relevant when you enter a physical store. Tempo AI, a calendar application, takes this principle a step further by automatically dialing conference call phone numbers and pass codes, retrieving documents and emails related to the meeting, and giving the option to send a “running late” text message or email to fellow meeting attendees with the touch of a button (see Figure 6).
Proactive. Already, popular health apps such as BodyMedia Fit anticipate when end users are slacking off and recommend alternative activities to put them back on track. But more sophisticated proactivity, built on big data analytics and artificial intelligence, is on the way (see Figure 7). Expect Labs’ MindMeld video chat app continually listens to your conversation, extracting key concepts that it can use to find and display relevant images, videos, articles, and documents on the participants’ tablet or laptop screen — in real time. For example, while talking about Napa Valley with a friend, MindMeld might pull up winery tour info, weather forecasts, vacation deals, maps, and other appropriate content.

Figure 6 Tempo Improves On Traditional Calendars By Providing Context-Relevant Features

Tempo recognizes conference calls and dials both the phone number and the pass code with one tap.

When you’re running behind, Tempo makes sending a “running late” email or text message to attendees as easy as pressing a button.

Tempo not only provides directions to your meeting but also will help you find parking nearby.

Source: Forrester Research, Inc.
Figure 7 Proactive Apps Use Artificial Intelligence And Data Analytics To Anticipate Needs

BodyMedia FIT Feedback analyzes your calorie burn and food log data to predict whether you are behind or on track to meet your daily goals. If you are behind, it provides you with personalized feedback on how to reach your goals.

Google Now

Google Now not only tells you when and how to get to your next appointment but also will check the traffic and send you a notification for when you should leave to arrive on time.

Expect Lab’s MindMeld continually finds images, videos, articles, and documents for you by listening to your conversations and identifying the key concepts and meaning of your conversations.

Source: BodyMedia website (http://www.bodymedia.com/About-Us/Press-Kit); Google website (http://www.google.com/landing/now/#tab=next-appointment); MindMeld website (http://www.expectlabs.com/press/)

TO SUCCEED IN THE POST-PC ERA, A NEW MINDSET IS REQUIRED

The velocity and variety of interface innovations hitting the market today mean that customer experience designers can no longer assume that what has worked in the past is relevant today. Case in point: The new Samsung Galaxy S4 includes a feature that pauses a video as soon as the phone’s sensors detect that the viewer’s eyes have moved off-screen — the app conforms to the body’s
cues, not vice versa. Even mainstream titan The New York Times has proposed a post-PC redesign that sports an interface completely stripped of chrome, offering readers the satisfying sensation of “grabbing” content they want as soon as they see it.\(^{10}\)

In the PC era, firms facing such a tsunami of technology options would routinely buy the latest gear and throw it over the transom, hoping for applause. The result: swollen feature sets and crippled experiences.\(^{11}\) But as customers grow accustomed to natural, adaptive, and anticipatory interactions in the post-PC era, a more targeted approach is required. To thrive in this new age, customer experience teams must prioritize technologies that cede to human needs, as illustrated by recent applications of speech and spatial gesture technologies.

**Voice Interfaces Speed Direct Access To Content**

Like so many innovative technologies new to the market, speech-driven interfaces initially sought to replicate or supplant familiar tools such as desktop navigation menus and keyboards. The results were disappointing. But with the introduction of Apple Siri, customers encountered a playful voice interface that has no interest in parroting familiar interaction models. Instead, it encourages behaviors for which the technology is well suited: short simple dialogues. When implemented correctly, speech-driven interfaces:

- **Simplify navigation.** Speech interfaces excel at cutting through layers of navigation to provide direct access to key functionality and content. Taptera’s Sophia voice interface for salesforce.com lets sales reps update contact info and meeting notes during the small windows of time they have between appointments without having to manually search for clients and fill out forms. Apple Siri and Google Now help customers play music, open apps, and call someone without forcing them to manually navigate their phones.

- **Accelerate common tasks.** Beyond cutting through navigation kudzu, speech technologies also accelerate the completion of common well-defined tasks. For example, with Google Now, customers can simply say, “Create a reminder to call John Doe on Friday at 9 a.m.” to update their calendars. Market giants such as E-Trade, priceline.com, and USAA are working with firms such as Ask Ziggy and Nuance to embed similar virtual-assistant capabilities into their mobile applications.\(^{12}\) Companies are even using voice to automate the authentication process. Turkcell — Turkey’s largest mobile provider — uses voiceprints to streamline the login process to 5 seconds, eliminating tedious manual pass-code entry while maintaining 99.6% accuracy.\(^{13}\)

**Spatial Gestures Make Experiences More Contextual And Multisensory**

Gesture is as essential to communication and cognition as speech.\(^{14}\) Touchscreens have already replaced the mouse with a richer variety of gestural inputs, including tapping, pinching, and swiping. But a new category of spatial gesture vendors, such as Elliptic Labs, Leap Motion, oblong industries,
PrimeSense, and SoftKinetic expand gesture beyond the touchscreen and fingertips to include whole hands — even the entire body. While gaming solutions such as the Kinect for Xbox 360 popularized the technology, other industries are rapidly adopting spatial gesture to:

- **Enable high-value, low-attention interactions.** Not all important tasks should require the customer’s full focus to be performed. Playing a song and sending a call to voicemail, though commonly performed actions, should not consume much thought — nor distract customers from their main objective. Samsung’s recently announced Galaxy S4 includes Air Gestures that lets you answer calls or switch browser tabs with the flick of the wrist. Similarly, Android app Wave Control Pro lets you control media without looking at or navigating a UI — simple hand motions activate a range of functions such as skipping tracks or adjusting the volume.

- **Create truly immersive experiences.** For the launch of the 2013 Nissan Pathfinder at the 2012 Chicago Auto Show, Critical Mass and development partner IdentityMine built Nissan a Microsoft Kinect for Windows-powered experience that let prospective customers use hand and body motions to explore the dashboard, seating capacity, and exterior features of the vehicle before it was available. According to John Brancheau, vice president of marketing at Nissan North America, engaging and immersive first-person experiences such as this “enhance the act of discovery and generate excitement about new models before they’re even available.”

---

**RECOMMENDATIONS**

**PREPARE FOR CUSTOMER EXPERIENCES IN THE POST-PC ERA**

The challenges customer experience professionals face in the post-PC era are daunting and will require learning new skills, rethinking approaches, and organizing for success. To do this, even leading customer experience professionals need to:

- **Invest heavily in mobile user experience and design.** Investing in mobile isn’t just about mobile apps; it’s about understanding how consumer expectations for accessing services and engaging with brands are changing. According to Wal-Mart, “Mobile is not purely for driving transactions online. We think of mobile as the glue that binds our online and offline channels together to provide a seamless experience to our customers anytime and anywhere at the tap of a finger.” Insights gained here will be critical to making the strategic and organizational changes needed to compete successfully in the post-PC era. Companies that fail to invest in mobile risk suffering the same fate as Borders — a company that failed to invest in and understand the implications of the last big technology transition.

- **Beef up contextual analysis and understanding.** Few companies truly understand how deeply post-PC behaviors will affect their mobile experiences. When Flipboard ported its app to the iPhone, its designers knew that the usage patterns would be different — iPad
users have long reading sessions typically in the evening, but on the iPhone, sessions would be very short and spread throughout the day. Obtaining this level of insight and factoring it into your experiences — whether it's an app or retail store — is critical in order to achieve relevance with users.

- **Expand journey maps to factor in post-PC behaviors.** As Flipboard learned, customer behaviors can change significantly when accessing a service on different devices. To account for this, develop contextual layers for your customers' journeys that force you to think about their journey through the lens of their devices, behaviors, and context of use. Look to understand how your experiences fragment across devices and how context affects experience delivery.

- **Develop a unified customer experience strategy.** Customers are interacting with companies across multiple touchpoints and expect these touchpoints to work together as part of a unified customer experience. Customer interactions should persist across touchpoints and time, letting users resume interactions regardless of where they started the interaction or when they return to it. Further, device interfaces should support and enhance one another, not be fallback options for each other.

- **Learn from market leaders.** Experience design is undergoing a fundamental transformation, making most of what designers learned (and are currently being taught) in school obsolete. Practitioners must learn from market leaders and pioneering startups such as Mailbox and Tempo AI that are in tune with customer needs and expectations. This is time for Agile development, quickly iterating solutions, failing fast, and quickly learning from mistakes.

---

**WHAT IT MEANS**

**DESIGN RULES THE POST-PC ERA**

In the years to come, technology will embed itself even deeper into our daily lives, becoming more natural, adaptive, and anticipatory. We have seen a number of changes happen already, but the macro-effects have yet to be fully realized. In the coming years, we'll experience a future where:

- **Responsive design is dead.** Responsive design operates under the flawed assumption that customers want the same basic experience everywhere and on every device. They don't. They want experiences that take into consideration their context and even take advantage of the other devices in their presence. The mobile experiences that Mercedes-Benz provides when you are driving your car, are having your car serviced, have broken down on the side of the road, or are in a competitor's showroom beg to be different. Delivering meaningful experiences rests on delivering multiple contextually bound experiences, not just rescaling the same experience.
- **The next Bill Gates will be a UI designer.** Dropbox reportedly paid $100 million for Mailbox, a 13-person startup that recently launched its first product — an email client with a clever interface. And just last year, Facebook purchased photo sharing site Instagram for $1 billion. These high-profile acquisitions are notable in that they were acquired not for their technology but for their ability to create experiences that millions of users love. In a time when you can hire a handful of engineers to build just about anything you want, value shifts from what is possible to what is desirable. If you doubt this is true, just look at Google Glass. The technology was the easy part; turning it into an experience that mainstream customers want is turning out to be the hard part.

- **The notion of personal agency gets hairy.** Samsung recently called the Galaxy S4 a “life companion.” This is a testament to just how deeply we have let technology embed itself into the fabric of our lives. Technology is no longer a bystander; it’s a vital participant in how we live our lives and make decisions. Therein lies the rub — as we come to trust technology to make decisions for us, those decisions can have complications far greater than deleting your “lolcats” folder. Who is accountable when intelligent agents suggest you reinvest your retirement savings in unstable companies, a software bug tells you to stop taking your medication, or you take the wrong road into a life-threatening area of the Australian outback? Expect a landslide of litigation as individuals, governments, and corporations try to sort out the mess.

- **Post-PC technology reinvents healthcare.** The failure of US patients to take medications is estimated to cost $300 billion a year. Sensors and connected devices are enabling the emergence of proactive experiences that are capable of taking actions to ensure patients are adhering to prescribed treatment regimens. These experiences will go beyond just reminding patients to take medications. By monitoring and analyzing their behavior, changes in interaction patterns, and daily health data (weight, glucose levels, heart rate, etc.), algorithms can detect early signs of worse things to come, turning what would be an emergency room visit into a preventative care checkup. The impact on our healthcare system will be enormous, saving billions of dollars and transforming the way we deliver, manage, and prevent sickness.

- **The value of craft returns.** Natural interfaces are pushing the creative process off the desktop and into the hands (literally) of animators, architects, artists, and designers. As it does, the technological barriers that once inhibited old-school creative professionals — trained in craft-based methods that took decades to master — from realizing their vision go away. Further, natural interfaces will challenge younger creatives who lack the fine motor skills and years of practice in manipulating materials and forms by hand.
SUPPLEMENTAL MATERIAL

Companies Interviewed For This Report

Critical Mass
Expect Labs
IBM Research
Immersion
Intel Labs
InvenSense
Leap Motion
Maluuba
Microsoft
Movea
N-trig
Nuance Communications

oblong industries
Playcast Media
PrimeSense
Recon Instruments
Rosetta
SapientNitro
SoftKinetic
Strategic Polymer Sciences
Taptera
ThoughtWorks
Tobii Technology
USAA

Methodology

Forrester conducted the North American Technographics Online Benchmark Survey (Part 2), Q3 2012 (US, Canada), fielded in May and June 2012 of 30,978 US and 2,032 Canadian online adults ages 18 to 88. For results based on a randomly chosen sample of this size (N = 30,978 [US]; N = 2,032 [Canada]), there is 95% confidence that the results have a statistical precision of plus or minus 0.6% of what they would be if the entire population of US online individuals ages 18 and older had been surveyed and plus or minus 2.2% of what they would be if the entire population of Canadian online individuals ages 18 and older had been surveyed. Forrester weighted the data by age, gender, income, broadband adoption, and region to demographically represent the adult US and Canadian online populations. The survey sample size, when weighted, was 30,549 in the US and 1,905 in Canada. (Note: Weighted sample sizes can be different from the actual number of respondents to account for individuals generally underrepresented in online panels.) Please note that this was an online survey. Respondents who participate in online surveys generally have more experience with the Internet and feel more comfortable transacting online. The data is weighted to be representative of the total online population on the weighting targets mentioned, but this sample bias may produce results that differ from Forrester’s offline benchmark survey. The sample was drawn from members of MarketTools’ online panel, and respondents were motivated by receiving points that could be redeemed for a reward. The sample provided by MarketTools is not a random sample. While individuals have been randomly sampled from MarketTools’ panel for this particular survey, they have previously chosen to take part in the MarketTools online panel.
ENDNOTES


3 Source: North American Technographics Online Benchmark Survey (Part 2), Q3 2012 (US, Canada).


7 North American Technographics Media And Advertising Online Benchmark Recontact Survey, Q3 2012 (US).

8 For more on the concept of context and the role it plays in delivering relevant customer experiences, see the November 19, 2012, “Contextualization” report, and see the October 26, 2011, “The Future Of Mobile Experiences Is Context” report.


11 Advances in technology combined with market efficiencies are making it possible — even necessary — for products to include feature upon feature to stand out from the pack or attract savvy consumers. Yet feature bloat was already a problem for many of these products, such as DVRs and mobile phones, and products will only suffer if they descend further into a syndrome that Forrester calls “featuritis.” We recommend that companies evaluate their features with a needs-based feature assessment map that builds on Forrester’s Convenience Imperative research and its fundamental human needs model. This map will help consumer product strategists identify the features to prioritize in development and marketing. See the May 14, 2010, “Mapping Product Features To Consumer Needs” report.
The “featuritis” of traditional product design must give way to a needs-based approach in which the consumer’s deeply ingrained desire for convenient access to community, connections, unique experiences, and variety are honored above shipping technology for technology’s sake.


17 Source: Lauren Indvik, “Flipboard: Behind Mobile’s Most Beautiful Newsreading Magazine,” Mashable, June 6, 2012 (http://mashable.com/2012/06/05/flipboard-design/).


About Forrester

Global marketing and strategy leaders turn to Forrester to help them make the tough decisions necessary to capitalize on shifts in marketing, technology, and consumer behavior. We ensure your success by providing:

- Data-driven insight to understand the impact of changing consumer behavior.
- Forward-looking research and analysis to guide your decisions.
- Objective advice on tools and technologies to connect you with customers.
- Best practices for marketing and cross-channel strategy.

FOR MORE INFORMATION
To find out how Forrester Research can help you be successful every day, please contact the office nearest you, or visit us at www.forrester.com. For a complete list of worldwide locations, visit www.forrester.com/about.

CLIENT SUPPORT
For information on hard-copy or electronic reprints, please contact Client Support at +1 866.367.7378, +1 617.613.5730, or clientsupport@forrester.com. We offer quantity discounts and special pricing for academic and nonprofit institutions.

Forrester Focuses On
Customer Experience Professionals

To improve the perceived quality of customer interactions with your company, you must leverage emerging digital technologies and lead enterprise-wide customer experience transformations. Forrester helps you create forward-thinking strategies to justify decisions and optimize your individual, team, and corporate performance.

CARL ERICKSON, client persona representing Customer Experience Professionals

Forrester Research, Inc. (Nasdaq: FORR) is an independent research company that provides pragmatic and forward-thinking advice to global leaders in business and technology. Forrester works with professionals in 17 key roles at major companies providing proprietary research, customer insight, consulting, events, and peer-to-peer executive programs. For more than 29 years, Forrester has been making IT, marketing, and technology industry leaders successful every day. For more information, visit www.forrester.com.