
Digital Marketing

Opportunities for Addressing Interactive

Food & Beverage Marketing to Youth

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Last year, McDonald's transformed its popular Happy Meal website into a new online virtual world. The company worked with a number of digital advertising "hot shops" to create a compelling, immersive environment filled with an array of engaging interactive elements that have quickly become state-of-the-art in the new "digital marketing ecosystem." Children are encouraged to create their own customized avatars, play with virtual pets, and interact with characters from movies, comic books, and TV shows. They can also connect with their friends on the site's social networking platform. Through mobile applications, they can take the virtual world with them wherever they go. Codes printed on the Happy Meal boxes, bags, and toys invite kids to play interactive games, enter contests, and receive online coupons for McDonald's products. Each child can save her favorite activities in a customized "My Happy Meal" profile, "enabling the company to gather valuable data for targeting. Tapping into the wave of excitement over online political participation, McDonald's offered children the opportunity to vote on the name for the new site, which they collectively tagged "McWorld."¹ The user-generated content (UGC) campaign produced a "purchase intent" rate of 67%, and engaged 5 million individuals in more than 100 countries over a six-month period.²

Like other food and beverage companies, McDonald's has moved aggressively into digital marketing because that is where children and teens spend so much of their time. "We own a strong relationship with kids in the real world," commented a marketing executive for the fast food chain, "and we felt we could do the same in the virtual worlds that they're living in more and more."³ Even in the midst of an economic downturn, online marketing is holding steady.⁴ Many major food and beverage marketers have been increasing their interactive advertising expenditures.⁵ The next few years will witness further innovation and increasing sophistication in digital marketing, with important advances taking place in several key areas that will be discussed below. These developments will shape the growing digital marketplace, altering significantly the nature and scope of advertising, and enhancing the ability of marketers to insert their brands into the daily lives of young people.

The interactive marketplace is still in a somewhat fluid, formative stage of development. Purveyors of junk food are at the forefront of digital marketing, promoting foods that, according to the Institute of Medicine, children should avoid. Government and self-regulatory policies developed in the next few years could change or curtail some of the emerging digital practices that companies are using to market unhealthy food products to children and adolescents, and could have long-term impacts not only on the evolution of digital marketing, but also on the health of young people. With a new presidential administration in place, we now have a critical window of opportunity for renewed public policy attention to this urgent issue. In the last several months, regulators at the Federal Trade Commission, as well as key staffers in Congress have been seeking input and guidance from advocates about the most effective policy proposals. What has been missing, however, is a solid body of research, and a concrete set of targeted policy options designed to address the most harmful interactive strategies and techniques being employed by food marketers.

The food industry's rapid embrace of digital techniques raises important questions for those concerned about the impacts of food marketing on children and youth: How can recent research in the fields of communications, marketing, and child development help us understand the ways in which children, adolescents, and

multicultural youth may be affected by digital marketing? What are the most problematic or harmful interactive marketing practices? What kinds of policy interventions would be particularly effective at safeguarding young people? What are the most promising areas of research that could inform public policy interventions? What are the most significant gaps in the literature where work is urgently required? What kinds of legal and policy work should NPLAN undertake in light of new marketing practices and recent research on youth development?

This paper is designed to serve as a background and framing document for the second NPLAN/BMSG meeting on digital marketing. In the following pages, we will: 1) summarize the key features of digital marketing that make it distinctly different from traditional advertising; 2) discuss several recent trends that are shaping the growth of interactive food marketing (and interactive marketplace in general); and 3) suggest some opportunities to protect children and adolescents from harmful food and beverage marketing in light of current political and policy openings.

Key Features of Contemporary Marketing

In today's digital marketing system, advertising, editorial content, measurement, and content delivery have been intertwined.⁶ Advertisers employ a host of new techniques across a variety of new-media platforms to reach and engage young people. Taken together—and viewed against the backdrop of the major changes taking place in the worlds of media, advertising, and market research—they constitute a new digital marketing paradigm. We have documented many of these practices in several longer papers.⁷ Below we present some of the key defining features of digital marketing.

- **Ubiquitous Connectivity:** Marketers design their campaigns to take advantage of young peoples' constant connectivity to technology, their multi-tasking behaviors, and the fluidity of their media experiences. This "*360 strategy*" is one of the core principles of today's youth marketing, aimed at reaching viewers and users repeatedly wherever they are.
- **Behavioral Targeting:** Behavioral targeting—a form of database or "customer relationship" marketing (CRM)—enables companies to develop unique, long-term relationships with individual customers. Through ongoing data collection and tracking, marketers can create personalized marketing and sales appeals based on a customer's unique preferences, behaviors, and psychological profile.⁸
- **Social Media Marketing:** Participatory Web 2.0 platforms are further enhancing marketers' ability to know the nature and extent of an individual's social relationships and to exploit them for brand promotion campaigns. Online monitoring can identify the most influential person in a social network and then enlist that individual to help transmit the brand message.⁹
- **Immersion:** State-of-the-art animation, high-definition video and other multi-media applications are spawning a new generation of immersive environments, including interactive games and three-dimensional virtual worlds. Using "dynamic product placement," ads can be incorporated into a game's storyline, and programmed to respond to a player's actions in real time, changing, adding, or updating messages to tailor their appeal to that particular individual.¹⁰ Through "rich media," the ads themselves are becoming increasingly immersive.

- **User-generated Advertising:** Marketers use a variety of strategies to encourage young people to produce and promote commercials for their favorite brands. The strategy is designed to foster powerful emotional connections between consumers and products, tap into a stable of young creative talent willing to offer their services for free, and produce a new generation of “brand advocates.”¹¹ These practices turn the conventional model of advertising on its head, transforming children from passive viewers of commercials into ad producers and distributors.
- **Engagement:** A fundamental goal of interactive advertising, “engagement” refers to the “subtle, subconscious process in which consumers begin to combine the ad’s messages with their own associations, symbols and metaphors to make the brand more personally relevant.”¹² The concept of engagement is being operationalized into a measurable set of responses, which will enable marketers to precisely assess and further refine their strategies for influencing individual consumer behaviors.
- **Integrated Measurement:** The advertising industry is developing an array of “new metrics” to closely analyze the nuances of interactions between users and advertising. Increasingly, measurement tools are being built directly into the ads themselves. For example, so-called “smart ads” can instantly alter an interactive advertising message based on an individual’s online actions.

Recent Trends in Digital Marketing

The following is a very brief overview of some of the most significant developments in the digital marketplace that are influencing how food and beverage companies target children and youth.

As social networks play an increasingly central role in the lives of young people, “social media marketing” is becoming even more sophisticated.

More than 15 million 12-17 year olds—75% of all teens—will use social networks this year.¹³ Ad expenditures for social media are expected to generate \$1.2 billion in 2009.¹⁴ A growing number of food and beverage marketers – including Coca-Cola, Denny’s,

“Facebook provides an opportunity for brands to have sustained and authentic relationships with users...and organic distribution of branded content.”
— Facebook: Media Kit for Brand Advertisers.¹

Pepsi, and Mars – are using a host of new social media marketing techniques.¹⁵ For example, marketers can closely monitor and analyze the streams of daily communications among users on Facebook, Twitter and YouTube, launching “digital word of mouth” campaigns among networks of friends.¹⁶ Sixty-five percent of global Internet users (604 million people) have already interacted with a “widget,” a small, downloadable application that allows users to customize their personal pages while also serving as a means of delivering advertising and tracking user responses to those ads. Social networks have experienced an explosion of such branded “app-advertisements,” which are now widely viewed by marketers as “new ad units.”¹⁷

Virtual worlds and interactive games are an expanding sector in the digital marketing landscape, attracting an increasing number of advertisers.

In-game ad spending is projected to reach \$1 billion by 2014, according to recent industry projections.¹⁸ Virtual worlds are increasingly popular among youth, with six million 3-11 years olds and 3.7 million teens 12-17 visiting some form of virtual world online each month.¹⁹

*“One billion eyeball hours can be generated by a top-selling game.”
—IGA advertising network¹*

Food and beverage companies are finding both platforms to be especially effective venues for brand promotion. For example, Frito-Lay worked with Microsoft’s popular Xbox to “create an engaging interactive online experience” for Doritos, targeted at 16-24 year olds. The campaign began with a contest on the snack food company’s website, Snack Strong Productions, where visitors were invited to design their own “user-generated” ideas for a “Doritos-inspired video game” built around the product’s “iconic shape, color, bold flavors, and/or the intensity of the chip experience.” One million users were attracted to the Doritos site as a result of the Xbox campaign (72 percent were new visitors), where they spent significant amounts of time viewing all the submissions. More than 160,000 “Doritos theme packs” were downloaded on Xbox Live.²⁰

Online video has continued to soar in popularity, becoming an increasingly popular and effective advertising medium.

Viewing video online is now a regular routine for almost 117 million Americans, more time than is currently spent on blogs and social networking sites. It is a particularly popular pastime for young people, with 82 percent of older teens routinely sharing their favorite videos through social networks, email, and instant messaging.²¹ Ad spending on online video is expected to reach \$4.6 billion in 2013, seven times what

*“Online video moved from niche to mass market, and in the process became one of the fastest-growing media platforms in history.... [O]nline video in the US is now as big as network TV.”
— eMarketer, May 2009¹*

it was last year. The growing role of advertising will help transform the online video medium itself, with long-form content earning most of the ad revenues.²² (In order to address this threat, cable and telephone companies plan to deploy Web-like interactive and personalized television advertising in 2009, which has already drawn interest from food marketers).²³ Google’s YouTube—the leading online video service with over 80 million monthly users—has been working to increase revenues by forging “branded entertainment” campaigns with advertisers, including Burger King and Carl’s Jr.²⁴ “Watching a video ad on YouTube alone significantly increases ad recall and attribution,” according to Google advertising research, “up to 14% higher than watching the same ad on TV.”²⁵

Mobile advertising has introduced an entire arsenal of powerful new marketing tools, especially effective for targeting youth.

Mobile ad revenues are expected to skyrocket in four years to \$3.1 billion, compared to \$160 million last year.²⁶ Nearly 80 percent of all teens use a mobile phone and already view them as a “social necessity,” while almost half of all 8-12 year olds own or regularly use one. Both African-American and Hispanic youth are in the forefront of

*The mobile phone is “the ultimate ad vehicle – the first one ever in the history of the planet that people go to bed with. It’s ubiquitous across the world, across demographics, across age groups... it can know where you’ve been, where you’ve lingered, what store you stopped in, what car dealership you visited. It goes beyond any traditional advertising....”
— Sumit Agarwal
Google Mobile Product Manager¹*

using mobile services to access content—and are considered an important target market by advertisers.²⁷ Advertising on mobile devices will be especially powerful, since it will be able to target users by combining both behavioral and location data.²⁸ Mobile advertising will increasingly rely on interactive video and become firmly embedded in “mobile social networks.” (Teens aged 13-17 already account for 21 percent of mobile video users). Among the many food and beverage companies using mobile campaigns in 2009 are Coca-Cola, Denny’s, McDonald’s, Burger King, Carl’s Jr., and Dominos.²⁹

Neuromarketing—the use of a variety of biometric measures to help determine how advertising messages should be framed and delivered—is becoming a more powerful force in all of advertising, including food marketing.

For a number of years, marketers have been following intensely the developments in neuroscience, incorporating the most recent theories and methods into a new branch of market research called “neuromarketing.”³⁰ Some of the largest food

“We measure something very important called the subconscious brand essence. ...understanding the brand essence enables one to evoke brand passion.”
 —Neurofocus CEO¹

and beverage companies have embraced neuromarketing as a core strategy in developing their digital marketing efforts.³¹ This spring, the Advertising Research Foundation (ARF) gave its highest award to Frito-Lay’s “Orange Underground” campaign, which employed a variety of neuromarketing techniques to promote Cheetos. Frito-Lay worked with several prominent players in the neuromarketing field to “uncover the underlying thoughts and feelings about Cheetos,” and to identify “significant moments of the Cheetos consumption experience.”³² The campaign is particularly interesting because it grew out of Pepsico/Frito-Lay’s 2007 agreement with the voluntary Children’s Food & Beverage Advertising initiative to restrict snack food advertising to children under 12. The study, which recruited adults as well as children ages 10-13, was aimed at repositioning the brand for a new target group (adults), without “eroding its core equity [among children] built over decades.” The campaign resulted in an increase in Cheetos’ overall market share.³³

Recent advances in behavioral advertising are enabling marketers to more accurately predict and influence user behavior.

So-called “predictive behavioral targeting” combines data from a number of different sources and makes inferences about how users are likely to respond to marketing messages. Increasingly, behavioral profiles are incorporating information from outside databases.³⁴ Social media platforms

“Millions of us are playing, working, flirting, and socializing online—and producing oceans of data.... [T]his flood of data could be as transformative as Galileo’s telescope was for the physical sciences....”
 —Duncan J. Watts
 Columbia University sociologist
 now on leave and heading a research unit at Yahoo!¹

are embracing behavioral targeting, to help drive “robust advertising response and conversion.”³⁵ Google, Facebook and many others are working on a variety of “data portability” initiatives, designed to ensure that all consumers—and many commercial and noncommercial application companies—will have “anytime/anywhere” access to their data. This could enable marketers to tap into the interests and potential location of users throughout the day.³⁶

Measurement of user interactions with ads is becoming increasingly precise, reflecting larger changes in how the advertising industry designs online content and generates revenues in the digital environment.

Using new data collection and analysis techniques, marketers can evaluate and instantly alter (almost in real-time) how a particular marketing campaign is working.³⁷ Specialized companies are

“We are paying for the interaction, not just the chance for an interaction....”
—Kellogg’s ad executive ¹

routinely measuring responses to online videos. “Audience interactions (views, stops, rewinds, sharing),” explained one firm, “are gauged by the millisecond and response can be measured, in real numbers. Advertisers who can combine that data with behavioral or demographic profiling, to reach exact targets, get amazing results.”³⁸ VideoEgg, a social media interactive marketer that has worked with McDonald’s, Coca-Cola, P&G, and others (with 13-17 year olds as one its targeting categories), offers advertisers the ability to gauge how an ad captured the attention—or engagement—of a user, which it calls an “AttentionRank” metric. It claims that improvements in the creation of their ad environments—called Adframes—“have increased average time spent by almost 50%.”³⁹ These practices are ushering in a new system of ad compensation called “performance” marketing, in which ad agencies and marketers will only be paid if they can document that they actually delivered results.⁴⁰

Legal and Policy Implications

These trends—which we have only briefly highlighted—will continue to shape the growing digital marketplace, transforming the very nature of advertising and marketing in the 21st century. The papers that have been written for this meeting clearly demonstrate the need for a serious reexamination of how we regulate food and beverage marketing to children and adolescents, particularly in the growing digital media landscape. As Louis Moses and Dare Baldwin point out, “digital marketing environments tend to be interactive, immersive, alluring, engaging, and motivationally and emotionally rewarding.” Agnes Nairn’s discussion of implicit persuasion challenges the cognitive model that has long dominated children’s advertising regulation. In addition to Nairn’s paper, the analysis of brain and psychosocial development during adolescence written by Constance Pechmann and her colleagues suggests youth older than 12 may require safeguards for particular kinds of marketing techniques. Given the unique health risks for obesity and related diseases faced by Latinos and African Americans, which Sonya Grier describes, we may need policies specifically designed to address multicultural marketing in digital media.

NPLAN is uniquely positioned to play a leadership role in formulating a strategic legal and policy framework for addressing interactive food and beverage marketing. If informed by the latest developments in both digital marketing and academic research, such a framework could be particularly useful in the coming months, as policy makers engage in a number of proceedings that are either directly focused on, or relevant to, food marketing policy. Among the upcoming opportunities are: the newly established Interagency Working Group on Food Marketing to Children; the Federal Trade Commission’s planned review of the Children’s Online Privacy Protection Act (in the light of new media marketing developments, especially mobile); the current congressional interest in online marketing and

privacy; and the Obama Administration's plans for health care reform (taking advantage of the President recent speech to the AMA when he discussed "junk food" and obesity). It will also be important to educate new officials at the major regulatory agencies, including the Federal Trade Commission, the Federal Communications Commission and the Department of Health and Human Services.

As part of the legal analysis, we believe it is important for NPLAN to examine specific digital marketing practices that raise ethical and legal issues. Several of these techniques have been identified in the papers for this meeting. They include: integration of marketing and "content" to make the two indistinguishable; linking point of influence to point of purchase (for example, in mobile marketing campaigns); peer-to-peer strategies, especially on social network platforms; prizes, contests, and other incentives designed to encourage participation in marketing campaigns and to facilitate data collection; behavioral advertising, multicultural targeting, smart ads, and dynamic product placement; and the use of neuromarketing to develop implicit persuasion techniques. Each of these techniques should be analyzed within the context of recent research on child and adolescent development, current government advertising regulations (at both the FTC and the FCC), industry self-regulatory guidelines, and First Amendment jurisprudence. Age categories should be carefully revisited when considering the appropriateness of certain practices, especially given what we know about adolescent vulnerabilities.

It may well be that some of these emerging practices could already be considered deceptive and unfair under current laws. While the FTC is constrained from launching broad rulemaking procedures, it can and does act on individual complaints. This was the strategy that advocates used successfully on children's privacy during the 90s (along with a strategic media campaign), which led directly to passage of the Children's Online Privacy Protection Act.⁴¹ NPLAN could provide valuable legal analysis for identifying the practices that may violate existing laws. NPLAN could also develop model language for regulatory proposals that could address the use of certain techniques for marketing food and beverage products to children and adolescents.

Finally, we would urge NPLAN to work closely with a network of experts in the fields of child development and marketing to develop a long-range legal and policy research agenda. While we recognize that resources are limited, we also believe that strategic efforts in the next few years could have a lasting impact on the public health.

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References

- ¹ “McDonald's New Virtual World: More Platform than Website,” *Virtual Worlds News*, 19 Sept. 2008, <http://www.virtualworldsnews.com/2008/09/mcdonalds.html>; “McDonald's Launching Virtual World,” *Virtual Worlds News*, 4 Aug. 2008, <http://www.virtualworldsnews.com/2008/08/mcdonalds-launc.html> (both viewed 7 June 2009).
- ² Rita Chang, “AKQA Embodies New Digital-Agency Model,” *Advertising Age*, 30 Mar. 2009, http://adage.com/digitalalist09/article?article_id=135583 (viewed 7 June 2009).
- ³ Brian Quinton, “Happy World,” *Promo*, 1 Oct. 2008, <http://promomagazine.com/interactivemarketing/1001-star-wars-promotion/> (viewed 7 June 2009).
- ⁴ “Internet Advertising Revenues at \$5.5 Billion in Q1 '09,” IAB, 5 June 2009, http://www.iab.net/about_the_iab/recent_press_releases/press_release_archive/press_release/pr-060509 (viewed 7 June 2009).
- ⁵ Although online spending is still a relatively modest percentage of food industry overall U.S. ad expenditures, it is increasingly regarded as one of the most cost-effective ways to reach and engage young people. Unlike a more traditional ad buy on television, a more modest amount of money can buy millions of online ad “impressions.” For example, Nielsen reported that just for the period of March 2-March 8, 2009, Kraft Foods, General Mills, and Unilever delivered 77 million, 62 million, and 54 million online ad impressions, respectively [154]. ConAgra, Mars, Pepsi, Burger King and Yum Brands all increased their Internet display spending in 2007 from the previous year. But due to the nature of Internet marketing, actual expenditures do not necessarily reflect the impact of an ad or a campaign, especially when it involves social media marketing, user-generated ads, and other forms of peer-to-peer creation and transmission, which are very inexpensive to implement. “100 Leading National Advertisers,” *Advertising Age*, 23 June 2008, http://adage.com/datacenter/article?article_id=127791 (viewed 7 June 2009).
- ⁶ Chester and Montgomery, “Interactive Food & Beverage Marketing: Targeting Children and Youth in the Digital Age.”
- ⁷ Chester and Montgomery, “Interactive Food & Beverage Marketing: Targeting Children and Youth in the Digital Age. An Update.” Jeff Chester and Kathryn C. Montgomery, “Interactive Food & Beverage Marketing: Targeting Adolescents in the Digital Age,” *Journal of Adolescent Health*, in press.
- ⁸ D. Hallerman, “Behavioral Targeting: Marketing Trends,” *eMarketer*, 2008. I. Khan, B. Weishaar, L. Polinsky, et al, “Nothing but Net: 2008 Internet Investment Guide,” 2008, https://mm.jpmorgan.com/stp/t/c.do?i=2082C-248&u=a_p*d_170762.pdf*h_-3ohpnmv (viewed 23 Mar. 2009).
- ⁹ Xtract, Social Intelligence, <http://xtract.nordkapp.fi/social-intelligence/> (viewed 26 Mar. 2009).
- ¹⁰ J. Gaudiosi, “Google Gets In-game with Adscape,” *The Hollywood Reporter*, 20 Mar. 2007, http://www.hollywoodreporter.com/hr/content_display/business/news/e3i898ca0de1754206ae43bdbc6ee2d9ffd; M. Shields, “In-game Ads Could Reach \$2 Bil,” *Adweek*, 12 Apr. 2006, http://www.adweek.com/aw/national/article_display.jsp?vnu_content_id=1002343563 (both viewed 2 Oct. 2008).
- ¹¹ DoubleClick, “DoubleClick Rich Media and Video,” <http://www.doubleclick.com/products/richmedia/index.aspx>; Meez, “Advertise with Us,” <http://www.meez.com/help.dm?sect=8>; Studiocom, “Immersive Online Experiences,” <http://www.studiocom.com/godeep/> (all viewed 2 Oct. 2008).
- ¹² J. Nail, “The 4 Types of Engagement,” *iMedia Connection*, 13 Oct. 2006, <http://www.imediaconnection.com/content/11633.asp> (viewed 2 Oct. 2008). The engagement paradigm for marketing is a current focus of a new Advertising Research Foundation council, which has been examining recent developments in neuroscience for marketing purposes. ARF Engagement Council, <http://www.thearf.org/assets/engagement-council> (viewed 7 June 2009).

- ¹³ According to comScore, "...social networking category experienced a record month, growing 12 percent to nearly 140 million visitors, or nearly three-quarters of the U.S. online population. MySpace Sites led the category with 71 million visitors, followed by Facebook.com with 67.5 million visitors, an increase of 10 percent from the previous month. Twitter.com, now the third ranked social networking site, experienced another explosive month of visitor growth, jumping 83 percent to 17 million visitors." Comscore, "Comscore Media Metrix Ranks Top 50 U.S. Web Properties For April 2009," http://www.comscore.com/Press_Events/Press_Releases/2009/5/Social_Networking_Category_Has_Record_Month_Led_by_Gains_at_Twitter_and_Facebook; "Teens on Social Networks," *eMarketer*, 16 Apr. 2009, <http://www.emarketer.com/Article.aspx?R=1007041> (both viewed 5 May. 2009).
- ¹⁴ "US Social Network Ad Spending Growth Lowered," *eMarketer*, 10 Dec. 2008, <http://www.emarketer.com/Article.aspx?R=1006799> (viewed 7 June 2009).
- ¹⁵ Chester and Montgomery, "Interactive Food & Beverage Marketing: Targeting Children and Youth in the Digital Age. An Update." For example, Coca-Cola recently launched a "digital communications and social media" division to bolster its new media marketing capabilities. Nicole Zerillo, "Coca-Cola Launches Office of Digital and Social Media," *PRWeek*, 3 Apr. 2009, <http://www.prweekus.com/Coca-Cola-launches-office-of-digital-and-social-media/article/130087/> (subscription required). For Pepsi's similar efforts, see Elaine Wong, "Pepsi Sees a Chance to Fill Newspapers' Void," *Brandweek*, 9 May 2009 http://www.brandweek.com/bw/content_display/news-and-features/digital/e3i3aff90a1a8b3753a3bbca508d3329ab?pn=1 (viewed 7 June 2009).
- ¹⁶ BuzzLogic, "Get Your Ads in Front of Passionate Consumers," <http://www.buzzlogic.com/advertisers/conversation-targeting.html> (viewed 7 June 2009).
- ¹⁷ Widgets have spawned their own set of marketing metrics for measuring their impact, including viral distribution, geographic distribution, average interaction, widgets served per day, ratio of views to conversion, and referral sales from widgets. Raquel Krouse, "Widgets are the New Ad Unit," Scribd, <http://www.scribd.com/doc/4959574/Widgets-Are-the-New-Ad-Units> (viewed 7 June 2009).
- ¹⁸ Leigh Alexander, "Analyst: In-Game Ad "Spending to Reach \$1 Billion By 2014," *Gamasutra*, 26 May 2009, http://www.gamasutra.com/php-bin/news_index.php?story=23751 (viewed 7 June 2009).
- ¹⁹ By 2012, according to *eMarketer*, 50 percent of all 3-11 year olds online (8.7 million children) and a quarter of all online teens will be using some form of virtual world. Mike Shields, "Kids' Virtual Worlds Gain Traction," *Adweek*, 22 May 2009, http://www.adweek.com/aw/content_display/news/digital/e3i9659c5aa3ebf280624968fca48925660 (viewed 7 June 2009). In 2007, more than \$2 billion had been invested in these interactive environments. "\$594 million Invested in 63 Virtual Worlds-Related Companies in 2008," *Virtual Worlds News*, 20 Jan. 2009, <http://www.virtualworldsnews.com/2009/01/594-million-invested-in-63-virtual-worldsrelated-companies-in-2008.html> (viewed 7 June 2009). A January 2009 report documented more than 200 youth-oriented virtual worlds that are already live or in development. "Virtual Worlds Management Report: 200+ Youth-Oriented Worlds Live or Developing," <http://www.virtualworldsnews.com/2009/01/virtual-worlds-management-today-released-its-updated-youth-worlds-analysis-based-on-comprehensive-research-available-through.html> (viewed 7 June 2009).
- ²⁰ Microsoft Advertising, "Doritos and Xbox Put Fans in Control," <http://advertising.microsoft.com/research/Doritos-Xbox> (viewed 7 June 2009).
- ²¹ "How People Share Online Video."
- ²² "Marketers Eye Online Video for 2009," *eMarketer*, 9 Jan. 2009, <http://www.emarketer.com/Articles/Print.aspx?1006848> (viewed 7 June 2009).
- ²³ See, for example, CableLabs, "Advanced Advertising," <http://www.cablelabs.com/projects/dpi/>. Burger King is reportedly interested in using the new system. Burt Helm, "Will Targeted TV Ads Justify Higher Fees?" *BusinessWeek*, 7 Apr. 2009, http://www.businessweek.com/magazine/content/09_16/b4127000389178.htm?campaign_id=rss_daily (both viewed 7 June 2009).

²⁴ Brooks Barnes, "Serving 3 Brands: Burger King, Google and Seth MacFarlane," *New York Times*, 17 Aug. 2008, <http://www.nytimes.com/2008/08/18/business/media/18burger.html>; Brian Morrissey, "Carl's Jr. Makes New Kind of Network Buy," *Adweek*, 1 June 2009, http://www.brandweek.com/bw/content_display/news-and-features/digital/e3i1dc51bcd151aa706cadb7500a06addc6 (both viewed 7 June 2009).

²⁵ "Demonstrating the Branding and Engagement Value of YouTube Advertising," YouTube, 2009, personal copy.

²⁶ Enid Burns, "U.S. Mobile Ad Revenue to Grow Significantly through 2013," ClickZ, 25 Feb. 2009, <http://www.clickz.com/3632919> (viewed 7 June 2009).

²⁷ "46% OF U.S. Tweens Use a Cell Phone, Nielsen Reports," press release, 10 Sept 2008, <http://www.nielsenmobile.com/html/press%20releases/MobileKids.html>; CTIA-The Wireless Association and Harris Interactive, "Teenagers: A Generation Unplugged," 2008, <http://www.ctia.org/advocacy/research/index.cfm/AID/1148>; Briabe Media, "Mobile Marketing to Multicultural Audiences," http://briabemedia.com/documents/articles/Mobile_Marketing_to_Multicultural_Audiences.php (all viewed 7 June 2009).

²⁸ Center for Digital Democracy and U.S. PIRG, "Complaint and Request for Inquiry and Injunctive Relief Concerning Unfair and Deceptive Mobile Marketing Practices," Federal Trade Commission Filing, 13 Jan. 2009, http://www.democraticmedia.org/current_projects/privacy/analysis/mobile_marketing (viewed 7 June 2009).

²⁹ Center for Digital Democracy, "Digital Marketing Update: News on Digital Food Marketing Since Our Report was Released," <http://www.digitalads.org/updates.php> (viewed 7 June 2009).

³⁰ A recent study noted there were 90 private neuromarketing research firms in the U.S. R. M. Wilson, J. Gaines, and R. P. Hill, "Neuromarketing and Consumer Free Will," *Journal of Consumer Affairs* 42(3):389-410.

³¹ See, for example, "NeuroFocus Launches NGame; New Suite of Neuromarketing Products and Services for the Videogame Industry Elite. Neurofocus," press release, 26 Mar. 2009, <http://www.reuters.com/article/pressRelease/idUS194952+26-Mar-2009+PRN20090326>; Steve McClellan, "Coca-Cola Use: Mind Over Matter: New Tools Put Brands in Touch with Feelings," *Adweek*, 18 Feb. 2008, http://www.adweek.com/aw/content_display/news/media/e3i975331243e08d74c5b66f857ff12cfd5?pn=1 (both viewed 7 June 2009).

³² "The Orange Underground," Cheetos Case Study, Ogilvy Awards, <http://www.thearf.org/assets/ogilvy-09> (viewed 7 June 2009).

³³ "The Orange Underground," Cheetos Case Study, Ogilvy Awards.

³⁴ "About Acxiom," http://www.acxiom.com/about_us/Pages/AboutAcxiom.aspx (viewed 7 June 2009).

³⁵ "ValueClick Media Launches Predictive Behavioral Targeting," press release, 21 July 2008, <http://phx.corporate-ir.net/phoenix.zhtml?c=84375&p=irol-newsArticle&ID=1177051>; Acxiom, "Digital Marketing Services," http://www.acxiom.com/products_and_services/digital/Pages/DigitalMarketingServices.aspx; "24/7 Real Media Launches Social Media Targeting to Improve Ad Performance and Response," press release, 27 Apr. 2009, http://www.247realmedia.com/EN-US/news/article_445.html (all viewed 7 June 2009).

³⁶ "DataPortability Project," DataPortability.org, <http://www.dataportability.org/>; "What is OpenID?" <http://openid.net/what/>; Dave Morin, "Announcing Facebook Connect," 9 May 2008, <http://developers.facebook.com/news.php?blog=1&story=108> (all viewed 7 June 2009).

³⁷ For example, a video "captivation score" "reveals any 'hotspots' in the video where viewers... re-watch specific segments... [and] cause intense audience interaction...." Visible Measures, "Video Metrics," <http://www.visiblemeasures.com/video-metrics/> (viewed 7 June 2009).

³⁸ "RockYou Adds Video to its Ad Network," RockYou Super Blog, 3 Feb. 2009, <http://blog.rockyouads.com/?cat=20> (viewed 7 June 2009).

³⁹ Mark Walsh, "VideoEgg Ties Ad Placement To Attention Metrics," *Online Media Daily*, 7 May 2009, http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=105527; VideoEgg, "Introducing AttentionRank," <http://www.videoegg.com/attentionrank> (both viewed 7 June 2009).

⁴⁰ Coca-Cola told advertising agencies this spring that "We want our agencies to earn their profitability, but it's not guaranteed," said Sarah Armstrong, Coke's director of worldwide media and communication operations.... "We need them to be profitable and healthy, but they have to earn it through performance." Quoted in Vigyan Arya, "Coke Plans to go for Value-Based Compensation," *Business24/7*, 6 May 2009, http://adage.com/article?article_id=136266 (viewed 7 June 2009).

⁴¹ For a detailed case study of the campaign to pass COPPA, see Chapter 4, "Web of Deception," in Kathryn C. Montgomery, *Generation Digital: Politics, Commerce, and Childhood in the Age of the Internet* (Cambridge, MA: MIT Press, 2007).