PROTECTING CONSUMERS IN The Next Tech-ade

A Report by the Staff of
the Federal Trade Commission
Spring 2008

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Introduction[1]

This is a time of extraordinary change: technology is transforming interpersonal and business communication, including marketing and advertising to consumers. Products are evolving as a result of innovation. Even the way consumers are paying for goods and services is being revolutionized, as electronic payment systems serve up new and inventive ways to exchange money. Indeed, some things that we have begun to take for granted existed, not very long ago, only in the realm of science fiction. To learn more about the many technological developments that are changing the marketplace – and to assess their effect on consumers and, in turn, the consumer protection agenda – Chairman Deborah Platt Majoras directed the staff of the Federal Trade Commission ("FTC") to hold hearings on "Protecting Consumers in the Next Tech-ade" in November 2006.

The Tech-ade hearings were structured to bring together a provocative mix of experts – speakers, discussants, and exhibitors – to explore the future of commerce as it relates to consumer protection. During the three public days of the event, more than 100 eminent scholars, marketers, technologists, entrepreneurs, and lawyers discussed technological developments that will shape the future, and the challenges they see for consumers, businesses, and those in the broader consumer protection community, including law enforcers, consumer educators, advocates, and researchers. A fourth day, open only to government representatives, featured discussion of the trends and challenges highlighted during the public hearings, and underscored the need for interagency cooperation at all levels to successfully meet the challenges of the

[1]This report was prepared by FTC staff. It does not necessarily represent the views of the Commission as a whole, or those of any individual Commissioner.

coming decade. An archived webcast of the Tech-ade hearings, panelist presentations, transcripts, and blog entries are available at http://www.ftc.gov/techade.[1]

In the time that has passed since the Tech-ade hearings, it has become clear that many of the predictions made by panelists were spot on: consumers' roles are changing in this new marketplace, as are the products they buy, how those products are marketed and advertised, and how they are paid for. It also is clear that with changes taking place at a dizzying pace, effective consumer protection is more important – and more relevant – than ever.

The Tech-ade hearings brought together innovators and industry representatives, and engaged advocates and academics – the "landscapers" who offered both an on-the-ground look at the present and a bird's eye view of the future within the context of consumer protection. This report summarizes the major trends identified at the hearings and thus addresses areas that are likely to influence the FTC's consumer protection agenda in the near term. As we look to the future, our primary objectives involve:

- Adapting consumer protection strategies to ensure that all consumers, including the vulnerable, are equally well served.
- Applying existing policies and creating new ones, as necessary, to address emerging challenges regarding new technologies and products that may be unfamiliar to consumers.
- Ensuring that consumers' private information, which will increasingly be collected, stored, and used in both marketing and payment, is maintained securely.
- Monitoring the ever-expanding number of marketing channels in the worldwide marketplace for instances of deception or unfairness.
- Collaborating with law enforcers from around the world to protect consumers in the global marketplace.
- Encouraging self-regulatory initiatives to benefit consumers.

I. Empowered Consumers and the Changing Role of Consumer Protection

The mission of the FTC is to protect consumers in the marketplace. To fulfill that mission, it is critical that we understand the consumers on whose behalf we work. Perhaps more intriguing than any other trend discussed during the hearings is the idea that consumers themselves are changing. Beyond demographic shifts, which will almost certainly result in a population that is increasingly older and more diverse,[2] the next decade will witness the growing empowerment of the consumer, who will assume control in new ways.[3] Once simply a passive recipient of advertising and content, today's consumer may also be a creator an influencer, and a critic with access to a worldwide networked audience.

Consumers as Content Producers

The Landscape

The trend toward consumer empowerment stems in large part from consumers' new role as content producers. The concept of consumers creating and publishing their own content, not merely being passive recipients of professionally produced content, was identified at the Tech-ade hearings as one of the most important developments of the past few years, and one which will likely dominate the coming decade.[4] Such user-generated content is the foundation of blogs, vlogs, podcasts, photo and video sharing sites, social networking sites, wikis, dating sites, tagging sites, and auction sites.[5] It is central to multiplayer online games and virtual worlds, and even has become a feature on the sites of many Fortune 500 companies. The content spans formats – text, audio and video – and includes consumer reviews and rankings, entertainment, information and, sometimes, misinformation.[6]

The past decade has witnessed the explosive growth of the Internet, as, among other things, a medium of communication and content. The Internet and tools created for it also allow instant production of – and access to – content in the form of news, information, and entertainment. Driven in part by the deployment of more affordable broadband access,[7] consumers are spending more time online and are able to engage in more activities requiring high bandwidth, such as viewing audio and video, and transferring large files. The resulting growth in user-generated content, including blogs and vlogs on a seemingly unlimited number of topics, has been staggering.

Social networking sites may be the ultimate expression of user-generated content. Sites like MySpace.com and Facebook.com are perhaps the fastest growing communities in the digital world;[8] they allow users to create personal profiles or webpages and link them to the profiles of others to create a network of "friends" and friends of friends.[9] They allow people to build relationships with geographically diverse strangers based on common interests, and to expand social and professional networks. Some networking sites restrict the number of profiles users can access and aim to connect people based on their "real world" communities.[10] Many of these sites are free to users, instead relying on advertising revenues for financial support.[11]

Consumers of all ages are using social networking sites, although research suggests that there are two main clusters of users – one younger and one older – and that these groups have different objectives.[12] Younger users are more likely to use the sites as an extension of their existing offline relationships, and older users, "deeply invested in strangers," are using the sites to make friends, network professionally, and find dates.[13] Teenagers are reputedly among the

most enthusiastic users: nine of the ten most popular sites among 12-to-17 year-olds were social networking sites or sites that provided related tools or content.[14]

In addition to maintaining pages on social networking sites, many consumers are blogging – publishing online journals that typically encourage comments by visitors.[15] Originally, blogs functioned as personal online diaries; many now are dedicated to news reports, political commentary, promotions of various sorts, and reviews and opinions on sports, fashion, travel, restaurants, entertainment products, child-rearing, neighborhoods, and thousands of hobbies and interests. Research suggests that in 2007, some 28 percent of teens had their own blogs, many of which were updated daily or weekly.[16]

Consumer surveys indicate that people blog for two reasons: to express themselves creatively and to share personal experiences.[17] Two-thirds of bloggers report that they blog for themselves; the rest say they do it to engage others and start a conversation.[18] That conversation often involves many people, yet is intimate at the same time. Strangers, communicating in real time, have attained "trusted source" status through message boards, chatrooms and other online forums where they write their opinions, review products and services, offer information, and in general, narrate their life experience.

Much of the communication via social networking and other user-generated content sites is purely social, with no commercial outcomes. Some user-generated content, though, is exactly the opposite, having been designed to tout products, provide reviews, or otherwise recommend or warn against products. Consumer reviews have become staples of pre-purchase research.[19] One website that publishes consumer product reviews says some consumers who participate in its online forums are as knowledgeable as the site's own experts, and that their opinions are highly

valued by other users.[20] Some companies post user reviews on their own websites, with varying degrees of editorial control. In some instances, the companies tightly control the content that consumers post, while others merely eliminate spam and try to keep the comments product-directed.[21] Still others assign various levels of credibility to reviewers, and identify reviews by paid experts or company staff.[22]

Other user-generated sites are a kind of hybrid: they start out as purely non-commercial vehicles, but become popular enough to draw thousands of visitors daily. When this happens, these sites may become attractive candidates for commercial advertisers to use in directing advertising messages to target audiences. One recent report suggests that advertising on social networking sites worldwide will rise from $965 million in 2007 to an estimated $2.4 billion in 2012.[23] Clearly, the line between consumers and content producers is blurring as we enter the next decade.

Challenges

There are three main consumer protection challenges associated with the phenomenon of consumers as producers of content. First, there are privacy concerns associated with social networking sites and other user-generated content, particularly when minors' information is at stake. When using social networking sites, minors may share a wide variety of information with others, including their names, addresses, phone numbers, or email addresses.[24] The extent to which this information is accessible to others depends on the limits the site places on the community that can view a user profile, and on restrictions incorporated into the site, some of which are self-activated.[25] Some social networking sites allow unrestricted access to user

information, which may allow criminals to locate users, including minors, offline or to commit identity theft.[26]

Law enforcement and governmental agencies, including the FTC, as well as non-profit organizations, have created educational materials highlighting the risks associated with minors' use of social networking sites, and recommending safe computing practices.[27] Continued outreach to ensure that children and parents receive this message will be necessary over the coming years. In addition, self-regulatory efforts by companies in the social networking space may help ensure the safety of users, particularly minors, and will enhance the consumer protection landscape in this area.[28]

In addition, user-generated content websites may collect personal information outside the guidelines established by the Children's Online Privacy Protection Act ("COPPA"). The Commission has the authority to bring law enforcement actions to protect the privacy of children on social networking sites, and has done so in the past.[29] If a social networking site is directed at children under 13, or if the site operator has actual knowledge that it is collecting information from children under 13 on the site, the operator must comply with COPPA and the FTC's COPPA Rule.[30] Most significantly, the site operator is required to obtain verifiable parental consent before collecting, using, or disclosing personal information from children.[31] As more children use social networking sites, the FTC will continue to protect their privacy by educating businesses about COPPA compliance; educating parents, caregivers and children about privacy and security risks online; and, with the United States Department of Justice, bringing cases and seeking civil penalties when appropriate.[32]

Secondly, the trend toward consumers acting as producers may necessitate new education efforts to ensure that consumer-producers understand their responsibilities in the marketplace. Consumers whose sites are supported by advertising, for example, may be subject to the same guidelines as media outlets that host advertising.[33] The responsibility to screen such advertisements may not be understood by a consumer who is accepting advertising on a website for the first time. In addition, because the lines between consumers and advertisers are often blurred in the online marketplace, consumers may not realize that consumer-endorsers have been paid or received other consideration for their endorsement. Consumers who endorse and recommend products on their blogs or other sites for consideration should do so within the boundaries set forth in the FTC Guides Concerning Use of Endorsements and Testimonials in Advertising[34] and the FTC's guidance on word of mouth marketing.[35] Consumers reading endorsements and recommendations from other consumers reasonably expect that these represent the endorser's actual experiences and that the experiences described are those typically obtained by use of the endorsed product or service. Ensuring that consumer-producers who engage in activities to market and advertise products for consideration do so within the confines of laws prohibiting unfair or deceptive acts or practices in trade will require new strategies for education and enforcement.

Finally, the proliferation of so many new media channels for distribution of content and advertising – blogs, vlogs, podcasts, virtual worlds, video on demand, social networking sites, and more – will make the task of monitoring advertising all the more difficult.[36] Monitoring will also be complicated by the ability of marketers to customize advertising content, which potentially may result in the creation of thousands of similar, but non-identical advertisements.

The FTC and other law enforcement agencies throughout the U.S. and the world will need to work collaboratively and leverage technology to efficiently and effectively police an ever-increasing number of media sources that host advertising.

Consumers' Desire for Control

The Landscape

Digital consumers have demonstrated an overwhelming desire for control over the content they receive, and technology has made this control possible. As one association leader at the hearings noted, consumers want to access the content they want when they want it and where they want it.[37] They also want to be able to avoid content, including advertising and marketing messages, creating tension with the traditional "push" broadcast marketing methods of the past.

Innovative communication technologies give consumers unprecedented ability to access content on their own schedules. The concept of "prime time" is being replaced by "my time" – consumers can see movies, televisions shows, and performances when they choose to access the recorded content. And location is no barrier either – movies, television shows, and other audio and video entertainment now can be accessed through an ever widening variety of devices, at home, or on the go.

Along with the freedom to view content when and where they choose, consumers are increasingly able to decide whether they wish to receive commercial messages. The old model – subsidizing content with embedded advertising, such as with network television commercials – is being supplemented by an array of alternatives. In some instances, such as web-based video advertisements, consumers may decide to skip an advertisement and proceed directly to content. Similarly, with digital video recording technology, consumers can easily skip commercial

messages. Conversely, some new marketing models are based on consumers consenting to receive advertising in order to reduce or eliminate fees for content.[38] These shifts in the traditional paradigm signal that consumers have new power and choice in the marketplace.

Search engine marketing provides another example of how technology makes it possible for consumers to access content on their own terms. Search engines are the most commonly used feature of the Internet, next to email.[39] Consumers who use search engines to find company or product information are choosing to receive commercial messages, but at a time and place, and in a manner, they deem convenient. After entering a search term to seek information about a company, a product, or a service, the search results are displayed allowing them to "pull" in the commercial message. Search engines involve consumers in the advertising and marketing process, a far cry from the traditional model that had marketers merely "push" messages out.

Perhaps in response to consumer's exertion of control over the marketing process, advertisers have been exploring alternative methods of conveying messages to consumers. With an emphasis on being relevant, entertaining, and credible, marketers are turning to new techniques and re-tooling old ones for the digital marketplace in order to capture consumers' attention.[40] Relying on new technological developments that allow for micro-targeting, marketers are attempting to customize the marketing process and ensure that the right consumers receive the right ads.[41] By profiling consumers' online and offline habits in detail, advertisers are able to direct very specific advertising messages to individual consumers, engaging in what is known as "behavioral targeting." Marketing is also becoming more interactive, with marketers making information available to consumers through new "on demand" channels.[42] Another twist on this is word-of-mouth marketing, also known as viral marketing or buzz marketing, which

relies on consumers, sometimes on their own initiative and sometimes at the behest of a seller, to spread information about products and services, and pull in other consumers. Although word-of-mouth marketing is probably as old as marketing itself, it has been rejuvenated by the emergence of the Internet and the ability of word-of-mouth messages to spread more quickly than ever, and to a wider audience.

Challenges

Perhaps the greatest single challenge associated with consumers' expectations for control is ensuring that the underlying data used to facilitate targeted marketing is collected, maintained, and used in a manner that is transparent and consistent with the law. Although enhanced targeting may result in more relevant advertisements being served to consumers, it also may implicate data security and privacy risks if the underlying information used to target consumers is not adequately secured or is misused by companies in the marketing chain.

It is unclear whether consumers even understand that their information is being collected, aggregated, and used to deliver advertising. Further, questions regarding the types of consumer data collected for use in behavioral advertising, how such data are used, and what protections are provided for that data remain. On November 1-2, 2007, the FTC hosted a Town Hall meeting, "E-havioral Advertising: Tracking, Targeting and Technology," to explore these issues in depth and determine if further action by the agency is necessary to ensure that consumers are protected. On December 20, 2007, following on the Town Hall meeting and its ongoing work in this area, the Commission authorized the FTC staff to publish for comment a set of proposed principles designed to guide the development of self-regulation of online behavioral advertising.[43] The proposed principles address the need for transparency in data collection; reasonable procedures to

protect the security of data collected for behavioral advertising; obtaining express consent from affected consumers when companies change their privacy policies to use consumer data in materially different ways; and heightened concern surrounding the collection and use of sensitive data – medical information, or information about children, for example.

Another challenge related to consumer empowerment involves business practices that usurp consumers' control over their own devices, such as the "drive by installation" of spyware on computers that results in a blizzard of unwanted pop-up ads.[44] Section 5 of the FTC Act protects consumers from such acts and practices, which prevent consumers from making their own informed choices and cause them harm.[45] The Commission has taken action against purveyors of spyware, and has also sought to make major advertisers aware that they should take care in understanding the means used to distribute their advertisements.[46]

A final challenge is ensuring that consumers in the marketplace understand the source of information that they may use in making decisions regarding products and services. As digital consumers seek alternative sources of information about companies and products, their ability to make informed choices may be undermined if they are deceived about the source of the information. To date, in response to this concern, the FTC has advised that search engines need to disclose clearly and conspicuously if the ranking or other presentation of search results is a function of paid placement,[47] and, similarly, that consumers who are paid to engage in word-of-mouth marketing must disclose that fact to recipients of their messages.[48] With techniques like seeding message boards, flogs (fake blogs), and mobile search marketing becoming more popular, the Commission will continue to monitor failures to disclose pertinent information – such as relationships between marketers and others – that could cause consumer injury.

Consumers and Self-Protection

The Landscape

Empowered by the use of technology, consumers may be more inclined and better-equipped to seek out information to educate and protect themselves in the marketplace. With search engines connecting them to product reviews, pre-purchase tips from government agencies and consumer organizations, and other research tools, many of today's consumers have instant access to relevant and credible information about commercial transactions.

Of course, not all consumers use technology: while some still lack access, others eschew technology as undesirable. Demographic considerations, including age, ethnicity, and income, can be predictors of consumers' rate of adoption of technology, but are not determinative. At the hearings, one researcher noted that, from 2003 to 2006, the number of adults on line in the United States grew from 63 percent to 73 percent. Still, the number of "truly disconnecteds" – those who do not go online and do not rely on anyone else to do so – remained at 22 percent.[49]

Challenges

Although the Internet is a rich source of information, it can also be a source of confusion for consumers who may have difficulty discerning which sources and information are reliable. Tailoring information and education materials to make the best use of the "teachable moment" for online consumers will pose challenges for consumer protection officials and businesses alike, but the rewards may be substantial. If consumer education materials could seamlessly be integrated into the stream of information consumers receive when they shop for and buy goods and services online, consumers would benefit not only from the information itself, but by receiving it at the exact moment when it becomes relevant. Experimentation with technology

and its ability to deliver educational materials at the key moment may prove a useful avenue for the FTC and others to pursue. For consumers who do not use online search, offline sources of consumer education targeted to specific groups will remain a critical source of information.

II. Products are Morphing

Products in the marketplace also are undergoing significant changes, some of which may have implications for consumer protection. The overarching theme that emerged from the Tech-ade hearings regarding product development and innovation is that computer technology will continue to change the products available in the marketplace. Three trends regarding new and changing products merit special attention: data collection, seller limitations on use, and obsolescence and convergence.

Data Intensive Digital Products

The Landscape

Technology is enabling products to be "smart," and thus, record data and be more interactive. Hearing participants spoke of the coming generation of products that will use artificial intelligence (AI) to enhance performance. Already, predictive dialers incorporate features of AI in determining how to direct calls most efficiently to available telemarketers and debt collectors. Similar technology, which can "learn" from past interactions, is expected to be available within the next decade to facilitate customer service interactions, fuel recommendations for products that may appeal to consumers, and even facilitate more efficient interoffice communications by finding colleagues who are away from their desks.[50]

Another type of technology discussed at the Tech-ade hearings – radio frequency identification ("RFID") – offers similarly appealing benefits. In 2004, the FTC hosted a day-long

workshop to explore the uses and potential benefits and drawbacks to consumers of RFID.[51] Tech-ade participants noted that deployment of RFID technology already has enabled large retailers to track manufacturers' goods at the pallet level. Tiny computer chips that contain relevant product information are affixed to the pallets on which the goods are shipped, and can be read using special devices, enabling sophisticated and efficient inventory tracking. Although not yet widely deployed at the individual product level, RFID tagging technology is expected to become more functionally capable, and thus more appealing for broader use, over the coming years.[52]

Intriguing uses of RFID and similar technologies beyond the retail setting were also discussed at the Tech-ade hearings. One example is sensor networks, a type of computer network that uses many spatially distributed devices to monitor conditions. Researchers who presented at the Tech-ade hearings noted that sensor networks may, in the near term, be deployed in homes to help senior citizens live independently, in the environment to aid weather prediction and earthquake detection, and even in cars to enhance automotive safety.[53] Participants also shared examples of how RFID is being used to create ambient technology – the integration of technology into virtually everything in our environment, from clothing to appliances – which will enable these objects to develop an ability to sense our presence and react according to our preferences.[54]

Challenges

Technological innovations like AI hold promise for making communications more efficient and potentially effective, but they also raise potential privacy concerns if consumers' personally identifying information is collected, stored, and used to facilitate the functioning of

new "smart" products. Similarly, RFID technology provides obvious benefits. For example, the ability of producers using RFID to track exactly where in the supply chain their products are and by which retailer they were ultimately sold to a consumer has the potential to make product recalls more effective. However, there also may be costs regarding consumers' individual privacy rights associated with this technology. The FTC will continue to study these new technologies as they mature, convening interested parties, and weighing the costs and benefits to consumers of their use. As part of this initiative, the FTC plans to host a Town Hall meeting in the summer of 2008 to examine RFID applications that enable contactless payments.[55]

Seller Restrictions on Use

The Landscape

Another development relates to new products that use proprietary, non-interoperable technology. Newer format video discs provide a salient example: consumers who opted for Blu-Ray format discs to view their movies generally cannot play their movies in HD-DVD format machines, and vice versa.[56] This example illustrates the consumer's conundrum when format wars, such as the once-familiar "VHS vs. Betamax" video format battle, play out. In the case of Blu-Ray versus HD-DVD, it appears that Blu-Ray has prevailed, with the announcement in February 2008 that HD-DVD players will no longer be produced.[57] Estimates suggest that nearly one million HD-DVD players had been purchased in North America at the time the decision was made to discontinue production, leading to consumer concern regarding obsolescence of the HD-DVD format machines and discs.[58]

Consumers also face certain technology-inspired limitations on the use of digital technology. An example is digital rights management (DRM) systems, which control and restrict

access to digital data – such as software, music, or movies – and hardware.[59] DRM may impose controls on the use of content that correspond with the scope of intellectual property rights of the seller, or it may impose further limitations on the use of that content.[60] For example, DRM may limit the number of times a purchaser can listen to a music file or the type of playback devices that a consumer can use to play the file.[61]

Challenges

As new, proprietary technologies are introduced, consumers will be faced with non-interoperable products. Despite consumers' general preference for interoperability, which provides the greatest flexibility and range of use for products they buy, such a goal may be elusive in a competitive marketplace where businesses seek to provide unique and innovative products. The challenge for the FTC, then, is not to ensure that products are interoperable, but rather to ensure that consumers are provided sufficient information prior to purchase so that they understand any inherent limitations on the use of the products they buy.[62] For example, analysts suggest that if consumers are unaware of the limits that DRM can impose on the uses of content or technologies, they may believe they have been misled.[63] Indeed, in one case, the Commission alleged deception in Sony BMG's failure to disclose to consumers that the CDs they were buying contained software that limited the devices on which the music could be played and restricted the number of copies that could be made.[64] The agency will continue to monitor marketplace developments and product claims to ensure that sellers are making truthful, non-misleading claims about the features and limits of their products.

Obsolescence and Convergence

The Landscape

As new technologies emerge in the marketplace, older ones inevitably become obsolete. Examples of this pattern from the past few decades abound: record albums and cassettes replaced by CDs, traditional telephones replaced by cordless phones (as well as cellular and VoIP phones), film cameras replaced by digital cameras, mimeography replaced by xerography, and typewriters replaced by word processors and computers. Each time this occurs, there are ramifications for consumers whose outmoded products, while still functional, may diminish in usefulness.

Several participants discussed the impending shift from analog to digital television, another example of product obsolescence that may have wide ranging effects.[65] After February 17, 2009, full power television stations will stop analog broadcasts, and completely switch to digital broadcasts using only a signal that transmits information as data bits rather than magnetic wave signals.[66] Planned since 1996, this transition is a way of both improving the quality of the programming signal and freeing up airwaves formerly used by analog broadcast signal for other uses. After the switch, analog television sets will continue to function only if they are equipped with a converter box or connected to a multichannel pay service (such as cable or satellite) that can perform digital to analog conversion.[67]

Similarly, the trend toward convergence continues, although the meaning of convergence is not settled. Some see the mobile phone – a device that serves such diverse purposes as voice and data communications, music player, camera, address book, calendar, and clock – as the paradigm of technological convergence, while others suggest that the focus on a device may be misplaced. They say convergence is about interconnection – and more importantly, about the

connection to the Internet, a critical platform for commerce and communication. This interconnectedness will not be limited to devices that currently access the Internet, but will extend to a host of other mechanisms. For example, the appliance industry reports that the next generation of kitchen appliances or "white goods" will be Internet-enabled through a connection to "brown goods" or handheld devices, allowing moms and dads to turn on their ovens via their mobile devices from the Little League field or the office.[68] In any event, convergence is sure to result in perceived, if not actual, product obsolescence as new, more multi-functioned, interconnected devices enter the marketplace.[69]

Challenges

Obsolescence is a fact of modern life. With the rapid pace of innovation and change, it is inevitable that new products will sometimes make old ones obsolete. The challenge for consumer protection officials, and other regulators, is to ensure that consumers have adequate notice regarding planned obsolescence, such as the impending change from analog to digital broadcasting. In that instance, Congress has vested responsibility for notifying consumers in the Department of Commerce's National Telecommunications and Information Administration ("NTIA"), working together with the Federal Communications Commission ("FCC"), which has regulatory authority over the broadcasting industry.[70] The switchover from analog to digital broadcasting may provide useful information about the strategies and techniques most useful in ensuring that a broad swath of consumers receive notice of an important upcoming change in functionality for products they already own.[71]

III. Marketing and Advertising are Shifting

The explosion in new communications methods and technologies has not escaped the attention of marketing and advertising specialists. Spending on online advertising continues to rise. In 1996, total online advertising expenditures were estimated to be $267 million. By 2007, that amount had soared to $21.1 billion, up from $16.4 billion in 2006, and more than double the $9.6 billion spent in 2004.[72] Online advertising currently accounts for a relatively small, but growing, percentage of the nation's overall annual advertising budget – reportedly about 6 percent in 2006,[73] although some industry analysts are suggesting that the recent rate of increase may be showing some signs of slowing down.[74]

The Internet has enabled a revolutionary shift from mass marketing to micro-marketing. As media have become more digital and interactive, advertisers have experimented with the use of innovative technologies and techniques to communicate with consumers, both at large and individually. Consumers, too, have taken up the mantle, and are spreading product information like wildfire through their own blogs and social networks. Several major trends in marketing and advertising identified at the Tech-ade hearings, including targeted advertising, mobile advertising, and interactive marketing, are discussed below.

The Landscape

According to Tech-ade panelists, most consumers who make purchases online go directly to a merchant site they already know, or more likely, to a merchant site identified in response to a search engine query.[75] That is one reason why search engines are reported to be the largest category of online advertising.[76] In addition, advertisers are using banner ads on their own websites and those of third parties, pop-up ads, company-sponsored blogs, email marketing,

word-of-mouth marketing campaigns, and paid product placement to communicate messages about their products.[77]

Advances in technology are enabling the rich diversity in advertising techniques; both technology and technique show off the Internet as a living laboratory. Experimentation in online advertising will continue in the next decade: the explosive growth of social networking sites may make them the next big venue for display ads.[78] Indeed, the wider availability of broadband – witness the run-away success of YouTube and other sources of video – makes it likely that video will be a critical part of any major online marketer's advertising strategy.[79]

Increasingly, marketing messages are being sent using sophisticated technologies that allow for micro-targeting, rather than broadcasting. One such example is the use of behavioral targeting to track consumers' online habits in order to develop an accurate profile of their preferences. Once known, these preferences enable marketers to select message recipients, and to serve potentially relevant advertisements at strategic intervals. Unlike mass media advertising, which is expected to have a hit-or-miss effect, marketers hope that behavioral targeting will facilitate more efficient and focused advertising, not only resulting in higher sales, but also lower rates of consumer frustration. Skeptics question whether this can be achieved, and also whether the price – detailed collection of potentially personal information – justifies the predicted result.[80]

Another significant marketing trend highlighted during the Tech-ade hearings is the emergence of mobile advertising.[81] Designed to serve advertisements to consumers not only at the right time, but in the right place, mobile marketing takes advantage of the ubiquity of mobile devices, including cell phones, in the United States and throughout the world. Spending in the

U.S. on mobile marketing, which totaled only $421 million in 2006, is expected to be $1.6 billion in 2008, and to soar to $4.8 billion 2011.[82]

One type of mobile marketing that has made its debut overseas and is anticipated to make its way into the U.S. marketplace is the delivery of a commercial message based on the recipient's physical location – for example, ads for restaurants near the recipient's actual location are sent to his mobile phone.[83] U.S. consumers are now beginning to send text messages to receive information about nearby commercial locations, such as restaurants and gas stations, and location-based ads of the future may result in such advertisements automatically being served when a consumer enters a certain geographic location. All location-based services through mobile devices require marketers or their phone service partners to have very specific information about a person's whereabouts at a particular time.[84] The use of such data, some of which is already regulated by the Federal Communications Commission,[85] may raise very fundamental privacy concerns.[86] Perhaps, some suggest, commercial messages should not be allowed to be delivered on mobile devices unless a consumer has agreed to receive them.[87]

Interactive advertising is yet another development. A twist on "pull" marketing, where consumers decide which messages to engage with based on their interest, an example of interactive advertising involves QR or "quick response" codes, already used in Asia.[88] These codes, not unlike bar codes we see on merchandise every day, contain much more information than simply product identity and price. Indeed, a consumer who uses a mobile device to read a QR code placed on a product, billboard, or other item, may be served an entire advertisement for a good or service, complete with details, text, and picture descriptions, and even a coupon or other incentive to make a purchase.[89]

Set top boxes used by cable providers also provide an opportunity for interactive advertising. These boxes, designed to allow for channel selection and to receive and record information, enable communication between content providers and advertisers, as well as the consumer user. The information collected about channel and show preferences, pay-per-view and shopping channel purchases, and usage patterns may inform advertisers' targeting decisions, potentially leading to more relevant messages being served to consumers.

Challenges

Safeguarding consumers and ensuring a fair marketplace online and off is the FTC's primary concern. Regardless of the technology or technique used – and regardless of whether they appear online or off – ads with messages about a product's or service's price, quality, or other attributes are important sources of information, and the FTC must continue to make sure they are truthful, non-misleading, and clear and conspicuous. New technologies may present unique challenges for sellers who may be uncertain how to apply traditional advertising law principles to advertisements delivered in new ways. For example, in online advertisements where content is not all delivered in a single document, but instead may involve a series of windows or pages of information opening in an order determined by the consumer, the net impression of the advertisement may be more difficult to ascertain. The Commission's *Dot Com Disclosures* guidance provides useful principles for businesses in applying traditional advertising law principles to advertising delivered using new technology.[90]

Finally, as with other new types of marketing and advertising, collection and use of potentially private information may pose concerns. As technology enables fragmentation in the market, and as it enables advertisers to use micro-targeting, widgets, tags, and even chats with

celebrities who may or may not be "endorsing" a product, the FTC will continue to monitor the landscape, coordinate with law enforcement partners domestically and around the world, monitor complaints from consumers, and have an open ear to business and competitors to inform our enforcement, outreach, advocacy, and policy development work.[91]

IV. New Payment Methods are Emerging

Consumers have been using electronic payment technologies for years in the form of credit cards, and more recently, debit cards, stored value cards, and ACH debits. Indeed, data show that in recent years, check volume has decreased, credit card volume has increased slightly, and debit card volume has increased significantly.[92] As reflected both in existing payment systems and those under development, consumers value convenience not only in the goods and services they buy, but also in the way they pay for them. But, for consumers to accept new payment methods, they must have confidence that their financial information will be kept private and secure. They will count on consumer protection officials to enforce the laws, to educate businesses about their responsibilities to keep data secure, and to encourage industry to address the technological glitches that criminals inevitably exploit.

The Landscape

Several new payment technologies are on the horizon. In the coming ten years, consumers will have more options in how they engage in banking on their personal computers; automated teller machines will have new features, such as creating check images for deposits; and payroll cards will enable employers to transfer an employee's wages into an account that she can access through the use of a device similar to a debit card.[93] Innovations and changes in technology will also create entirely new ways for consumers to pay for goods and services.[94] The

new methods are based on providing speed and convenience – features that consumers value, particularly for processing small dollar transactions, like paying for parking meters.[95]

One technology singled out at the Tech-ade hearings as worthy of special attention is contactless payment systems. Financial institutions and some retailers have already begun to issue contactless payment devices, which are intended to be a fast and convenient payment option. RFID chips embedded in the devices are designed to transmit information at the point of sale to a special terminal that is connected to a network, eliminating the need for contact between the card and the terminal.[96] By simply waving the device in the direction of the reader, then, a consumer can make a purchase with no need for a signature or even the swipe of a card.

Another set of payment innovations involve the ubiquitous mobile phone. Currently, consumers pay for mobile phone service and content they download. Early adopters are using mobile phones that send text messages tied to other payment systems – paying for a cab fare or parking, for example, and receiving a receipt via text message – as well as phones that can transfer money.[97] The next generation of mobile phones almost surely will be equipped with a chip that will enable transactions when a consumer passes the phone close to a reader.[98]

The Challenges

New payment systems present some potential consumer protection concerns. Among these are the possibility that consumers might be unfamiliar with these new systems, some of which may offer fewer statutorily-mandated protections against fraud losses,[99] and concerns about data security. Clearly, emerging methods of payment, which always have merited close attention, will continue to be part of the consumer protection agenda to ensure that consumers who use them are not harmed.[100] To that end, the FTC will host a Town Hall meeting in the

summer of 2008 to examine consumer protection concerns regarding contactless payment technology.[101]

V. Looking Forward – Responses to Consumer Protection Challenges

The Tech-ade hearings provide a solid foundation for identifying the consumer protection challenges that the agency will confront during the next decade. As it has for the past decade, the FTC will continue to use four main tools to develop an effective and balanced response to protecting consumers in an environment of new technologies – law enforcement, consumer education, fostering industry self-regulation, and research and policy development.

Law Enforcement

Scope of the FTC Act

Law enforcement is the Commission's primary tool used to combat fraud in the marketplace, be it high- or low-tech. The prohibition on unfair or deceptive acts or practices in Section 5 of the FTC Act is an excellent tool to protect consumers while minimizing the risk of unintended and adverse consequences.[102] It has been the framework for successful challenges to unfair and deceptive acts and practices related to new technologies – television, 900 numbers, and the Internet, to name a few – for nearly 70 years.[103] The Commission's enforcement focuses on conduct that causes or is likely to cause consumer harm; thus FTC enforcement actions under Section 5 challenging such conduct and obtaining reasonably related relief are unlikely to restrict conduct that would benefit consumers.

Combating Fraud

A primary focus of the FTC's law enforcement efforts over the past decade has been combating online fraud, and the Tech-ade hearings made clear that the Internet will remain a

fertile ground for fraud in the coming years.[104] During the next decade, the agency will continue to fight online fraudsters, hone our skills in digital forensics, and address the infrastructure that supports Internet fraud.

One of the greatest law enforcement challenges to combating online fraud is that technology enables fraudsters to hide from law enforcement.[105] Whether they are repackaging traditional scams for online consumption, or using the Internet to commit phishing attacks, load spyware, or send spam, scam artists exploit the anonymity that the Internet provides, using servers and email accounts that cannot readily be traced back to them. In addition, many Internet scams are structured so that numerous actors each execute discrete tasks in a complicated affiliate chain. Spyware distributors, for example, often use a complex system of affiliates and sub-affiliates to distribute their products to consumers, with each entity in the distribution chain receiving a financial benefit. Over the coming decade, the FTC will continue to hone its investigatory techniques and avail itself of all emerging means of identifying perpetrators of online scams.

Technology also has facilitated collaboration between scam artists residing in different parts of the world, presenting challenges for law enforcement agencies worldwide to work together to combat these international frauds. In some instances, for example, online businesses abroad engage in unfair or deceptive acts and practices that harm American consumers, but rely on support from entities in the U.S. to accomplish their ends. FTC prosecution of the domestic entity supporting the foreign online business may be the best way to prevent harm to American consumers. At the same time, while Section 5 of the FTC Act's broad prohibition on unfair or deceptive acts and practices has given the agency ample authority to bring enforcement actions

against those who engage in online fraud, the international nature of many frauds requires the agency to work with law enforcement officials beyond our borders.[106]

Efforts to stop cross border fraud and other harmful conduct online were bolstered in December 2006, when the Congress passed and the President signed the US SAFE WEB Act (Undertaking Spam, Spyware, and Fraud Enforcement with Enforcers Beyond Borders Act).[107] In short, this law:

- allows the FTC and foreign law enforcement officials to share information, with appropriate confidentiality assurances, in consumer protection matters;
- protects confidential consumer protection information that the Commission receives from foreign law enforcement officials from public disclosure;
- enables the FTC to obtain more information from the private sector – including the financial sector – about Internet fraud; and
- allows the FTC to conduct investigations and discovery to help foreign law enforcers in appropriate cases.[108]

To address harmful online conduct that originates abroad, the FTC has collaborated with foreign consumer protection officials in a variety of ways. For example, as an active member of the International Consumer Protection and Enforcement Network (ICPEN), an organization of consumer protection agencies from 32 countries, the agency shares information about cross-border activities that may affect consumers and encourages cross-border cooperation. The FTC also has joined 19 other consumer protection agencies from 15 countries to create the London Action Plan on International Spam Enforcement Cooperation, which facilitates information sharing and coordination of enforcement regarding spam and other online threats among

members. It also has entered into several Memoranda of Understanding ("MOUs") with agencies in some countries to enhance cooperation on consumer protection law enforcement matters. The FTC currently has general consumer protection MOUs with agencies in Australia, Canada, China, Costa Rica, Ireland, Mexico, and the United Kingdom, and MOUs specifically relating to spam with the enforcement agencies in Australia, the UK and Spain.[109] Outreach to the appropriate enforcement authorities in developing nations must also be a priority on the international consumer protection agenda.[110] Wrongdoers within these countries are a significant source of harm to American consumers, and consumers throughout the world.[111]

Cooperation with state and federal law enforcers within our own borders also is critical to success in combating online fraud.[112] The FTC has a long history of effective collaboration with state consumer protection officials, and, in addition, has been building relationships with federal criminal investigators and prosecutors through our Criminal Liaison Unit, which coordinates with criminal law enforcement agencies across the country to encourage criminal prosecution of consumer fraud. Federal criminal and civil law enforcement officials have stressed the value of working together to discover the best ways to protect consumers from potential harms associated with new technologies, given the differences between criminal and civil legal standards, burdens of proof, and remedies.

Challenging Unfair Practices

Given the amount of information – personal and otherwise – about consumers that is likely to be collected, used and stored, privacy will continue to be a top consumer protection priority for the FTC. To date, the Commission has brought twenty enforcement actions against companies that have failed to take reasonable measures to keep consumer information secure.[113]

The FTC will continue to enforce aggressively special statutes related to privacy, including the Gramm-Leach-Bliley Act, the CAN-SPAM Act, the Telemarketing and Consumer Fraud and Abuse Prevention Act, the Fair Credit Reporting Act, the Fair and Accurate Credit Transactions Act, and COPPA.[114] The Commission also will use Section 5 to attack acts and practices that, through deception or unfairness, threaten consumer privacy in the marketplace. Applying traditional principles of deception and unfairness to acts and practices related to new monitoring technologies like sensor networks and RFID, as well as to behavioral targeting and mobile marketing, will focus the agency's inquiry on practices that are likely to injure consumers.

Consumer and Business Education

Meaningful consumer protection depends on education as well as enforcement. The FTC's outreach program strives to give consumers the tools they need to protect themselves, and to give businesses the guidance they need to comply with the law. To extend the reach of the message, the FTC has collaborated with public and private sector partners, other law enforcement agencies, community-based organizations, and the media to ensure that the messages are disseminated as widely as possible.

As a marketer of information, the Commission must use innovative, engaging, and creative tools to reach its target audiences and to compete with other sources of information. New technologies change what audiences find interesting and appealing, though, and the FTC will need to explore creative and interesting vehicles for conveying information. As in the FTC's past efforts to use relevant technology to present effective messages, such as the creation of "teaser" websites that mimicked fraudulent sites to educate consumers about certain categories of

fraud, we expect to take advantage of new technology to reach broader audiences with important and well-timed education materials.

New payment technologies and systems will be an important subject for consumers – and for consumer education – in the near term. Change and innovation in payment technologies are proceeding at a dizzying pace, and the legal rights of consumers vary with payment technologies. In addition, data privacy and security will be key subjects for outreach to both consumers and businesses. The Commission will build on its OnGuardOnline.gov website; its Deter, Detect, Defend: Avoid ID Theft campaign; and its education materials on protecting personal information in the workplace to continue to educate and inform consumers about these new issues.[115]

Industry Self-Regulation

Industry self-regulation is an important complement to FTC efforts to respond to consumer protection challenges. Effective self-regulatory organizations have the ability and economic incentives to respond quickly to changes in technology or the marketplace, and can develop workable, practical standards based on their knowledge of their members and their customers. The FTC then can analyze the development of the standards and monitor their implementation to ensure that consumer protections are adequate.

The merits of self-regulation in the context of addressing privacy risks has been the subject of significant discussion, and some industries have been quick to respond with their own codes. For example, the Mobile Marketing Association, a consortium of hand-held device advertisers, manufacturers, carriers, and operators, issued guidelines that require members to "comply with all applicable laws dealing with children and marketing, including COPPA and

regulations regarding age restrictions for particular products."[116] One Tech-ade panelist explained that developers of RFID devices also have developed industry self-regulatory guidelines for privacy.[117] During the hearings, social networking sites were encouraged to adopt and implement self-regulatory standards to protect the privacy of children who use their sites.[118] The Commission will continue to monitor the development and implementation of self-regulatory standards related to privacy to determine whether they allow consumers to get the benefits of new technologies without exposure to any undue risks.

Research and Policy Development

In order to stay abreast of marketplace developments related to the agency's consumer protection mission, the FTC engages in research and policy development initiatives, such as convening hearings; holding conferences and workshops on a variety of issues, including those related to technology and the Internet; and preparing original research through the Bureau of Economics, the Bureau of Consumer Protection, and the Office of Policy Planning. The public events, which bring together industry analysts, law enforcers, academics, and attorneys, are an important means of educating the agency and its staff about cutting-edge issues in a number of areas. The information gleaned at these events enables the agency to make informed policy decisions that strike the proper balance between protecting consumers' interests and ensuring that businesses are not unduly constrained in providing goods and services.

The Tech-ade hearings were an important step in the FTC's on-going process of integrating the consideration of technological change into consumer protection policymaking. Lessons learned from the hearings have informed the work of agency staff in litigation, rulemaking, and policymaking. Some technologies and applications discussed at the Tech-ade

hearings will be the subject of further study by the agency in a series of town hall meetings. The first of these events occurred on November 1-2, 2007, when the FTC invited stakeholders to examine the effect of behavioral targeting on consumer privacy.[119] Additional Town Hall meetings will cover mobile marketing and contactless payments.[120]

VI. Conclusions

The Tech-ade hearings represent the latest chapter in the FTC's effort to develop consumer protection policies and practices that address the effects of changes in technology in the marketplace. Based on the Commission's experience and the information provided at the Tech-ade hearings, the FTC offers the following conclusions regarding how to prepare to meet the consumer protection challenges on the horizon:

- The Internet is continuing to expand and mature both as a marketplace for goods and services and as a marketplace of ideas, but on-line fraud, especially cross-border fraud, is a threat to its optimal development. The FTC will work to prevent Internet fraud by:
  - Using its new powers under the U.S. SAFE WEB Act to coordinate and cooperate more closely with foreign consumer protection officials.
  - Ensuring that consumer-producers who engage in activities to market and advertise products for consideration do so within the confines of laws prohibiting unfair or deceptive acts or practices in trade.
  - Developing new strategies and harnessing the power of technology to deliver timely and effective consumer education messages.

- Consumers increasingly want to access content, including commercial messages; create and share content and information about themselves; and pay for goods and services how, when, and where they want. The FTC will work to prevent unfair or deceptive acts and practices that adversely affect the ability of consumers to make these types of choices.
- Products in the marketplace are changing constantly and rapidly as a result of obsolescence, convergence, interoperability, digital rights management and a host of other considerations. The FTC will work to prevent consumer harm arising from these changes by:
    - Monitoring and prosecuting those who engage in unfairness or deception to exploit consumers' lack of familiarity with new products, and using consumer education programs to edify consumers.
- Technological advances are making it technically and economically feasible to collect, use, and store massive amounts of information – including sensitive information – about consumers. The FTC will work to protect the privacy and security of consumer information in this new information environment by:
    - Aggressively enforcing its special statutes related to privacy as well as Section 5 of the FTC Act.
    - Encouraging the development and implementation of self-regulatory standards related to new technologies that raise privacy and security concerns.

- Engaging in substantial business education efforts to encourage the adoption of reasonable security procedures to decrease the risk of data breaches.

- Technology and business practices will continue to evolve rapidly, creating the potential for benefits and harms to consumers. The FTC will seek to prevent injury to consumers in this dynamic marketplace by continuing to engage in substantial consumer education efforts and by serving as a "convener," regularly bringing together interested parties to discuss new technologies and their consumer protection implications.

The Tech-ade hearings made clear that technological developments will re-shape the marketplace over the coming ten years, changing consumers' everyday experiences in significant ways. While the anticipated pace of change and scope of developments undoubtedly are impressive, technological change is not a new phenomenon. Over the past decades, our society has realized great benefits from technology: the introduction of timesaving devices, expedited methods of transacting business, and increased access to information and entertainment among them. In some cases, these new technologies – or business practices enabled by them – have harmed consumers. When that has happened, the FTC and its law enforcement partners have intervened, either applying existing laws to reach the illegal conduct or crafting and applying new legal remedies with specific effect on the new practices. That hurdles lie ahead in the coming decade is certain. Businesses, consumers, and law enforcers alike will have to be ready to meet these challenges, and work collaboratively to ensure that the benefits of technology are not overshadowed.

1. *See* Tech-ade Website, http://www.ftc.gov/techade (last visited Mar. 23, 2008).

2. Hollman, Tr. I at 23.

3. *See, e.g.*, Bates, Tr. I at 38 ("As we go forward, consumers want to take control of what they are watching and what they are doing and when they are doing it."); Kohlenberger, Tr. II at 232 (in context of convergence, this speaker noted, "It is really empowering consumers. For 100 years, we have answered our phones, and now they can answer to us. We can take charge, we can move them with us. We can have any phone number we choose, we can send it to any phone.").

4. Edwards, Tr. I at 103 (the explosion of user-generated content is the most exciting trend on the Internet); Winn, Tr. I at 293, 295 (the new consumer is an active participant in communications); Rosch, Tr. II at 49 (noting that "the extent to which people can now create and share content by using technologies like the computer, telephone, and Internet" has changed the consumer protection landscape).

5. Amanda Lenhart, *Presentation of Pew Internet & American Life Project* (Nov. 6, 2006), http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/lenhart.pdf at 9; Lenhart, Tr. I at 258-59.

6. Lenhart, Tr. I at 257.

7. A researcher provided survey data showing that in 2006, 60 percent of home Internet users had broadband (this equates to 42 percent of the adult American population), and that 73 percent of content creators had broadband. Amanda Lenhart, *Presentation of Pew Internet & American Life Project,* Nov. 6, 2006, *available at* http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/lenhart.pdf at 2, 6 (citing Pew Internet & American Life Project telephone surveys); Lenhart, Tr. I at 256, 260. In 2007, the percentage of adults reporting that they had broadband access at home rose 5 percent to 47 percent. John B. Horrigan, *U.S. Lags Behind: Why it Will be Hard to Close the Broadband Divide (*Aug. 1, 2007)*, available at* http://www.pewinternet.org/pdfs/Broadband_Commentary.pdf.

8. According to an October 2007 report from independent market analyst Datamonitor, membership in social networking sites will reach 230 million worldwide by the end of 2007. *See* Datamonitor, "The Future of Social Networking: understanding market strategic and technological developments," October 2007, *available at* http://www.datamonitor.com/home/press/article/?pid=F17026AF-6994-470A-B61F-1DAF44E94F50&type=PressRelease.

9. Sun, Tr. I at 214, 217.

10. Kelly, Tr. I at 219-20.

11. Kelly, Tr. I at 250.

12. Boyd, Tr. I at 235.

13. *Id*. at 235-37. The panelist noted four key differences between interactions on social networking sites and real life interactions: (1) persistence: information users enter on social networking sites may remain available for a long time; (2) "searchability": anyone, including peers, marketers, and predators, can search sites to find what they are looking for; (3) "replicability": content, such as a conversation, can be copied and pasted onto a social networking site; there is no way to determine if it is real; and (4) invisible audiences: it is impossible to know to whom you are speaking; kids often will choose to speak in the voice they would use with their peers, rather than adults. *Id*. at 238-40.

14. Press Release, Nielsen/NetRatings, *U.S. Teens Graduate from Choosing IM Buddy Icons To Creating Elaborate Social Networking Profiles, According to Nielsen/NetRatings* (Oct. 11, 2006) http://www.nielsen-netratings.com/pr/pr_061011.pdf;
Harbour, Tr. I at 206

15. Amanda Lenhart, *Presentation of Pew Internet & American Life Project,* Nov. 6, 2006, *available at* http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/lenhart.pdf at 8 (citing Pew Internet & American Life Project telephone surveys) (data show that 87 percent of bloggers allow comments).

16. *See* A. Lenhart, et al., *Teens and Social Media*, Pew Internet & American Life Project, Dec. 19, 2007 (citing Pew Internet & American Life Project telephone surveys).

17. Lenhart, Tr. I at 261.

18. *Id*. at 262.

19. *See* Press Release, comScore, *Online Consumer-Generated Reviews Have Significant Impact on Offline Purchase Behavior* (Nov. 29, 2007), *available at* http://www.comscore.com/press/release.asp?press=1928 (summarizing the findings of an October 2007 survey of Internet users regarding the importance of consumer-generated reviews. According to the survey results, nearly one-quarter of offline shoppers used online reviews to guide purchase decisions, more than three-quarters of those using reviews reported that they had a significant effect on decision-making, and 97% of those who made a purchase based on a review reported that the review had been accurate).

20. Fox, Tr. II at 29-30.

21. Chen, Tr. I at 265, 268.

22. *Id*. at 268-69.

23. Worldwide revenues for social networking sites are also on the rise, expected to increase from $1.2 billion in 2007 to $4.1 billion by 2011. *See* eMarketer.com, *Social Network*

Marketing: Ad Spending and Usage, Dec. 2007, *summary available at*: http://www.emarketer.com/Reports/All/Emarketer_2000478.aspx?src=report_head_info_reports.

24. One study reported that 55% of Americans between the ages of 12 and 17 have created a profile on a social networking site, including 70% of girls ages 15 to 17 and 54% of boys ages 15 to 17. Amanda Lenhart and Mary Madden, *Social Networking Websites and Teens: An Overview*, Pew Internet & American Life Project (Jan. 7, 2007), *available at* http://www.pewinternet.org/PPF/r/198/report_display.asp. Among teens who created such a profile, 85% of them created a profile on MySpace, making it far-and-away the most popular social networking site for teens. *Id*.

25. *See*, *e.g.*, Chris Kelly, *Presentation of Facebook* (Nov. 6, 2006), http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/kelly.pdf at 3; Kelly, Tr. I at 221-22 (explaining that Facebook utilizes segmented communities, such as members that attend the same school, that bar access to unknown users).

26. Federal Trade Commission, FTC Facts for Consumers, *Social Networking Sites: Safety Tips for Tweens and Teens* (2006), available at: http://www.ftc.gov/bcp/edu/pubs/consumer/tech/tec14.pdf.

27. *See*, *e.g.*, Press Release, Federal Trade Commission, *The Buddy System for Safe Social Networking Online* (Oct. 31, 2006) (announcing a new game, "Buddy Builder," that quizzes players on safe online practices), available at http://www.ftc.gov/opa/2006/10/fyi0669.shtm; Federal Trade Commission, FTC Facts for Consumers, *Social Networking Sites: Safety Tips for Tweens and Teens*, 2006, available at: http://www.ftc.gov/bcp/edu/pubs/consumer/tech/tec14.pdf; and Federal Trade Commission, FTC Facts for Consumers, *Social Networking Sites: A Parent's Guide*, 2007, available at: http://www.ftc.gov/bcp/edu/pubs/consumer/tech/tec13.pdf. Efforts by the Federal Bureau of Investigation in this area include a website devoted to tips on safeguarding children who visit social networking websites. *See* http://www.fbi.gov/page2/april06/socialnetworking040306.htm (last visited Mar. 24, 2008). Non-profit groups also provide guidance to children and parents on safety concerns relating to social networking. *See, e.g.*, National Center for Missing and Exploited Children, *Keeping Kids Safer on the Internet*, 2006, *available at*: http://www.missingkids.com/en_US/publications/NC168.pdf.

28. *See* Prepared Statement of the Federal Trade Commission On Social Networking Sites, before the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce of the United States House of Representatives, presented by Commissioner Pamela Jones Harbour (June 28, 2006), available at http://www.ftc.gov/os/2006/06/060626socialnetworking.pdf; Deborah Platt Majoras, Chairman, Federal Trade Comm'n, Keynote Address at the Family Online Institute: *Rights and Responsibility: Protecting Children in a Web 2.0 World*, (Dec. 6, 2007) *available at:* http://www.ftc.gov/speeches/majoras/071206fosi.pdf.

29. *See United States v. Industrious Kid, Inc.*, CV No 08-0639 (N.D. Cal. filed Jan. 28, 2008); *United States v. Xanga.com, Inc.*, Civil Action No. 06-CIV-6853(SHS) (S.D.N.Y. filed Sept. 7, 2006).

30. *See* Children's Online Privacy Protection Act of 1998, 15 U.S.C. 6501-6508; Children's Online Privacy Protection Rule, 16 C.F.R. § 312.

31. 16 C.F.R. § 312.5. *See United States v. Industrious Kid, Inc.*, CV No 08-0639 (N.D. Cal. filed Jan. 28, 2008).

32. *See, e.g., United States v. UMG Recordings, Inc*., Civil Action No. CV 04-1050 (C.D. Cal. filed Feb. 18, 2004); *United States v. Bonzi Software, Inc.*, Civil Action No. CV-04-1048 (C.D. Cal. filed Feb. 18, 2004); *United States v. The Ohio Art Company*, Civil Action No. 4:CV03-350 (M.D. Penn. filed Feb. 27, 2003); *United States v. Mrs. Fields Famous Brands, Inc.*, Civil Action No. 2:03 CV205 JTG (D. Utah filed Feb. 27, 2003).

33. *See* Federal Trade Commission Facts for Businesses, *Screening Advertisements: A Guide for the Media* (2006) *available at:* http://www.ftc.gov/bcp/conline/pubs/buspubs/adscreen.shtm#Introduction.

34. *See* 16 C.F.R. § 255.0, Federal Trade Commission, *FTC Guides Concerning Use of Endorsements and Testimonials in Advertising, available at:* http://www.ftc.gov/bcp/guides/endorse.htm. *See also FTC Staff Opinion Letter from Mary K. Engle to Gary Ruskin, Commercial Alert* (Dec. 7, 2006) *available at* http://www.ftc.gov/os/closings/staff/061211staffopiniontocommercialalert.pdf.

35. *See FTC Staff Opinion Letter from Mary K. Engle to Gary Ruskin* (Dec. 7, 2006) *available at* http://www.ftc.gov/os/closings/staff/061211staffopiniontocommercialalert.pdf.

36. Rosch, Tr. II at 51 (noting that monitoring advertising in "a growing media universe [is] a daunting task.").

37. Bates, Tr. I at 38.

38. For example, some cellular telephone companies are contemplating reducing subscribers' bills in exchange for viewing of advertising messages. *See* L. Story, *Madison Avenue Calling*, The NYTimes.com, Jan. 20, 2007, *available at*: http://www.nytimes.com/2007/01/20/technology/20mobile.html?st=cse&sq=cellphone+watching+ads&scp=12.

39. Eduardo Valades, *Presentation of iHispanic Marketing Group*, available at: http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/valades.pdf at 3 (citing iHispanic Marketing Group / Global Market Insight (GMI) data, Mar. 2006); Valades, Tr. II at 60.

40. Cheng, Tr. I at 131 (discussing the need to adapt to new distribution channels); Schulman, Tr. I at 44-50.

41. Morgan, Tr. II at 54; Schulman, Tr. I at 48.

42. For example, trials in Japan now allow a consumer to choose to seek more information about a product or service advertised on a billboard by aiming a mobile device at a Quick Response ("QR") code. Rather than broadcast this information to all, regardless of interest, the use of QR codes enables interested consumers to quickly and easily learn more. *See* Schulman, Tr. I at 51-52.

43. *See* Press Release, Federal Trade Commission, *FTC Staff Proposes Online Behavioral Advertising Privacy Principles* (Dec. 20, 2007), *available at*: http://www.ftc.gov/opa/2007/12/principles.shtm.

44. *See, e.g., FTC v. Seismic Entertainment Productions, Inc.*, Civ. No. 04-377-JD (D.N.H. filed Oct. 30, 2006) (permanent injunction entered). For more information about spyware, please consult the information on the FTC's website. *See* http://www.ftc.gov/spyware (last visited Mar. 24, 2008).

45. One example of a practice that may undermine consumer choice is burying material information in an end user license agreement ("EULA") rather than clearly and conspicuously disclosing this information to consumers. Panelists commented that consumers generally do not reads EULAs, and, if they do read them, they do not understand them. *See, e.g.*, Hoofnagle, Tr. III at 195; Grant, Tr. III at 224. In appropriate circumstances, the failure to disclose material information except in a EULA may be deceptive in violation of Section 5 of the FTC Act. *See, e.g., In the Matter of Advertising.com*, *Inc.*, FTC Dkt No. C- 4147 (Sept. 16, 2005).

46. Leibowitz, Tr. I at 75 (noting that in an FTC action against Zango, formerly known as 180solutions, a company charged with using spyware to deliver pop-up ads, the FTC sent letters and a copy of the settlement with the company to major advertisers who had used the service as a means of ensuring their awareness of the means used to place their advertisements).

47. *See Federal Trade Commission Staff Advisory Opinion* (June 27, 2002) *available at*: http://www.ftc.gov/os/closings/staff/commercialalertletter.shtm.

48. *See Federal Trade Commission Staff Advisory Opinion* (Dec. 7, 2006) *available at*: http://www.ftc.gov/os/closings/staff/061211staffopiniontocommercialalert.pdf.

49. Fox, Tr. I at 83; *see also Research Brief: Offliners Not Interested in Subscribing*, Center for Media Research, Apr. 2, 2007 ("According to Parks Associates' National Technology Scan, 29% of all United States households do not have Internet access and do not intend to subscribe to an Internet service over the next 12 months. . . . This project found the main professed cause for non-subscribers is not economic but a low perceived value of the Internet").

50. Horvitz, Tr. II at 210-18.

51. FTC Workshop, *Radio Frequency Identification: Applications and Implications for Consumers* (June 21, 2004) (transcript available at: http://www.ftc.gov/bcp/workshops/rfid/transcript.pdf).

52. Smith, Tr. II at 175-80.

53. Anthony LaMarca, *Presentation of Intel Research Seattle* (Nov. 7, 2006), http://www.ftc.gov/bcp/workshops/techade/pdfs/presentations/lamarca.pdf.

54. Terstegge, Tr. II at 197-198.

55. Information regarding the Town Hall meeting will be available at http://www.ftc.gov (last visited Mar. 25, 2008).

56. R. Siklos, *New Disc May Sway DVD Wars*, N.Y. Times, Jan. 4, 2007, at A1. Some manufacturers make players capable of playing both types of discs, and others have produced discs capable of holding content of both types.

57. *See* Press Release, Toshiba, *Toshiba Announces Discontinuation of HD-DVD Business* (Feb. 19, 2008), *available at* http://www.toshiba.co.jp/about/press/2008_02/pr1903.htm.

58. *See* Press Release North American HD DVD Promotional Group, *HD DVD Rallies Consumer Audience in 2007 Driving Nearly One Million Dedicated Player Sales in North America*, (Jan. 6, 2008), *available at:* http://www.thelookandsoundofperfect.com/_inc/hddvd/news/01-06-2008-CES2008.pdf.

59. Jacobs, Tr. III at 78 (DRM permits content owners to manage other people's access to that content); V. Cogley, *Digital Music Economics 101*, Smart Computing (Aug. 2006) ("Digital rights management, or DRM, plays a crucial role in determining what you can and can't do with downloaded music.").

60. The seller who imposes these limits may be a media company who has purchased the content from its creator or it may be the creator himself or herself. Moss, Tr. III at 82. Copyright law imposes restrictions on copying that are limited in time, does not restrict consumers from reselling the copy of a work they purchased to another, and allows consumers to make copies for their own use and other fair uses. DRM may impose limitations that do not permit copying that would be allowed under these basic principles of copyright law. Mulligan, Tr. III at 86-88.

61. Jacobs, Tr. III at 80.

62. Interoperability issues may also raise concerns if they involve anti-competitive behavior. *See, e.g., C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340 (Fed. Cir. 1998).

63. Sohn, Tr. II at 237 ("consumers should know what they can and cannot do with the technology and the software that they buy. Right now they don't know"); Reynolds, Tr. II at 243 ("[U]sers don't know exactly how they can use [the] content that they buy"); Kenney, Tr. III at 108.

64. The FTC resolved complaint allegations that the Sony BMG record label deceived consumers by failing to adequately disclose to consumers that some of the CDs it sold contained DRM restrictions that: (1) allowed the music to be played on consumers' computers, but did not permit the music files to be directly transferred to or played on portable digital devices other than Sony BMG or Microsoft devices, and (2) limited consumers to making three copies of the music files directly from the CDs. Under the consent agreement, Sony BMG must clearly and prominently disclose to consumers restrictions on the devices on which its music CD's can be played and the number of copies that can be made. *In the Matter of Sony BMG Music Entertainment*, *Inc.*, Docket No. C-4195 (decision and order June 28, 2007).

65. *See* Mirabal, Tr. III at 123-137; Bates, Tr. I at 36.

66. The FCC maintains a website with information on the transition at http://www.dtv.gov (last visited Mar. 25, 2008).

67. Mirabal, Tr. III at 123-24.

68. Bates, Tr. I at 39.

69. Bates, Tr. 1 at 37 ("First of all, we're going to have very, very healthy replacement markets. People who have purchased wireless phones are going to continue to buy them. They will upgrade them as new features are included and enabled.").

70. *See* 47 U.S.C. §309, available at: http://www.ntia.doc.gov/otiahome/dtv/PL_109_171_TitleIII.pdf.

71. *See* FCC Consumer Facts, "Digital Television (DTV)," available at http://www.fcc.gov/cgb/consumerfacts/digitaltv.html; the FCC's Digital Television homepage at http://www.dtv.gov/; NTIA's Digital Television Transmission and Public Safety homepage at http://www.ntia.doc.gov/otiahome/dtv/.

72. J. Loechner, *Another Projector Shines*, Research Brief from Center for Media Research, Jan. 9, 2007 (reporting data from eMarketer study); *see* L. Peterson, *IAB Pegs Online Ad Spending at $16.8 Bil, Up 34%*, Online Media Daily, Mar. 8, 2007.

73. Press Release, eMarketer, *eMarketer Revises US Online Ad Spend Numbers* (Mar. 18, 2008), *available at*: http://www.emarketer.com/Article.aspx?id=1006086; B. Tedeschi, *Ad Costs on the Web Are Rising, but Perhaps a Bit Irrationally*, NYTimes.com, Dec. 25, 2006.

74. Press Release, eMarketer, *eMarketer Revises US Online Ad Spend Numbers* (Mar. 18, 2008), *available at*: http://www.emarketer.com/Article.aspx?id=1006086 ("After a plus-20% increase in 2008, spending growth in 2009 will drop to about 16%.").

75. Rashchty, Tr. I at 144, 147; Rainie, Tr. II at 33 (data show that consumers making purchases online usually start at a search engine).

76. Y. Noguchi, *Yahoo's Sickly Summer*, Washington Post, Oct. 18, 2006 ("[T]he largest single source of online advertising revenue - 40 percent - comes from text ads displayed next to search results"); *see* A. Subramanian, *The Difference Between Search, Behavioral, and Contextual Advertising*, Online Media Daily, June 2, 2005 ("Search-based advertising refers to ads that appear on a Web page after a search has been conducted. Search advertising continues to soar in popularity. . . ").

77. One study found that online advertising itself is a key factor spurring consumers to use word-of-mouth marketing to discuss products with other consumers. T. Siebert, *Double Click: Online Advertising Spurs WOM, Study What Works*, Media Daily News, Dec. 29, 2006.

78. According to a report by eMarketer, *Social Network Marketing: Ad Spending and Usage*, spending on online social networking advertising will grow from $920 million in 2007 to $4.1 billion in 2011. *See* report overview, *available at*: http://www.emarketer.com/Reports/All/Emarketer_2000478.aspx?src=report_head_info_sitesearch. *See also* Lordan and Kelly, Tr. I at 250.

79. Marketing Vox News, *Online Ad Spend Expectations Reduced by $1.6B*, Mar. 25, 2008 ("Most online ad spending is for search, but the greatest growth will come from rich media and video ads, eMarketer said, based in part on the large portals' acquisitions (DoubleClick, Adtech, Bebo) in the past year that will bring in the non-search chunk of the market.").

80. *See, e.g.*, Morgan, Tr. II at 57; Barrett, Tr. II at 68; Tilling, Tr. I at 273; Hofmann, Tr. II at 77 (anonymous data "can be combined with personally identifiable data to create a very detailed portrait of a consumer."). *See also* Federal Trade Commission, FTC Tech-ade Blog, *A Debate on New Marketing Techniques*, Oct. 30, 2006, *available at*: http://ftcblog.gov/techade/?p=66 (last visited Mar. 25, 2008). The privacy implications of behavioral advertising were the subject of an FTC Town Hall meeting held on November 1-2, 2007, and the FTC staff's proposed principles for safeguarding consumers' privacy in this area were issued for comment on December 20, 2007. *See* Press Release, Federal Trade Commission, *FTC Staff Proposes Online Behavioral Advertising Privacy Principles* (Dec. 20, 2007), *available at*: http://www.ftc.gov/opa/2007/12/principles.shtm.

81. Stoller and Wieser, Tr. II at 82-88. *See also*, L. Story, *Madison Avenue Calling*, The NYTimes.com (Jan. 20, 2007), *available at*: http://www.nytimes.com/2007/01/20/technology/20mobile.html?st=cse&sq=cellphone+watching+ads&scp=12.

82. S. Hansell, NYTimes.com Bits Blog, *Cheatsheet: Online Ad Spending to Slow*, Dec. 12, 2007, available at: http://bits.blogs.nytimes.com/2007/12/12/cheatsheet-online-ad-spending-to-slow/ (citing eMarketer data); M. Walsh, *eMarketer: High Conversions Fuel Mobile Ad Growth*, Online Media Daily, Jan. 10, 2007. Other estimates suggest that the market for mobile advertising could be even bigger, with as much as $19 billion spent for such ads by 2011. *See* F. Aun, *Mobile Marketing Offers Pot of Gold for the Brave*, Click Z News, Apr. 11, 2007, *available at*: http://www.clickz.com/showPage.html?page=3625543 (citing ABI Research data).

83. Valades, Tr. II at 92; P. Davidson, *Ad campaigns for your tiny cell phone screen get bigger*, USAToday.com, Aug. 9, 2006 ("Carriers, though, are warming to the notion that consumers will welcome useful ads, such as those aimed at subscribers-on-the-go searching for restaurants, gas stations, or movies").

84. This information can be provided either by Global Positioning System ("GPS") technology, which is increasingly commonly included in mobile devices sold today, or through use of triangulation, where the location of a mobile device is determined based on the signal strength of the closest cell phone towers. Sometimes, the two methods are used in conjunction with one another to improve accuracy. *See* N. Lomas, *Location-Based Services to Boom in 2008*, Business Week, Feb. 11, 2008, *available at:* http://www.businessweek.com/globalbiz/content/feb2008/gb20080211_420894.htm?chan=globalbiz_special+report+--+mobile+world+congress+2008_special+report+-+mobile+world+congress+2008.

85. *See* 47 U.S.C. § 222(h)(1) (amendments to the Communications Act in 1999 prohibit telecommunications carriers from using or disclosing wireless location information for non-emergency activities unless the customer had given express prior permission).

86. Valades, Tr. II at 92; P. Davidson, *Ad campaigns for your tiny cell phone screen get bigger*, USAToday.com, Aug. 9, 2006 ("[I]t's the intimate, insistent nature of cell phones that has made wireless carriers cautious about embracing mobile marketing").

87. Hofmann, Tr. II at 89; Brendler, Tr. III at 259-60.

88. Schulman, Tr. I at 51-53.

89. *Id.*

90. FTC, Facts For Business, *Dot Com Disclosures* (May 2000), http://www.ftc.gov/bcp/conline/pubs/buspubs/dotcom/ (last visited Mar. 25, 2008).

91. As noted, *supra*, the FTC hosted a two-day Town Hall meeting in November 2007. The meeting, "E-havioral Advertising: Tracking, Targeting and Technology," brought together experts to focus on the costs and benefits associated with behavioral targeting. *See* http://www.ftc.gov/bcp/workshops/ehavioral/ (last visited Mar. 25, 2008).

92. Hogarth, Tr. III at 6; MacCarthy, Tr. III at 20.

93. Hogarth, Tr. III at 5-9 (government research suggests that some consumers may use payroll cards as a financial management tool, helping to avoid spending and encouraging them to save).

94. MacCarthy, Tr. III at 21.

95. Linlor, Tr. III at 30.

96. MacCarthy, Tr. III at 22.

97. Linlor, Tr. III at 30-31.

98. MacCarthy, Tr. III at 21-22. A video played during the Tech-ade hearings showed consumers using this technology during a pilot test at a sports pavilion in Atlanta.

99. *See, e.g.*, 15 U.S.C. §1601, et seq (TILA)., and 12 C.F.R. § 226 (Regulation Z); 15 U.S.C. § 1693, et seq. (EFTA) and 12 C.F.R. § 205 (Regulation E).

100. For example, pay-per-call technology was the subject of rule-making, law enforcement, and education in the 1990s. *See Pay-Per-Call Rule Review (16 C.F.R. Part 308)*, *available at* http://www.ftc.gov/bcp/adcon/900rule/900.shtm.

101. Information regarding the Town Hall meeting will be available at http://www.ftc.gov (last visited Mar. 25, 2008).

102. 15 U.S.C. § 45(a). Although the FTC generally believes that the preferable approach to dealing with new technologies is through its existing authority under the FTC Act, the agency has vigorously used the additional legal authority that Congress has conferred, such as the CAN-SPAM Act, 15 U.S.C. § 7701 *et seq*., to protect consumers from harm from new technologies or techniques.

103. Majoras, Tr. I at 14-15 (citing spyware as an example of effectively applying the FTC Act to new consumer protection problems).

104. Kovacic, Tr. III at 68 (noting that, despite its benefits, technology has also caused "the cost of committing serious fraud has fallen dramatically.").

105. *See* Press Release, Federal Trade Commission, *Federal State Surfing Catches a Wave of Potential Internet Scams - Over 500 Pyramid Operations Put on Notice* (Dec.12, 1996), *available at* http://www.ftc.gov/opa/1996/12/surf.htm.

106. Recognizing the challenges of addressing consumer protection on a global scale, Chairman Majoras created the Office of International Affairs, which integrates the international functions of the FTC's Consumer Protection and Competition bureaus, as well as the technical assistance program of its Office of the General Counsel. *See* Press Release, Federal Trade Commission,

FTC Chairman Announces New International Affairs Office (Feb. 5, 2007), *available at* http://www.ftc.gov/opa/2007/02/international.htm.

107. U.S. SAFE WEB Act of 2006, Pub. L. 109-455, 120 Stat. 3372 (2006).

108. For a more comprehensive explanation of the U.S. SAFE WEB Act and its implications for consumer protection law enforcement, *see* Federal Trade Commission, *The U.S. SAFE WEB Act: Protecting Consumers from Spam, Spyware, and Fraud*, 2005, *available at*: http://www.ftc.gov/reports/ussafeweb/USSAFEWEB.pdf.

109. The U.S. SAFE WEB Act gives the FTC new authority to enter into binding international cooperation agreements that will expand its ability to engage in reciprocal assistance with its foreign counterparts. U.S. SAFE WEB Act of 2006, Pub. L. 109-455, 120 Stat. 3372 (2006).

110. Molnar, Tr. III at 269.

111. *See* Federal Trade Commission, *Cross-Border Fraud Complaints January - December 2006*, Mar. 2007, *available at* http://www.consumer.gov/sentinel/pubs/pdfs/Cross-Border%20CY-2006%20FINAL.pdf.

112. A representative from the office of a state attorney general noted the efforts of state law enforcers to police standard Internet transactions to prevent fraud. Embrey, Tr. III at 242.

113. A list of these cases is available at the FTC's Privacy Initiatives website, http://www.ftc.gov/privacy/index.html.

114. *See, e.g.*, *United States v. Industrious Kid, Inc.*, CV No 08-0639 (N.D. Cal. filed Jan. 28, 2008) (action for violations of COPPA); *FTC v. Hill*, CV No. H-03-5537 (S.D. Tex. filed Dec. 1, 2003) (action for violations of Gramm Leach Bliley); *U.S. v. ADT Security Svcs., Inc.*, (S.D. Fla. filed Nov. 7, 2007), FTC File No. 042-3091 (action for violations of the Telemarketing Sales Rule); *United States v. Choicepoint*, Civil Action No. 1 06-CV-0198 (N.D. Ga. filed Jan. 30, 2006) (action for violations of the Fair Credit Reporting Act).

115. In December, 2007, for example, the FTC rolled out a new website with practical tips for businesses to use in keeping personal information safe. *See* Press Release, Federal Trade Commission, *FTC Offers Tutorial for Businesses on Protecting Personal Information* (Dec. 3, 2007), *available at* http://www.ftc.gov/opa/2007/12/pi.shtm; website *available at* http://www.ftc.gov/bcp/edu/multimedia/interactive/infosecurity/.

116. Mobile Marketing Association, Best Practices Document, Nov. 27, 2006, *available at* http://www.mmaglobal.com/bestpractices.pdf.

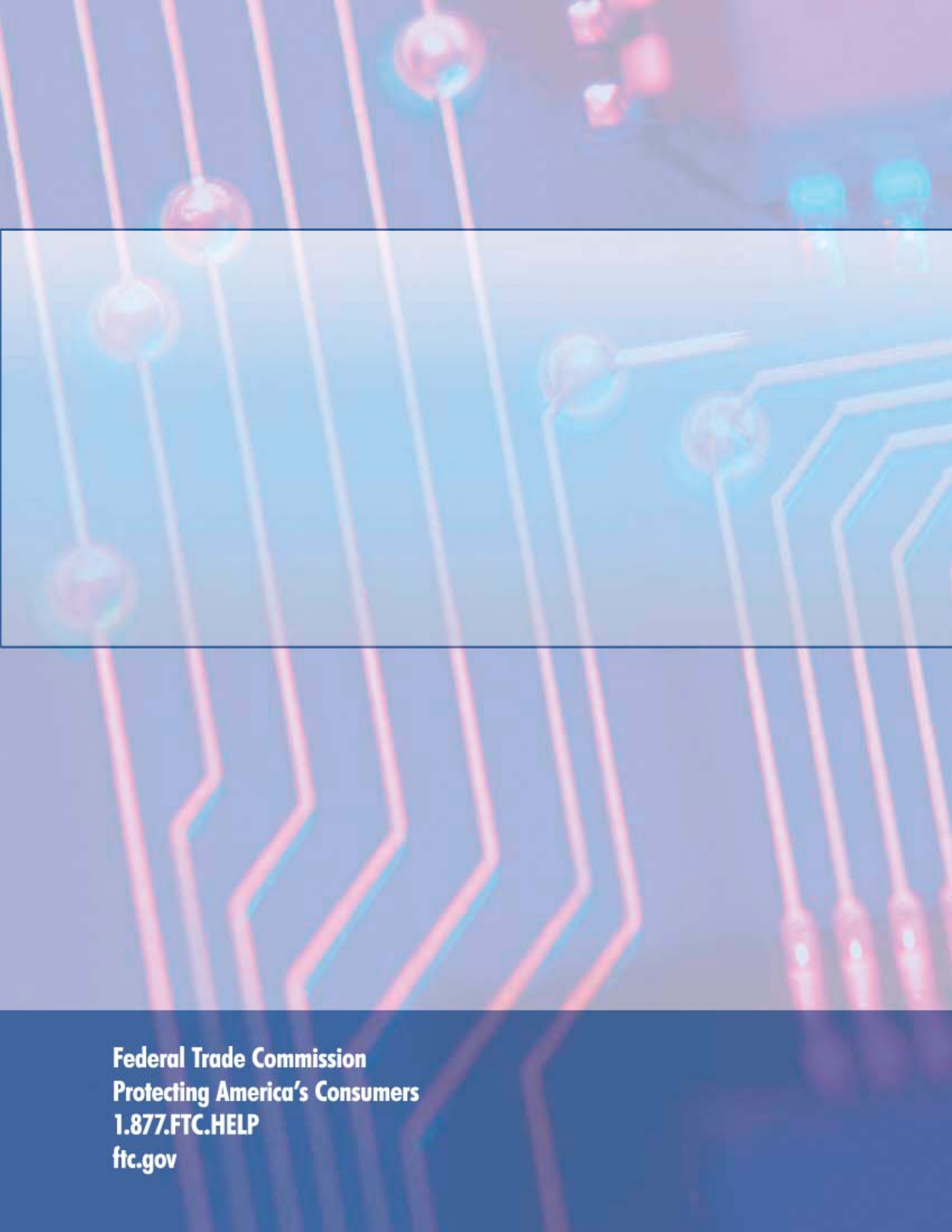
117. Hughes, Tr. II at 218-220.

118. Some sites are establishing easy mechanisms for consumers to report sexual exploitation or other online abuse, and Commissioner Harbour encouraged sites to work together to develop a

uniform reporting system, perhaps using the icon developed by the Virtual Global Task Force. Harbour, Tr. I at 210-11. One website representative noted that his company is working with the Virtual Global Task Force in an attempt to create a more uniformed linking system for reporting abuse. Nigam, Tr. I at 228.

119. *See, e.g.*, FTC Press Release, *FTC to Host Town Hall to Examine Privacy Issues and Online Behavioral Advertising,* (Aug. 6, 2007), available at http://www.ftc.gov/opa/2007/08/ehavioral.shtm.

120. The first of these events will address mobile commerce. *See* Federal Trade Commission, FTC Town Hall, *Beyond Voice: Mapping the Mobile Marketplace*, http://ftc.gov/bcp/workshops/mobilemarket/index.shtml. Information regarding the upcoming Town Hall on contactless payments issues will be *available at* http://www.ftc.gov (last visited Mar. 25, 2008).



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