THE ECONOMICS OF INFORMATION, COMMUNICATION, AND ENTERTAINMENT
The Impacts of Digital Technology in the 21st Century

Transitioned Media: A Turning Point into the Digital Realm

Gali Einav
Editor

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The Economics of Information, Communication and Entertainment

The Impacts of Digital Technology in the 21st Century

Series Editor
Darcy Gerbarg
President, DVI, Ltd.
Senior Fellow
Columbia Institute for Tele-Information (CITI)
Columbia University Business School
New York, NY, USA

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Editor
Gali Einav
NY, NY
gali.einav@gmail.com

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Foreword: Content Flows from Anyone to Everyone

Content flows from anyone to everyone; available on any device, anywhere, any time.

The evolution of media industry from analog to digital technology has been underway for half a century. Along this path digital technology is enabling a myriad of new media possibilities. Content creation and delivery, once one-to-many, is now many-to-many. The single living room screen has morphed into what-you-want when and where-you-want it. That grand piece of living room furniture has both exploded and shrunken in size to huge flat panels on the wall and tiny hand-held mobile devices.

Experts in this book series explore the economic, technology, content, and social implications of media's digital evolution. This book looks at how today's consumer behavior and newly available digital content venues are reshaping the media industry.

This time line, provided by A. Michael Noll

- 1946 – B&W Television introduced in US
- 1949 – First digital computer
- 1950 – Color TV
- 1953 – US NTSC analog standard
- 1950s – Magnetic tape recorders and CATV
- 1957–1958 – DARPA sponsored the Internet
- 1960s – First DBS transmissions
- 1970s – Home video recording
- 1980s – Personal computers
- 1990 – World Wide Web invented
- 1990s – Digital Broadcast and HDTV standards
- 2009 – Digital TV switch over in United States

There seem to be a rapidly growing number of terms that we use to describe what used to be simply called "television." Even the way we refer to television has changed. Are we referring to the box itself when we refer to television? Or is the content we used to see on the television box "television?" Clearly we no longer restrict the term "television" to what is broadcast and received via antennas

in homes as television programming. Only a small percent of viewers in the United States even get television programs over-the-air anymore.

Is television "cable" or do we refer to the subscription cable video service as cable television because it used to be the same content that was broadcast and we view it on a television screen? Do we differentiate television content received over the internet and viewed on computer screens as "television" or is this digital "television" Internet Protocol Television, IPTV? Or is this web video? Or is web video; consumer created video content, such as lower production value digital video shorts, usually distributed over the public network, the Internet?

What about mobile TV and 3D TV and interactive TV? These digital television forms seem to denote specific content types as well as specific viewing specifications. Interactive television has its own ambiguities because it can refer to either a one or two screen experience and include telephone or internet participation, or not. Are the video games played with consoles on television sets and monitors interactive television? What about virtual worlds?

With the explosion of available media content, finding what one wants is becoming ever more difficult. TV Guide used to suffice for a small number of broadcast stations and on screen guides worked for the hundreds of channels available over cable or satellite. Today sophisticated online search engines are racing to develop ways to categorize available media content and make it searchable online.

To the consternation of advertisers accustomed to media buys that reached wide audiences, viewing habits have changed. Large audiences have splintered into niche segments. Since new online social networks influence consumer choice, they are garnering more and more traditional media advertising.

Today, through the media industry's adoption of digital technology, we clearly have a transitioned media industry with rich and varied content.

This book, *Transitioned Media: A Turning Point into the Digital Realm* takes a close look at media consumption and consumer behavior with a focus on the implications for content producers and distributors.

Gali Einav has a unique and informed perspective on this topic. She has produced interactive content and has worked as a journalist reporting on digital media content providers. After receiving her Ph.D. from the Columbia University School of Journalism, Dr. Einav was the Director of Digital Technology Research at NBC Universal. Today Einav's international consulting practice advises media companies and guides media start-ups.

New York, USA Darcy Gerbarg

Acknowledgments

This book would not have materialized if not for Darcy Gerbarg, who suggested, over dinner in NYC, I pitch my idea to combine industry and academic perspectives on changes in media in a digital age. I owe Darcy much gratitude. Since 2002 she has invited, supported, and encouraged me to take part in her conferences and publications, all laying the bricks for "Transitioned Media." Thanks to Professor Eli Noam and his academic center; Columbia Institute of Tele-Information (CITI), at Columbia University's Business School, who have provided me with multiple opportunities to create and publish my research.

Immense thanks to the authors who contributed their time, talents, and good will, sharing their insights, extensive knowledge and experience. Fitting in my deadline requirements with their busy schedules was not an easy task and I am grateful for that.

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Many thanks to Zohar Kadmon Sella and Levi Shapiro for their detailed comments and proofreading talents. Thanks to Erica Enfinger, who took the time to provide last minute, much needed data.

Work on this book has been an exceptionally pleasurable experience for me. I hope the excitement and passion of all contributors will convey how truly exceptional this time of transitioning media is.

New York, NY Gali Einav

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About the Editor

Gali Einav is a digital media expert well rooted in both business and academia. Most recently, she was Director of Digital Insights and Innovations Research at NBC Universal, overseeing strategic, business and consumer research across digital platforms. Currently, Gali serves as a digital media consultant and Advisory Board member for emerging technology companies, assisting with the development of digital strategy and adaptation to global markets.

Building on her research at Columbia University's Interactive Design Lab, Gali specializes in consumer usage of interactive media. Her doctoral dissertation at Columbia University analyzed the business, content, and social implications of interactive television in the United States and United Kingdom. She is the author of many publications including "The Content Landscape of Internet Television" in "Internet Television," Noam, Groebel, Gerbarg eds., Lawrence Erlbaum Associates (2004), "College Students: The Rationale for P2P Video File Sharing in P2P Video As a Distribution Medium", Noam, Groebel, Gerbarg eds., (2008) and co-author of "Consumer Behavior in the Digital TV Environment and Beyond," in "Television Goes Digital," Gerbarg (2009).

Gali is a frequent speaker at industry conferences and academic institutions including NYU, UCLA, and Columbia. She served as Adjunct Lecturer at the Center for Design, Digital Arts and Film at NYU and is currently an Adjunct Professor at The IDC School of Communication in Herzliya, Israel and at Fordham University in NYC.

Gali is a former journalist who has worked as a senior producer for the top rated weekly investigative reporting show on Israeli television. There she researched and produced numerous investigate reports, documentaries, and in-depth interviews.

Dr. Einav is the first graduate of the Ph.D. program in Columbia University's School of Journalism (2004). She holds an M.Phil. in Communications from Columbia University (2002) and an M.A. in Communications and Journalism from Hebrew University (1998). She is a member of NATAS and its New York Chapter Advanced Media Committee. Since 2003, she has been serving as a Judge for the Emmy Awards in the Advanced Media Technology category.

About the Contributors

John Carey is Professor of Communications and Media Industries at Fordham Business School. Previously, he taught at Columbia Business School and New York University. He has more than 25 years experience in conducting research about new media, consumer behavior, and telecommunication policy. Recently, he has conducted studies of consumer use of mobile video technologies, the digital transition, online video, the impact of HDTV on viewing behavior, and the media habits of 18–34-year-olds. Clients have included A&E Television Networks, Cablevision, NBC Universal, The New York Times, PBS, Real Networks, and XM Satellite Radio, among others. John is a board member of the Donald McGannon Communication Research Center and on the Advisory Board of the Annenberg School for Communications. He holds a Ph.D. from the Annenberg School For Communication at the University of Pennsylvania and has more than 100 publications about new technology adoption and consumer use of media.

Kristen M. Daly received her doctorate in Communications from Columbia University where her research focused on technology, new media, and cinema. She has worked in independent film and documentary both in the United States and abroad. She is currently working for Ciné Institute, a media education program in Haiti. Her writings have appeared in *Explorations in Media Ecology, Transformations Journal*, and *Peace Review*.

Laura Forlano is a writer, researcher, and consultant based in New York City. Currently, she is a Postdoctoral Associate in the Human Computer Interaction Lab at Cornell University. In 2008–2009, she was Kauffman Fellow in Law at the Information Society Project at Yale Law School.

Forlano received her Ph.D. in Communications from Columbia University in 2008. Her dissertation, "When Code Meets Place: Collaboration and Innovation at WiFi Hotspots," explores the intersection between organizations, technology (in particular, mobile and wireless technology), and the role of place in communication, collaboration, and innovation.

Forlano is an Adjunct Faculty member in the Design and Management department at Parsons and the Graduate Programs in International Affairs and Media Studies at The New School where she teaches courses on Innovation, New Media and Global Affairs, Technology and the City, Technology Policy, Sustainable Design, and Business Ethics. She also serves as a board member of NYCwireless and the New York City Computer Human Interaction Association. Forlano received a master's in International Affairs from Columbia University, a diploma in International Relations from The Johns Hopkins University and a bachelor's in Asian Studies from Skidmore College.

Adam Gerber joined Quantcast as Chief Marketing Officer in October 2007. He is focused on establishing the company as the leading independent audience intelligence service – helping buyers and sellers transact in more actionable and accountable ways.

Quantcast is the first and only audience service enabling all publishers to characterize their increasingly dynamic online audiences and any marketer to define, discover, and deliver target segments they deem relevant. With its innovative approach combining census-level traffic data and a variety of audience-based reference points, Quantcast helps to connect increasingly dynamic media planning and delivery functions.

Today, Quantcast directly measures more than 10 million unique web destinations, generating more than 190 billion monthly Internet events, derived from visits by more than 1 billion global Internet users (220+ million in the United States). This unparalleled visibility allows comprehensive traffic, demographic, and lifestyle profiles of online audiences to be generated.

Most recently Brightcove, Inc.'s Vice President for Advertising Products and Strategy, Gerber joined Quantcast with 15 years of traditional and digital agency media planning and buying experience. A widely recognized industry leader, Gerber has served in various advocacy roles, including committee chair positions with the American Association of Advertising Agencies (4As) and the Interactive Advertising Bureau (IAB).

Jeff Gralnick is a 51-year veteran of broadcast news beginning in 1959 with CBS Television News where for 11 years he learned this new business serving as copy boy, writer, assignment editor, field reporter, and correspondent in Viet Nam during 1968 and was one of the first field producers for 60 min in its first 2 years.

He joined ABC News in 1971 where across 22 years he served as Vice President and Executive Producer of Special News Programs and twice was Executive Producer of World News Tonight. During his two decade plus, he produced coverage of every political convention and election; the Challenger Disaster; the first Gulf War and the 4 days of Liberty Weekend for which he was awarded an Emmy to go along with similar awards for political coverage and the Gulf War.

He left ABC News in 1993 to work with Tom Brokaw until 1996 on the redevelopment of NBC Nightly News which saw the program rise to first place. He then returned to ABC News to oversee development of ABCNews.com. That assignment was followed by 2 years at CNN as Executive Vice President of Financial News where he served until 2001 when he retired.

At present he is Special Consultant for Global Business Development and New Media at NBC News.

In addition to his current work at NBC, he has taught New Media at Columbia University's Graduate School of Journalism; served on the Board of Counselors of the Integrated Media Systems Center at the University of Southern California's Viterbi School of Engineering; and has written extensively about broadcasting and new media.

John Kelly is the founder and lead scientist of Morningside Analytics. John's research blends social network analysis, content analysis, and statistics to solve the problem of making complex online networks visible and understandable. He has directed studies of numerous international blogospheres, as well as domestic networks. He holds a Ph.D. in Communications from Columbia University, and has also studied communications at Stanford and at Oxford's Internet Institute. He is also an Affiliate at the Berkman Center for Internet and Society at Harvard Law School.

Liel Leibovitz received his doctoral degree in communications from Columbia University in 2007. His dissertation, "Thinking Inside the Box: Towards an Ontology of Video Games," focused on the burgeoning medium, the reasons that compel players to interact with it, and the fundamental differences between games and other media. He has served as an

independent media strategist for several American corporations and non-profit organizations, consulting on the intersections of emerging technologies, social media, and commerce. The author of several books of non-fiction – most recently "Lili Marlene: The Soldiers' Song of World War II" – he currently serves as the Executive Producer of Video and Interactive Media at Tablet, an online magazine of Jewish life, politics, and culture.

Lydia Loizides currently serves as Vice President, Business Planning and Development, at Canoe Ventures, owned by the country's largest MSOs. Prior, she served as VP, Interactive at Paradigm Talent & Literary Agency, where she was responsible for digital development for clients and working closely with colleagues to develop digital strategies for the motion picture, television, music, comedy, and personal appearance divisions.

Ms. Loizides was VP, Director at TCEP, part of Interpublic Group, where her objectives were to drive greater understanding of consumers' changing relationships with traditional and emerging media technologies. Before IPG, Ms. Loizides was Principal of Paphion, Inc., a digital consultancy where she worked with media companies including Sony, Advanced Newhouse Communications, Scripps Networks, Arts & Entertainment Networks, ASCAP and others, to build and deploy digital media products. At Ziff Brothers Investments, she leads qualitative and quantitative research efforts in the communications, media, and entertainment sectors. Previously, she served as Sr. Analyst with Jupiter Research, leading research efforts in cable and satellite markets, personal technologies, and entertainment and media. Before her tenure with Jupiter, she spent 6 years in software development Vsystems Inc. and Ncompass Labs, Inc., now part of Microsoft. Ms. Loizides has also served as Adjunct Lecturer, Center for Design, Digital Arts and Film at NYU.

Currently, she is a Trustee of The National Academy of Television Arts & Sciences (NATAS), sits on the Board of Governors of NATAS, NY, and Chairs the Advanced Media Committee of NATAS, NY that awarded Emmys for excellence in advanced media. She also writes a weekly installment for Media Post's TV Board.

Rachel Mueller-Lust is Executive Vice President of the Network sector overseeing Nielsen IAG, On-Line and Mobile products and services. Rachel is responsible for managing the client account and research teams to serve the networks' business needs. She is a featured speaker at numerous professional and academic conferences, associations, and universities.

Prior to her most recent role, Rachel was Executive Vice President of Nielsen IAG's Network Division where she built the client roster to include ABC, CBS, NBC, FOX, A&E, BRAVO, DISCOVERY, ESPN, FOOD, FX, HISTORY, HGTV, HULU, LIFETIME, MTV, SCI FI, SPEED,

TELEMUNDO, TBS, TLC, TNT, USA, and VH1. She was involved in further developing IAG's systems for measuring the effectiveness of TV and Internet ads, product placements and promotions.

Prior to joining IAG, Rachel was Vice President of Sales Research at ABC Television Network, where she oversaw primary research in support of sales and marketing, including television and interactive properties. She directed R&D for new media technologies and partnered with clients on custom projects including advertising and sponsorship effectiveness measurement.

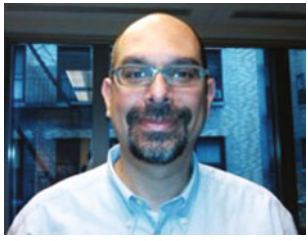
Before that, Rachel was Vice President of Research for Jupiter Media Metrix, where she was responsible for worldwide Internet and digital media measurement. She serviced clients in the Internet, TV, and advertising industries in Europe and the Americas.

Prior to that, Rachel was Vice President of Methodology Research at Nielsen Media Research. During her 9-year tenure, she led research to improve measurement of television audiences.

Rachel began her career as Assistant Professor of Psychology at Oberlin College, conducting research and teaching on topics in cognitive psychology, methodology, and statistics, and the psychology of language.

Rachel also owned *Wondrance Coaching and Consulting*, a firm that provided business coaching and workshops on topics including creating work/life balance, speaking professionally and making career changes.

Rachel holds a B.S. in Psychology from the University of California, Berkeley, an M.S. and Ph.D. in Psychology from the University of California, Santa Cruz and is certified as a professional coach (CPCC). Rachel resides in New York City with her husband Andy.



Rick Mandler, Vice President of digital advertising sales and new media, ABC Television Network sales, is part of the management team responsible for all digital advertising sales for the ABC Television Network, including ABC.com, the ABC Full Episode Player, ABC News.com, ABC Daytime and Soapnet.com, and Oscar.com. Broadly, Mandler's role is to help the sales division navigate through the technological and business developments in this area. Immediately prior, Mandler was VP, Digital Media Advertising for Disney/ABC Television, Digital Media Group, responsible for the strategic development of digital media advertising for the division. This included new advertising products such as telescoping TV ads, dynamic/targeted TV ads, emerging VOD ad models, and adver-gaming, among others. Previously, Mandler was Vice President, General Manager, Enhanced TV for the Walt Disney Internet Group (WDIG), responsible for all business development, production, technical, and integrated sales for Enhanced TV fare produced for all Disney-owned broadcast and cable network programming. Mandler assumed that position in March of 2001. Prior to running Enhanced TV,

Mandler had been Vice President of WDIG Local and Broadcasting. In that position, he was responsible for developing and managing the Internet efforts of the ABC Broadcasting properties, including ABC-owned television and radio stations across the country, ABC Radio Networks, and the localization of WDIGs Internet businesses. Earlier, Mandler was Vice President of new media for ABC Broadcasting after serving as general manager, new media for ABC Radio Networks, where he had operational and strategic responsibility for the ABC Radio division's Internet efforts. Mandler joined Capital Cities/ABC, Inc. (now ABC, Inc.) in 1992 as a general attorney. He was named director of business affairs for ABC News in 1994, where he was responsible for negotiating talent and business agreements.

Horst Stipp is Sen. Vice President of Strategic Insights & Innovation in the Research department of NBC Universal in New York where he oversees strategic marketing and consumer research for NBCU's TV networks as well as the new digital platforms.

Stipp received his Ph.D. in Sociology from Columbia University and has been involved in media research for over 30 years. His publications, in English and German, cover a wide range of topics. Recently, he has written in journals and contributed to books on the development of the media in the digital age and he has presented on these topics at conferences in the United States and in Europe.

Since 2000, he has been teaching a seminar on media metrics at Columbia University's Business School.

Contributors

John Carey Fordham Business School, New York, NY, USA, johncarey@fordham.edu

Kristen M. Daly Cine Institute (Film School), Jacmel, Haiti, kmd85@columbia.edu

Gali Einav TMT Strategic Advisors, New York, NY 10001, USA, gali.einav@gmail.com

Laura Forlano Interaction Design Lab, Cornell University, Ithaca, NY, USA, lef55@cornell.edu

Adam Gerber Quantcast Corporation, 201 Third Street, San Francisco, CA 94103, USA, agerber@quantcast.com

Jeff Gralnick Global Business Development and New Media at NBC News, New York, United States, jeff.gralnick@nbcuni.com

John Kelly Morningside Analytics, New York, NY, USA, john@morningside-analytics.com

Liel Leibovitz New York University, NY, NY, USA, lleibovitz@gmail.com

Lydia Loizides Canoe Ventures, New York, NY, USA, paphion@yahoo.com

Rick Mandler New Media Sales, ABC Television Network, New York, NY, USA, rick.mandler@abc.com

Rachel Mueller-Lust The Nielsen Company, 770 Broadway, New York, NY 10003, USA, rachel.mueller-lust@nielsen.com

Horst Stipp NBC Universal, 30 Rockefeller plaza, New York, NY, USA, horst.stipp@nbcuni.com

Chapter 1
Introduction: The End of Media As We Know It?

Gali Einav

Chicken Little, in Disney's animated 2005 film, declares "The Sky is Falling" after an acorn falls and hits him on the head. Looking at the media industry, it seems like Chicken Little's fears are shared by many.

Let's stop and think of our changing media consumption habits. Have you ever watched a television program or movie on your laptop or mobile device? Do you run home to catch your favorite TV show at exactly 8:00 p.m.? Do you wait for the commercial break to go to the bathroom? Do you have more than 100 friends on Facebook? Did you send or read a Tweet today? How would you have answered these questions five years ago?

The new Millennium has introduced an accelerated pace of change to the media industry brought by an abundance of digital devices. Some changes are apparent, as new technologies reach the mainstream, while some implications can only be suggested. The result is one of the most fascinating times in the history of media.

New forms of video distribution over laptops, mobile devices, game consoles, and digital screens have created the need to reinvent many facets of the media business. Traditional content, business, and organizational models are constantly blurring and changing. Advertising models are morphing before our eyes. Growing audience fragmentation has created the need for new forms of audience measurement. Above all, it is imperative to understand how media consumers are adjusting to these changes. Especially the growing number of "Digital Natives" who know an Internet-oriented media environment.

Is it the end of media as we know it? In some ways it is. Let us rethink media as it transitions into the digital realm.

Historically, the introduction of new media has often been seen as disruptive. In 1982 Jack Valenti, then President of the Motion Picture Association of America (MPAA), compared the danger of the VCR for film producers and the American public with that of the Boston strangler to women home alone. As in the case of the VCR, which eventually played an important role in sustaining movie studio

G. Einav (✉)
TMT Strategic Advisors, New York, NY 10001, USA
e-mail: gali.einav@gmail.com

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revenues, history has shown more often than not that new technologies rather than displacing the old, create new production and distribution opportunities that facilitate growth.

Although much is still evolving in the development of digital media, there are a few main insights and usage trends that can help better predict future directions:

A. The rise of "multitasking." As of September 2009, up to 30% of media use in the United States is concurrent, expanding our media exposure significantly. We watch TV, surf the net, and use our mobile phones all at the same time.[1] One look at children today will assure that "multitasking" is not a fading trend and that the media consumption capacity of each individual is rapidly growing.

B. Broadband video has fundamentally changed media use. As of Fall 2009, over 75% of Internet users watch video online in a given month.[2] While short form video is still the prevalent form of video content online, with YouTube leading in total streams and unique visitors, viewing of long form "full episode" TV and film is rapidly growing.[3] Hulu, an online aggregator of long form content backed by NBC, FOX, and ABC became within 1 year the number two online destination for streaming video. The fastest growing group of viewers of this content is 35–49-year olds, historically the loyal core of television audiences. How will that affect traditional television and film viewing?

C. Growing consumer control and choice. Almost inconceivable 10 years ago, we are being granted the growing ability to choose how, where, and when we will consume our video content. Moreover, the expectation of choice is growing. The vast majority of online video streamers, expecting to be able to watch their favorite shows on the device of their choice.[4] This trend is not likely to diminish.

D. The audience measurement business is changing. Alan Wurtzel, President of NBCU Research, coined the phrase: "you can't sell what you can't measure." New screens, time and place shifting, and the continuing fragmentation of television audiences have resulted in the decline of the traditional television "rating" as a valid currency. Media audience measurement is moving towards a three-screen model (TV, Online, mobile) and increasingly sophisticated metrics to retain leverage with advertisers. Individual-based data is becoming increasingly important. Better understanding of how a single consumer is exposed to media throughout the day is the first step to better targeting with relevant advertising.

E. "Show me the Money." The financial crisis which began in September 2008 did not spare the media industry. While most streamed content online has followed the traditional free, ad-based model, at the time of writing there have been attempts to revert to a subscription or pay per content model. "TV Everywhere" is a cable industry initiative which promises to provide content anywhere, anytime, and on any device only to authenticated paying subscribers. Only a few years ago this cross platform access model was taboo in the conference rooms of big networks. Hulu announced plans to charge for some of their online content. It will be interesting to see which direction the industry will take.

F. The lines between content providers are blurring. Traditional brands are reinventing themselves with new online presence as in the case of Hulu or CBS's TV.com. Online brands such as Google are inching their way toward a television model. In October 2009, it offered a live streamed U2 concert on YouTube.

G. Social networks are growing. Twitter just sent its fifth billion tweet (up from one billion in September 2008). Facebook, measured by number of users, is now the fifth largest country in the world. Social networks are already affecting mainstream media as they create participating communities around media events. During President Obama's inauguration ceremony in January 2009, CNN collaborated with Facebook and allowed viewers, via their live feed, to see in real time the reactions of friends and others watching the coverage. This event garnered over a million concurrent users at peak and millions more that participated throughout the day.

This book is intended to capture this unique moment of fundamental transition. It brings together a blend of industry and academic perspectives on these changes. Capturing the day-to-day, behind the scenes, decision-making processes within media companies and insights from in-depth research. This combination, I believe, ensures a comprehensive look at transitioned media.

The book is divided into three subsections. The first section deals with the changing world of advertising and how networks and advertisers are experimenting with new methods to reach consumers. This section also brings insights on innovative forms of consumer research in a cross platform media consumption environment.

In Chapter 2, "The Video Ad Model in Transition: From Context and Branding to Audience and Action," Rick Mandler and Adam Gerber bring a comprehensive overview and astute insights into the trials and tribulations that the advertising business has been going through, as it morphs from the traditional passive ad model, to a more interactive and targeted one. The chapter sets the context for how the media ecosystem works today, describes the changes it is going through and their implications, and makes some informed speculations about what those changes will mean for both the industry and consumers.

In Chapter 3, "Branded Entertainment: How Advertisers and Networks Are Working Together to Reach Consumers in the New Media Environment," Rachel Mueller-Lust looks at the specific example of branded entertainment as a successful approach through which advertisers try to reach their audience in this new world, in which television programs are increasingly viewed in a time-shifted mode. Whether that takes the form of a branded television program tie-in, or in-program placements that reside with program content and are consumed wherever that content is viewed, Mueller-Lust shows that branded entertainment is growing and establishing itself as a valuable way to reach consumers.

In Chapter 4, "Evolution of Cross Platform Media use in the United States," Horst Stipp brings us the consumer angle, as they adapt and morph into new ways of media use. The chapter summarizes extensive research in the United States, done by NBC research, particularly during the Beijing Olympics, which provides a fascinating case study on cross platform media use. Stipp shows why specific usage patterns emerged and how they are likely to evolve during the next years.

Part two looks at the changing face of traditional media, in particular, with reference to the news business. The production, gathering, and distribution of news has been affected immensely by the advent of digital technologies, opening up the opportunity for more audience participation and additional distribution screens.

In Chapter 5, "We Interrupt this Program," Jeff Gralnick provides us with a documented reading tour through the history of news and journalism as one new technology after another produced what he refers to as a "cosmic change" in "the news business." Gralnick argues that main changes in this business were not the result of dog-eat-dog competitiveness. It was instead new technology displacing old that produced the disruptions that first challenged successful business and then turned into failures those that could not or chose not to adapt. Gralnick brings an interesting case study of MSNBC as one of the businesses who have adapted. He also emphasizes mobile as the next disruptive technology.

The next two chapters parse out the effects of integrating social participation within news coverage. In Chapter 6, "Mobile Social Networking and the News," Laura Forlano brings a personal and ethnographic perspective on the creation of mobile social networks via platforms such as Facebook and Twitter. Forlano looks at how mainstream media coverage has integrated mobile social networking and micro-blogging tools. She focuses in particular on how our experience of the news has become mediated through these platforms, which have transformed one-way transmission channels into two-way interactive media. The chapter analyzes the role of these tools both in the experience of our daily lives and in the way we consume news and participate in significant media events of our time such as the Inauguration of President Barack Obama in January 2009, an event in which the author participated via Facebook.

In Chapter 7, "Parsing the Online Ecosystem: Journalism, Media, and the Blogosphere," John Kelly argues that major activity of the blogosphere actually focuses attention back to legacy media outlets. Kelly's research shows that only about 40% of the links in bloggers' posts are to other blogs. The majority of links point to other kinds of online resources; the most important of which are the websites of mainstream media. The author argues that as the line between audience and stage is blurring, Bloggers are becoming just one part of a larger online media "ecosystem," in which the blogosphere acts as a kind of lens for collective attention, much of which ultimately ends up directed at traditional commercial media venues. Legacy media, particularly journalistic institutions, are star players in this environment.

The third part of the book looks at four individual case studies of various media; HDTV, Music, Film, and Video Games, all of which are in the process of reinventing themselves as they transition into the digital age.

In Chapter 8, "The Transition to Digital TV: A Case Study of HDTV," John Carey takes an in-depth look into the case of HDTV adoption. While the official transition to digital TV in the US took place in June 2009, the actual transition began more than a decade earlier and will continue for many years after 2009. The chapter traces the transition to a major component of digital TV: HDTV. It looks at the origins of HDTV, the battle over standards, the introduction of HDTVs into the marketplace, consumer adoption of HDTV, and how HDTV has changed program content and production. It also considers some of the longer term implications of HDTV such as its potential impact on politics and politicians who come across well or poorly in HDTV. Finally, the chapter poses the question: is Barack Obama the first HD president?

In Chapter 9, "The Fat Lady Still Sings – Bringing Music into the Digital Age," Lydia Loizides brings us the perspective of the music world. In a post-Napster world where record labels and music publishers are still struggling to recover, Loizides looks at the opportunities for new and existing artists through the integration of interactivity into the consumer experience via game consoles, live events, mobile phones, online, television, in-store, and theatrical. The question is: are the labels and publishers listening?

In Chapter 10, "The Transition into the Digital Film Age," Kristen Daly depicts the changing face of the film industry as it transitions into digital cinema. Daly argues that while filmmaking has traditionally been a very structured, expensive, and hierarchical process, digital technologies have opened up new mechanisms and processes, which can offer alternatives to the stable, traditional hierarchies of Hollywood production. Digital and computer technologies are changing the parameters for how movies are made, distributed and seen. The chapter surveys the current landscape, examining the process of moviemaking and what methods, producers, co-operations, and communities are enabled by the influx of digital technologies. On some level, the author argues, all movies today use digital technology.

Lastly, in Chapter 11, "Thumb Wars: Body and Mind in Video Games," Liel Leibovitz brings us a different perspective on why people play video games. Based on an interdisciplinary approach including textual analysis, phenomenology of play, and interviews with gamers and designers alike, this chapter argues a basic difference between watching television and playing video games: sitting in front of the TV, the spectator, however numb, retains his or her own position of subjectivity, and is required to analyze, however minimally, the images and sounds appearing on the screen. The video game player, the author argues, a truly digital being, carries no such burden: he or she form a complex identification with the character they play on the screen, and immerse in play in a way that toggles their subjectivity, awakens their senses, and prevents any real process of interpretation. The chapter will explore this intricate process, as well as its potential implications, and discuss the notion of interactivity as it is manifested in the games.

The fact that there are more questions than answers insures that this discussion will be continued. Meanwhile, whether you are reading these words in printed or electronic, digital form, I hope it provides an enjoyable, insightful and informative read.

Notes

1. According to Nielsen 57% of US TV viewers, which are more than 128 million consumers who have Internet access, use both media at the same time on a monthly basis.
2. In August 2009, a record number of 161 million US Internet users watched 25 billion web videos.
3. *How People Use® TV's Web Connections*, from The Home Technology Monitor™, Feb 2009.
4. According to Nielsen Knowledge Network's *How People Use® TV's Web Connections* study, 65% of online "streamers" say they expect to be able to watch their favorite shows on "the device of my choice".

Part I
The Changing World of Advertising and Consumer Behavior

Chapter 2
TV for the Twenty-First Century: The Video Ad Model in Transition

Adam Gerber and Rick Mandler

From the cave paintings of Lascaux until very recently, advertising, like real estate, has been about one thing . . . location, location, location. Marketers identified a target audience and looked for ways to communicate with that audience by inserting messages into places they were likely to be, or in media they were likely to consume. It has worked well for over 30,000 years. It is all about to change. Location, or more properly in media parlance "context" or "environment," the media in which an ad is inserted, will soon be receding in importance for advertisers, replaced instead with the direct targeting of messages to the individuals likely to purchase an advertiser's goods or services. This message will be delivered without regard to the media which carries it. It will be one of the truly revolutionary changes wrought by the digitization of the media ecosystem.

Another truly revolutionary change is in the nature of the messaging itself. Prior to the dawn of the Internet, much advertising was "passive" in nature. Active advertising or advertising which encouraged some sort of viewer action was labeled "direct response" and was assumed to be limited to low-quality merchandise and typically handled by specialists, outside the "mainstream" of media. While there is some irony in this notion, since the budgets for direct response marketing are considerable and have grown dramatically over the past 10 years (since 2000), if you ask a friend who works in media or advertising (especially television) about direct mail, or response-based television or online advertising ("call or click now for this special offer"), the likely reply will be (with just a trace of condescension) "oh, that is DR, I don't do that." The core of advertising was so-called "brand" advertising with highly impactful "creative" (the ads themselves) designed to establish an identity for a product or service. Response-based advertising and brand advertising existed in separate worlds. Today, those worlds are colliding.

This chapter first discusses some of the concepts which have governed how business in advertising and media has been done and identify how the digitization of the media/advertising ecosystem is changing these established models. We then discuss

R. Mandler (✉)
New Media Sales, ABC Television Network, New York, NY, USA
e-mail: rick.mandler@abc.com

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some of the challenges and opportunities created by these changes for the various stakeholders: advertisers, agencies, media companies, and consumers.

Some Concepts

What Is Context and Why Is It Important?

Context is one of the basic elements of planning and buying media. Context can be high level such as a sneaker brand buying a page in a sports magazine to reach sports enthusiasts, or a diaper brand buying a spot in a soap opera to reach stay at moms at home. It can also be more finely targeted such as a studio buying the ad next to the movie reviews in a newspaper, a food company sponsoring a cooking segment on a morning television news show or a fast-food restaurant buying an outdoor board on a highway just before the exit where its restaurant is located. Regardless of the level of specificity the concept is the same. The attributes of the media in which the marketing message is delivered, its editorial focus, the audience it is likely to attract, the time of the day it is likely to be consumed, etc. make it a target rich environment for a particular advertiser. In short the context becomes a proxy for what the advertiser really covets – people who are their customers or who can be reasonably convinced to become their customers.

The important thing to note is that context is one step away from what the advertiser really covets – people. It is people who ultimately buy, and marketers work very hard to understand which people are more likely to buy their products or services. Through various forms of consumer research, surveys, focus groups, research panels (a group of people who have agreed to reveal their purchase behavior), fine-toothed analysis of sales data, etc. marketers develop a deep understanding of who is or can become their customer – far deeper and more specific in many cases than the audience analysis available for a particular media opportunity. The process of media planning is to then simplify all of that deep customer understanding into a basic target audience and try to map an advertiser's media budget to media which are rich in that target audience.

The rub of course is just how customer rich any one particular media opportunity is. This "richness" is often referred to as "composition." The concept of composition (and the peril of using context to guide how one advertises) was most colorfully illustrated by department store magnate John Wanamaker, who is reported to have said, "Half the money I spend on advertising is wasted; the trouble is I don't know which half." Less colorful, but more useful is an example. For those of you who are media historians, please forgive that it is slightly anachronistic.

Suppose Mr. Wanamaker (1838–1932) had $1,000 to spend on advertising. A local radio station in Philadelphia, the site of his flagship store, will sell him 100 opportunities to play his ads ("spots") over a period of time ("flight dates") for his $1,000. The average listening audience for each spot is 10,000 people. So, for his $1,000 Mr. Wanamaker will have purchased 1,000,000 impressions (an impression

is when a person is exposed to his advertisement), at a cost per thousand impressions (known in the trade as CPM) of $1 (100 spots × 10,000 impressions per spot = 1,000,000 total impressions /1,000 impressions)/($1,000 total spend = $1 CPM). But Mr. Wanamaker knows that the vast majority of the people who actually purchase things in his store are women. Indeed, he has purchased his radio spots in serialized domestic radio dramas (also known as soap operas) which attract a female skewing audience. Observe that we said "skewing." It is almost impossible to deliver an audience composition of 100% in the real world, unless, of course, your target audience is everyone. In actuality, the audience composition of Mr. Wanamaker's radio dramas is 80% female and 20% male. Note what this does to the CPM of Mr. Wanamaker's purchase if it is evaluated based on delivering only women. Because 20% of the audience he purchased for a CPM of $1 is outside his target, his effective CPM (eCPM) is really $1.25 (800,000 impressions are female, for the same cost of $1,000 – essentially, an eCPM "factors out" the audience an advertiser does not care about from his/her cost analysis). This 20% waste can be seen as inefficient, but at least it is waste that Mr. Wanamaker can quantify. What he cannot quantify is how many of the women he reaches with his radio commercials are, for whatever reason, not likely to shop at Wanamaker's. They may live too far away, or prefer a different store, or be of insufficient means to afford Mr. Wanamaker's wares, but they are all listening to his radio spots, and he is paying for them.[1] And what about the men? Of the men (20% in our example) listening to Mr. Wanamaker's spots, a few of them are, or can be persuaded to be, Wanamaker's customers as gift givers. But who are these men? Mr. Wanamaker does not know, and targeting male skewing programming would be too inefficient a way to find them.

This example highlights the challenge of using context to deliver audience. If only Mr. Wanamaker could build a media plan that delivered the highest composition of audience, male and female, that was likely to shop in his store – unconstrained by the audience delivered by a particular "program." In the new digital age of media, in effect he can, and we discuss it later in the chapter, but a few more foundational concepts first.

Audience Engagement

Context has other, more subtle values, apart from being a proxy for a target audience. People choose which media they consume. When you are watching your favorite show on TV you are likely to be in a mental state sometimes described as "engaged" with the show. There are as many different definitions for being engaged, or engagement, as there are people working in media and advertising. From a television programming perspective, we like to think of engagement as paying attention. And historically, that is how advertisers have thought of it as well. As an engaged viewer you are more likely to be influenced by the marketing messages – commercials which are embedded in the show. Thus where two shows may have the same audience size and composition, a marketer will prefer the show with the more

engaged audience because there is a better chance that their message will influence the viewer. Different metrics – even combinations of metrics – are used to define "paying attention" – duration time of viewing (audience watched on average 25 min of a 30-min episode), frequency of viewership (audience watched on average 3 out of 4 episodes). More recently, companies like IAG (now owned by Nielsen) have developed robust ways to survey hundreds of thousands of TV viewers of particular programs, and ask them questions about both plot lines of shows and advertising messages, to establish "engagement scores" for programming.

Digital distribution has framed an intense debate about whether this is an adequate definition of engagement. While many advertisers continue to rely on the "attention" definition, some advertisers, especially those with brands whose advertising acts like content (think movie studio trailers) have begun to move to a much more specific definition of engagement – one that is customized to their specific situation. In place of "attention," they are using "action" as a core component of "engagement." Did a viewer actively engage with an ad (request more content, "click through" to a deeper brand experience, register for a coupon, or buy a ticket, etc.)?

This is a fundamental change in a media consumer's viewing experience and one we discuss in more depth in a later section. The key is that digital provides a two-way connection to the consumer where information can flow back and forth from the consumer and not just to him or her. Digital's two-way path is the differentiator that enables this new, highly engaging "dialogue" between consumer and advertiser to happen. In the video world, this creates a dramatic change to the passive, programmed, linear experience of old. Now, consumers are in control, and they can "pause" their primary content experience to engage – for whatever amount of time they choose – with a secondary experience (advertising-based, God forbid!) before returning to the content they had originally chosen to consume. While an accepted industry term has not yet been blessed, a variety of terms have been coined to describe this new model; "non-linear" or "telescoping" are often the catch phrases used to describe it. And, it is this advancement that will drive a dramatically altered next generation of video-based advertising – one based on delivering a message to the right people, with an ad that has the best potential to engage, and ultimately drive an advertiser's sales (more on this later).

Some people find this counter intuitive. They view commercials (television especially) as unfortunate interruptions of what they really want to watch, and think of them only as distractions from their viewing experience, which have no impact on their purchase behavior. While it is hard to argue with personal anecdotal research, there is scientific research which suggests otherwise.[2] Researchers at New York University's Stern School of Business randomly assigned viewers to groups to watch the same programming. One group watched the programming with commercials; the other group without commercials. Upon completion of the program, participants were asked to rate how much they enjoyed what they watched. The surprising result – viewers of the programming with commercials, actually said they enjoyed the show more than those who saw it without commercials. The commercial breaks improved the overall viewing experience! This leads to another subtle way in which context is important.

The "Halo Effect"

Context can be crucial in establishing the value proposition of a brand[3] in the minds of consumers. You are watching your favorite show. You see a commercial for a particular brand. That brand's placement, adjacent to your favorite show, becomes part of that brand's identity for you. This can be incredibly powerful, especially over time. And while it is hard to imagine that seeing an ad for a brand in your favorite show makes you more likely to pick it off the supermarket shelf, or drive it off the lot, over 75 years of television history says it really does work that way.[4] If it did not advertisers would not be spending nearly $70 billion a year in TV advertising in the United States alone.[5]

This power of a good media experience to help establish positive brand attributes for an advertiser is sometimes referred to as the "halo effect." This effect can work both ways, an unpleasant media experience can have negative effects on an advertiser's brand. This is why brand managers have historically been very careful about where they advertise. They are concerned about the content in which their brands are found, and whether that content is a "safe" environment for their brand. A brand manager's nightmare is to have spent money for advertising that ends up actually tarnishing the consumer's perception of their brand and ultimately reducing sales. It is one of the truths of the business that a brand built up with years and years of savvy marketing and high customer satisfaction can be vaporized with one disastrous turn of events. Think how the brand manager of a wholesome consumer product brand might react when the young starlet hired to be a spokesperson ends up on the covers of the supermarket tabloids. Or what about the brand manager of an airline whose commercial runs next to a news story about a plane crash?

Until recently, it was fairly easy for an advertiser to control where their brand message was delivered. Today, brands have far less control and that change has been driven by the digitization of media, primarily on the Internet, especially in the form of video. Advertisers tend to follow eyeballs, but the eyeballs today are sometimes on content or contexts (also known as environments) that could be perilous for the advertiser. Consumer-generated media now captures a significant amount of viewing. Much of the content on YouTube, a site which topped over 100 million United States viewers in early 2009,[6] is consumer generated. Most of this content from an advertiser's perspective is benign, (though perhaps not strong enough to generate a halo effect), but some of it is not, and filtering out the unacceptable content is a laborious task. And even if an advertiser associates their brand with content it has approved, that content could be syndicated – distributed – to Web sites with other content the advertiser does not want near its brand. Bottom line, controlling context in the new world of digital distribution and consumer control is much harder to achieve.[7]

The Change in How People Watch

Just watching TV remains by far the most popular form of video consumption. At the beginning of television history, consumers were capable of doing very little other

than just watching the programming and the advertisements. This is sometimes referred to as a "passive" experience. But this passivity is more than just "leaning back" in your lounge chair watching your favorite show. In a sense, it extends to the choice of programming you are watching. Each channel/network is carefully scheduled by its programming department. The schedule, like time, moves forward in only one direction, and so this is sometimes referred to as "linear television." A viewer either makes an appointment to watch a particular show when it is scheduled to "air" or chooses to watch whatever is most appealing to them from those shows airing at a particular point in time.[8] Either way, the programming is scheduled by someone else and the consumer's role is a relatively passive one.

A little bit with the advent of the wireless remote control (1955), much more with the growth of cable networks (1980–1995), and even more with the dawn of the Internet and digital TV (1995 to present), consumers have acquired a more active role in the video programming they watch. More and more content is available on an "on-demand" basis. The consumer no longer is bound by the decisions of the programming department of a network, but can instead decide what they want to watch whenever they want to watch it. In short they can take a more active role in choosing what programming (and advertising within that programming) to which they are exposed. Already today there are myriad devices enabling viewers to make these choices. In its simplest form – think about what a digital video disk ("DVD") is – really nothing more than a way for consumers to access content on their own terms. A digital video recorder ("DVR") like TiVo makes it possible for them to more easily record linear television shows for playback at another time. Video on demand ("VOD") marketed by cable providers offers a library of quality on-demand content available at any time. Similar VOD offerings are now being presented by mobile phone carriers. And of course the Internet makes available a truly vast library of content, nearly all of it on-demand (think Hulu.com,[9] or any Web site that features programming accessible on an ad-supported basis, or iTunes, which makes similar programming available for paid download, known as electronic sell through, or "EST" without advertising). The funny thing is that as an industry, we have isolated all of these different "technology-driven" solutions as different products, when in fact, from a consumer perspective, they are all the same thing: consumer controlled video content experiences. Ultimately, the video business will be segmented not by technology platform, but rather by how it is monetized, and it will come down to two very straightforward models: ad supported or paid for by consumer. Regardless of "how" you choose to consume your content (TV, DVD, DVR, VOD, Internet, or other) it will either have ads or not.[10]

Active Viewing = New Marketing Opportunities

This more active role for the video consumer, where they are "leaning forward" and making choices, rather than leaning back and allowing others to make choices for them is one of the signature features of the new digital age, and a tremendous opportunity for marketers. Yes, we said opportunity (many in the industry today suggest

the era of advertising as we know it is dead – we disagree). The key for the advertising industry is to take advantage of consumer behavior changes, not be scared off by them. You may recall our earlier discussion of engagement, suggesting a passive viewer can still be paying close attention to a program and/or an advertisement. But while they were paying attention, until the arrival of the Internet there really was not much they could do to interact with the advertisement. Usually.

The exception has always been those pesky direct response marketers we talked about earlier – which the brand-focused world usually tried to ignore. For decades in TV, they have refined a process (through use of distinct "800" numbers, and more recently Web URLs) to understand exactly the type of engagement, specific "units" on their schedule have delivered. For a direct marketer, engagement means how many calls did our 3:10 a.m. spot on Food TV generate, and what was the resulting cost per order? It is a straightforward approach to accountability – measuring the actual ad, its ability to engage visitors (# of calls), and success at driving sales (# of orders) efficiently (factoring in ad unit cost).

Through the early stages of the Web's development, a similar "performance" approach has been taken, based on clicks, orders, and cost-per. Indeed the single largest marketing tool on the Internet, paid search (which Google dominates), is really nothing more than a highly refined direct marketing business. Advertisers bid on key words through an auction-based system. If the key word they have purchased is searched, their short text advertisement is presented along with other non-paid search, (also known as "organic") results. If the user clicks on their advertisement the advertiser is charged. Advertisers adjust the "copy" (text) of their ad and the size of their bids to maximize performance – which in this case is clicks and how those clicks convert to purchases. Simple, and worth billions of dollars.

This is not to say that all Web advertising is direct marketing; clearly there are branding campaigns running on the Web. Rather the point is that all Web advertising, by the very nature of the medium, can be interactive, allowing the viewer to engage actively with the ad, right down to even making a purchase. This is truly revolutionary. Why? Because the growth of digital media means that an advertiser can combine a direct marketing message with a full sight, sound, and motion video message. They can create an itch for the consumer with the video commercial, and give them a means to scratch it with interactivity. This can be, if executed properly, a very powerful tool for a marketer. But this proper execution will require brand managers to re-think their messaging strategies, combining branding and direct response seamlessly, and developing new ways of measuring performance – something that has not been done until recently.

Video-Based Advertising and the "Marketing Funnel"

This has precisely been the gap that has existed during the initial phase of video-based advertising in consumer controlled experiences to date (circa 2000–2009). Whether we review early models of VOD-, DVR-, or Web-based video, it had one

common theme. It generally was a simple replication of traditional TV advertising: take the 15 or 30 second spot and package it into the new experience. We all know what the result of that approach was: bad consumer experiences and limited monetization for content owners. The fact is, in the new world of video, there is not a standardized "program length" or viewing experience that easily accommodates a unified ad model. You cannot (or rather should not) put a 30 second ad in front of a two minute content experience. And, there is a big difference between a consumer-generated video experience on YouTube and the quality long-form production offered at the broadcast networks' web sites or on Hulu. Viewers now are using different platforms, with different mindsets, with different entertainment objectives, and are consuming content on their own schedule, not one that is programmed. Advertising must be able to adjust dynamically to this reality and provide viewers with new forms of value tied to interactivity and control. For new video-based ad models to drive increased investment from the advertising community they will have to deliver against these requirements.

In the classic direct response world, it is all about a purchase – buying that Ginsu knife or George Foreman Grill. In the classic branding world, advertising units are not just defined placements, but also linear in nature (a TV ad is 15, 30, or 60 seconds; no more, no less). An advertiser had to make a choice about what they wanted to do – tell a story (branding), or pitch a sale (DR) – because they had limited time and were unable to allow the viewer to direct their own experience. Advertisers typically made this choice by focusing on which part of the "marketing funnel" they were targeting with their message. The marketing funnel is a well-worn concept in advertising. The basic idea is that at the broad end of the funnel is messaging designed to establish a brand identity and generate awareness of a product. It is broad because the messaging is generally delivered to the largest number of people. At the bottom, the narrow end of the funnel, are messages which are adjacent to the actual sale, a much smaller set of people than the total who are exposed to the brand overall. The "story" was the top of funnel, and TV always owned that playing field. The sales pitch was at the bottom, and regularly was led by newspaper ads, radio, direct response, yellow pages, etc.

It is our view that this distinction between the top and bottom of the funnel, or branding versus direct response, or story versus sales pitch is losing its vitality. We are not implying that the need to build brands or the goal of driving a conversion is any less important. Rather, we are living through a fundamental change to this either/or model, and those who continue to believe that branding and direct response should be thought of separately will do so at their own peril.

The potential can be seen with an example. Imagine you are at a Web site watching high-quality online video of a full episode of your favorite show, something that can be done today at all of the broadcast networks' Web sites. At the commercial break, you receive an ad that integrates both full motion video with interactive elements. For example the ad presents a branding message for a face cream, but includes clickable tabs for deeper product information in both text and video formats, and a form to request that a free sample be sent to your real world address. The ad is designed in a way so that the viewer can choose to interact with it for

longer than the traditional 30 seconds, really as long as they would like. There are several key points to note about this advertisement. First, it offers an interactive video-based brand experience. The user is literally engaging with the ad, and as we noted earlier, an engaged viewer is more likely to be influenced by a brand message. Second, the ad allows the user to control their experience, deciding what to click on, and how long to stay with the brand. Third, the ad includes a free offer as an inducement to try the product, but also to reveal their name and address to the advertiser. This information, subject to proper procedures for protecting privacy, can be used by the advertiser to build a deeper, one-to-one, relationship with this consumer and the advertised brand. Finally, it is important to note that the ad did not lead to a direct sale, though it did encourage a "response" from the user. The advertiser will need to evaluate performance of the ad based on metrics other than direct sales but certainly more than just impressions and CPM. The result being – for a consumer who may have never been aware of the product before being exposed to the ad – a completely "compressed" funnel – story (branding) instigated interaction (consideration) and a sample request (conversion). All in one experience, controlled by the user.

Interaction – It Is Not Just for the Internet Any More

Though Internet video is leading the way, the kind of interactive brand experience described in our example above is ultimately possible with any digital media platform. Permit us one more example to drive the point home. Suppose you have chosen to watch a show made available to you through your cable video-on-demand service. At the break, you receive an ad for an automobile. While generally the ad looks like a traditional TV spot, the ad is longer than 30 seconds and ends with a voice over and graphic call to action, saying "press select on your remote control for a virtual test drive, complete with a high-speed run around the Indianapolis Motor Speedway." Wow, how cool is that? You press "select" on your remote control, and the show you were watching is automatically paused, and you are "telescoped" into a branded environment offering a number of different videos showing off the vehicle in question, including a breathless first-person POV at Indy. When you have finished with this branded content, you are asked if you would like someone to contact you to schedule a real test drive, and if you do, a local dealer will follow up. You return to your show, just where you left off.

Of course, the example above creates an interesting dilemma for the industry – one which we are just beginning to understand. Take it one step further – from a cable VOD experience to the traditional linear broadcast or cable channel level – where shows are "programmed" by time slot, and multiple ads exist within an ad pod. If and when invitational ads that allow telescoping are incorporated into traditional TV programming, a whole new set of industry challenges are born. For example – for programming that is live and which requires audience involvement (say, voting), invitational ads result in the audience not viewing together in real time – because ad engagement will result in every single viewer being on their own "viewing timeline," potentially breaking the model of audience participation. And

what if the first ad position in a commercial break engages a viewer and drives them to explore deeply in branded content? Once they are done, even if their set-top box automatically paused and recorded what they were watching, will not their most likely behavior be to skip through the rest of the commercials in the break to "get back to their program?" Does this dramatically alter the traditional flat pricing model of TV advertising (in terms of position in pod)?

Viewers can of course just watch TV. But as technology evolves, they will be able to "just watch" virtually anything they want, wherever they are. But they will also be in control – and this control allows them to lean in and engage. And this engagement will be amplified by delivering it to those who find it most relevant.

Engaging with the Right Audience

In a world of digital distribution and invitational marketing – however it is defined – the concept of targeting takes on a new dimension. Gone are the days of having to deliver the same message to "everyone" watching a "show." This manifests itself two ways: advertisers now (or soon will) have the ability to "buy audiences" instead of programs, and they will be able to customize creative and messaging to particular groups of people (possibly even at the household level) based on generalized anonymous profiles (messaging customization). In short, they will be able to deliver the right message to the right "person," and dynamically adjust that message based on real-time performance measurement. Further, that audience is not just the people gathered around the living room TV. When we say "buy audiences" we mean wherever people choose to engage with a particular video experience (on a TV, PC/Mac, or mobile device, via live broadcast, VOD, DVR, download, or streaming delivery).

Let us dive deeper into the two examples used earlier – the face cream and auto advertisers – and illustrate how digital distribution impacts both audience delivery and message customization.

Traditionally, the target audiences for the two examples above might be thought of as having different gender skews – toward female for the face cream and male for the auto. Of course, this is a generalization – but it has been the construct of how advertisers have thought for decades because they have had to focus efforts against the largest, most easily reached audience – a heterogeneous television audience. There are, in virtually every situation, lots of prospects or customers who "don't fit the norm." Regardless of gender if you are someone not interested in face cream or automobiles, you are less likely to engage with, interact with, pay attention to, or be influenced by their ads.

Let us say two people – a man and a woman – are both watching the same show. In today's "placement as proxy" model, only one advertiser (either the face cream or the car) can be delivered because it has to be delivered to the entire viewing audience. But what if different ads could be delivered to different groups of people in the same program, or viewing experience? We have not discussed how the transition to digital alters how we think about this concept yet (it is coming later in the

chapter), but putting the right ad in front of the right person is crucial. As we discussed above, context has been the primary means for identifying target audience. But context is of course a proxy for what advertisers really want – a precise targeting of their ads to only those people who buy their products or services, or can reasonably be convinced to buy them. This targeted advertising, sometimes called "addressable advertising," is the last piece of the merger of brand advertising and direct response, and again it has been the Internet which has led the way forcing advertisers to redefine how they think about audiences.

Here is why this change is so important. Let us use an analogy from the manufacturing industry – the concept of "just in time" (JIT) delivery that revolutionized how products were efficiently delivered to market. Before JIT, manufacturers mass produced products based on estimates of consumption, well in advance of demand. They shipped products to retail – where it was warehoused at considerable expense. And if/when demand did not align with projections – retailers and consumers suffered (retailers if demand was low, consumers if demand was high). This is how our media business has worked for decades. Marketers use historical viewership trends, at a directional level, to estimate what they should purchase in the future. They are forced to plan and buy media against lowest common denominator audience definitions, because real-time audience data are not available to drive the investment, allocation, and delivery of advertising. The result is a marketplace, where supply and demand are not efficiently matched. Addressability and ad customization are the equivalent to JIT, which transformed modern manufacturing.

While the traditional television industry is just beginning to experiment with forms of addressability, it is something that has been evolving for over a decade on the Internet. Initially, Internet publishers offered a variety of data-driven models to enhance the ability of their advertising partners to target advertising to the specific audiences on the Web. These included registration data (when users are adequately notified it can be used for targeting purposes), geographic data (at the region, city, or zip code level), and domain or connection speed/ISP data (to indicate home/work or type of connection). Targeting based on each of these data sources has some value, but the value was limited by either a lack of scale (not enough was known about enough people to segment them finely) or from inconsistent data collection practices. Issues included the following:

- Most people on the Web do not register on the sites they visit.
- Even if they do register it is hard to compare one site's data to another's because they were collected in myriad ways, many of which to this day result in differing quality. This may come as a surprise to some readers, but occasionally people do not provide accurate information about themselves.
- Data collected through mapping of a user's IP address, or domain/ISP info have limited levels of confidence. Frequently, users behind corporate firewalls or ISP services do not appear to have a Web address that matches their physical location.

Issues like those above encouraged investment in new forms of "addressable" targeting solutions. The first incarnation of these solutions were so-called "ad networks." Internet ad networks are essentially an aggregation of inventory across

many different sites. Publishers of Web sites would in effect sell a chunk of their inventory to an ad network at a relatively low price. Often the inventory they provided to a network would have otherwise gone unsold, so the publisher would accept the network's low-price offer, reasoning it was better to get something versus nothing. The ad networks would then resell this inventory to advertisers, taking advantage of the higher reach and scale they could accumulate by aggregating together inventory (and users) across thousands of publishers. The addressability that was offered through these networks often times was based on "contextual" or "performance" optimization, addressing advertising to groups of people who consumed similar types of content (sports) or to groups of people whose behaviors indicated a higher propensity to click or convert.

These ad networks were the first step toward a very different kind of media business. Advertisers who purchased media on an ad network were not buying "a property" any more. Their schedule of advertising purchased on the network would literally run across hundreds or even thousands of Web sites. For some advertisers, the risk to their brands (not knowing what type of content they would be associated with) was too much to buy this kind of media, but for many, the price was tempting. Even more tempting was the ability of the networks to group together similar contexts across participating publishers for larger-scale purchases, for example creating an "auto" network, or a "male" or "female" network out of similar content on various sites. But ultimately, context or performance was still being used as the proxy for audiences.

Behavioral Targeting

These networks have evolved – doing more than just delivering packaged content across lots of different Web sites. Many have evolved into networks that offer "behavioral targeting." Behavioral targeting networks relied on hundreds, sometimes thousands of niche Web sites (like a site about reviewing new cars), collecting anonymous information about "browsers" or "computers" that accessed content on their sites (via cookies – small files downloaded to a user's computer). The behavioral networks would aggregate data from lots of different category-based publisher sites, and create a group of users who they saw on an above-average basis across those sites. Based on the behavior (hence behavioral targeting), these user groups would be categorized with "intent." If a behavioral network saw a browser across a large number of auto sites, chances were, that user was "in market" for a car. Thus they were tagged as an "auto-intender" and sold as such.

Behavioral targeting (BT) has become a mainstay of addressable advertising for many high-consideration product categories like autos, finance, travel, and others where there is high use of the Internet for information gathering/exploration before purchase. But it has drawbacks. It does not offer scaled solutions for all product categories, and it is limited by the publisher partners in the network – only they can offer audiences that align to the "intent groups" an advertiser wants to buy. But

like search advertising, which delivers and optimizes "paid search terms" in real time to a browser based on the keyword that a user types into Google, Yahoo, or Bing, BT was one of the first truly addressable advertising solutions that enabled real-time ad decision to groups of people using purchase or intent data. No longer was a brand marketer forced to buy a content property as proxy. Now they could buy an audience of intenders. And for marketers this was important – because even though advertising on a car buying site is desirable for an auto manufacturer, reaching prospects further up the funnel, earlier in the buying cycle, is critical. And that is what BT enables to a degree – reaching prospects in non-endemic environments so that a more brand-focused message can be delivered. Of course this raises privacy concerns, which will have to be considered and resolved.

An evolving area of addressability is based on predictive data modeling that has the potential to be applied across digital platforms, based on criteria an advertiser sets. These solutions are being developed by companies that have found ways to collect enormous volumes of anonymous information. This information can be collected in various ways, such as tracking cookies, toolbars, or other software installed on user's machines, or at the ISP or content delivery network level,[11] or even perhaps through the logging of content viewing habits. The companies involved in this effort provide platforms across which large-scale computer learning models can be run, leveraging massive sets of data (not just terabytes, but petabytes – one petabyte equals 1,000 terabytes). The results are anonymous models based on everything from keystrokes on remote controls, to TV and Web viewership and Web activity, to survey-based information about demographics and interests. The goal of these companies is to provide a scalable way for marketers to define the audiences they are interested in reaching, and then model who the most likely people are, in real time, who fit those definitions, so that appropriate advertising can be delivered. This really is the holy grail of addressability – and aligns with the promise the manufacturing industry realized from JIT delivery. With the ability to have a generalized real-time understanding of viewers (supply of audience), appropriate advertising can be allocated and valued (demand for audience).

As the two-way path evolves and allows data to be applied to content and advertising delivery in real time based on insights from interactivity, this predictive capability has the potential to radically change how marketers define their target audiences. Less and less will they need to rely on general demographic descriptors, and more and more they will be able to leverage their own data. For example, an automotive site that has an online "car configurator" will be able to model the 50,000, or 100,000 people (or whatever number actually engaged) who interacted with the application to build a profile of the most likely consumers to be interested in the make and model of car, using hundreds of anonymous attributes like gender, age, geography, content affinities, etc.

We end this discussion on audience segmentation with a small note of caution. Recall earlier we suggested an advertiser's target audience is people who consume their products or services, or could be reasonably persuaded to do so. The "reasonably persuaded" part is very important. People change as they move through different life-stages and it is important to take this into account when building the

definition of a segment. A CEO of a major advertising agency once said to one of us "if the first time you see a BMW ad is when you are 35 and making good money then I have failed."

So What Does It Mean?

While we have discussed a number of broad industry concepts above, our goal in this chapter is to reconcile the specific impact these transformative changes will have to the video business (defined broadly, to include all forms of video content consumption).

To recap broad themes, we see three core advancements driving the video business over the next decade:

1. A shift from programmed linear, to consumer controlled non-linear experiences for both programming and advertising (i.e., interactive experiences).
2. A move to real-time audience targeting and ad customization (i.e. addressability).
3. Application of mathematical modeling to large data sets to drive increased audience value and more closely align advertiser's sales data segmentation with their media purchases.

The impacts of these three trends vary significantly for different parts of the media/advertising industry. Now comes the crystal ball part of this chapter. We address the different constituencies, and discuss the challenges and opportunities for each presented by these three large themes.

Publishers

For TV publishers (networks) especially, the shift to on-demand programming presents real challenges to their core business. Of course they are facing these challenges already and early predictions of doom have proven to be unfounded. As of July 2009, Nielsen says that DVR penetration is over 30% in the United States.[12] Millions of viewers access content – short-form and long form – on the Web. Many pay for access to traditionally ad-supported shows on DVD, or via iTunes. Already a large amount of TV viewing is under consumer control. And yet the traditional linear television business (ad supported) has not collapsed. Indeed, so far, though the shift to on-demand viewing created by consumer control creates opportunities for viewers to avoid commercials, they do not always do so. And the ability to record programming for later viewing or "time-shift" has, according to Nielsen, increased the amount of television viewing overall.[13]

Nevertheless, the shift to on-demand poses significant issues. In linear television, schedulers work very hard to flow their audience from one show to the next. On-air promotion is carefully crafted and scheduled to build audience for one show, off the existing audience of another show or shows. In an on-demand world, this audience

acquisition and flow is much harder to generate. First, just as viewers may fast forward through commercials, they may also fast forward through network promotions. Networks are looking to protect this valuable real estate for themselves and advertisers. While no DVRs currently on the market prevent fast forward through the commercials and promos, many online TV video-on-demand services do not allow commercial or promo skipping, and some cable VOD services have similar rules as well. Second, networks can no longer take advantage of viewer passivity. With many of today's implementations, when you finish an on-demand viewing experience, if you do nothing, it does not just roll over to the next show, as would happen in linear television. It simply ends. New programming does not begin unless you actively choose it.

Viewer control, as we discussed above, can extend to engaging or interacting with the programming or commercials. In an on-demand environment this can be a relatively straightforward experience, where the user chooses to engage with an ad for as long as they want, and can then move back to more traditional viewing experiences. But if the user chooses to interact while watching a linear program, a whole host of issues are created. The first issue is the problem of time. Either the interactive experience is limited to the length of a standard commercial, making for very limited interactions and potentially frustrating viewers who cannot complete their desired interactions within the time provided, or the user is permitted to pause the linear viewing experience while they interact with the ad. Once a user pauses their linear viewing experience a number of things occur. First, they are no longer measured by Nielsen as a live viewer.[14] Second, they can, when they return to the show, fast forward at the next commercial break to "catch up," thereby avoiding some commercials. This of course puts a possible premium on what order a commercial runs in for a particular break. (A commercial break in TV parlance is referred to as a pod, and the order is referred to as the "pod position.") For example, if someone interacts for 3 min with the first ad in a pod, when they are finished, they can fast forward over the remaining ads of that pod (typically a pod is 2–3 min in length).

Note that the issues described above, generally speaking, do not apply with Internet video. Indeed today, many online video services offer ads which allow, infact encourage, users to interact with them for long periods of time, in an environment which prevents fast forwarding past the ads. This underscores the challenge for TV – it has to keep up with the Internet.

Industry veterans would question our characterization above – TV keeping up with the Internet. From a consumer experience perspective, they would argue that programmers on the Internet actually – by limiting consumer control to skip ads – are behind TV, where consumers have more control. But dig a little deeper. Programmers on the Internet have implemented commercial models that respect consumer experience and advertiser's needs. They typically only show one ad in a "commercial break" – not six or more like on TV. And increasingly, they are layering in targeting technology that allows the ads they do deliver to be more relevant. Less clutter and more relevance for the audience, but a tradeoff of having to watch the ad. And generally speaking, people seem to like the model as evidenced by the rapid growth in usership by sites like Hulu.

The TV Network Opportunity

But why should TV bother embracing this new world? The answer of course is money. Interactivity allows for direct marketing, and direct marketing is an ever increasing share of total advertising spending. According to the Direct Marketing Association, in 2007 direct marketing accounted for 50% of all advertising spending in the United States, and in 2008 they say it had grown to 53%. Video publishers see very little of this money spent with them today because they cannot provide the tools that a direct marketer needs – the ability to target and the ability to respond.

Moreover, as advertisers learn to combine the branding potential of video advertising with the engagement of direct marketing, more and more of their advertising budgets will shift to media which can deliver this kind of composite experience. So not only does interactivity provide video publishers with an opportunity to reach into new marketing budgets, previously reserved for direct marketing, but it will also be a key feature as they defend the budgets that have traditionally been available to them.

One of the early implications of consumer control and interactivity in the video advertising space has been the rethinking of how the linear, intrusive ad model works. In the traditional TV world, content and ads were run on a mutually exclusive basis – programming ran, and then cut to a commercial break. It was a binary experience for the viewer – you either were watching programming, or advertising. As viewers gain the ability to avoid commercials, the advertising industry has moved to explore video ad models that tie advertising messaging into the programming experience. These include everything from "brand integrations" (all those products that were featured in The Apprentice, NBC's reality show featuring Donald Trump), to interactivity extensions (think telecom companies that enable text/phone voting during reality or sports programs), to those overlay "visuals" that more and more are popping up on screen during a show (mainly used by TV networks today to promote their programming, but more and more, they will be used to feature product messaging, and eventually interactive non-linear experiences).

The key for a publisher is to ensure that the revenue per viewer per hour of viewing in the new digital world is the same or more than what it is in the old. This is a function of a number of factors. First of course is just plain inventory. An average hour of linear broadcast network television has well over 20 commercials, plus network promos. As of 2009 the number of commercials, or ad load, for on-demand viewing of the same programming is much lower. Publishers will undoubtedly explore consumer ad load tolerance, increasing the on-demand ad load as a way to generate more revenue. Indeed, in an all digital media/advertising ecosystem, it is possible for publishers to dynamically add or subtract commercial interruptions delivered in on-demand programming to expand or contract inventory to match advertiser demand. Second, will be increasing the value of that commercial opportunity for an advertiser. As we noted above, the opportunity for an advertiser to engage with a consumer, mixing direct marketing and branding, should ultimately prove more valuable than a largely passive traditional 30 second spot. Finally, this interactive advertising allows for publishers to explore new business models, wherein they

are compensated both for the branding value and the direct marketing value of the audience they deliver to an advertiser.

But of course, interactivity and consumer control are only one piece of the puzzle; the other is targeting. The potential upside to targeting for a video publisher is best seen with an example. Let us go back to our imaginary media purchase made by John Wanamaker. The radio station sold him 1 million impressions at a $1 CPM, and earned $1,000. We know that the audience was 80% female, 20% male, and in order to keep our example simple, let us assume that the impressions break out the same way. We computed an effective CPM for Mr. Wanamaker of $1.25, taking into account the 200,000 impressions that were "waste" for him. But what if the radio station could deliver only the women to Mr. Wanamaker? What price would he pay? Well given that he in effect has already paid $1.25 for them, we have a pretty good idea. Indeed if the radio station offered him 800,000 impressions against women only at $1.20, he would think it a good deal, having saved $40 on his $1,000 budget, and still reached the same number of people in his target. But what about the radio station? If they can sell the remaining 200,000 impressions against men to someone else, for anything higher than a $.20 CPM, they come out ahead, having received more than the $1,000 they took in from Mr. Wanamaker in our first example. For a publisher like a TV network, this is the power of targeting.

It Is Not That Easy – The Forecast Challenge

Unfortunately, the real world may not be as simple as our example. It had only two targets, or segments, which were mutually exclusive and it assumed that all of the available impressions ("inventory") were sold. But in the real world, advertisers will want to bring the custom definitions of target consumers that they have built through careful analysis of their own proprietary data, to their media purchases. And, many of these segments will overlap – for example, how likely is it that someone interested in R-rated action movies is also interested in beer? This overlap creates a number of challenges for publishers. Publishers must understand what inventory they have to sell and how to maximize revenue based on the available segments defined by buyers looking to purchase that inventory. Predicting what inventory a publisher has to sell is called "forecasting." In a world where advertisers are each looking to only purchase an idiosyncratically defined target segment, forecasting how much of that target segment you have to sell given your overall audience composition, as well as how much of that target has already been sold to other advertisers with overlapping definitions, becomes very complicated – and very important. Put more simply, the same audience member may fit in several different advertiser defined segments, and be worth different amounts of money to each of those advertisers, depending on the products or services involved. While it is relatively easy with two segments and two prices as in our example, what about when you have hundreds of segments and hundreds of prices which you have to optimize against an unknown quantity of inventory that can shift based on the ephemeral popularity of your content? This is

an extremely challenging math problem and one that publishers will have to solve to realize the full revenue potential for delivering targeted advertising.

Recall in our example, the radio station needed to sell its male audience for a higher than $.20 CPM in order to come out ahead. What if it cannot? This is really the great unknown for a publisher. It is relatively easy to see how targeting, because of its greater efficiency for the advertiser, can yield higher CPMs for audience members which qualify for an advertiser's segment. What is harder to know for sure, is how well a publisher will be able to monetize what is left, sometimes referred to as "remainder" or "remnant" inventory. Clearly this remainder inventory will be sold for less than if the publisher had just offered one price against all of its available audience, as with our first Wanamaker example. But how much less? For a publisher the key question regarding segmentation is whether the lift in CPMs received for selling targeted inventory will exceed the drag on CPMs for what is left over. Again, this is a complicated math modeling problem, and one that publishers will be better at solving once they have critical mass of real marketplace data.[15] Of course this means that publishers will have made the investment to deliver targeted advertising, and established some precedents with advertisers. If it turns out that the overall lift in CPMs is not sufficient it could be very hard to put the targeting genie back in the bottle.

This issue is particularly crucial for publishers of Internet video where commercial inventory supply is arguably infinite. In linear television, there are 24 hours in a day, a fixed number of commercials per hour of programming, and a finite number of linear networks available. While this multiplies out to a very large number of possible commercial units (inventory) that can be sold, it is a finite number. In an on-demand world, like the Internet, time is no longer a constraint. New inventory can essentially materialize from nowhere, and can continually expand. For example, the Web site YouTube (now owned by Google) began in 2005 and by 2009, already represented a massive amount of potential inventory.

Basic economics tells us that when there is a fixed amount of demand (buyers of commercial inventory) and an infinite supply, prices will drop, and indeed the general trend in Internet advertising pricing for established units has been toward lower CPMs. How can a publisher maintain higher CPMs? One answer has been by leveraging its most desirable contexts or content, which offer the strongest halo effect, and most valuable audience for a brand manager. For example, while there may be a huge number of available impressions in online video generally, there are a limited number of impressions available online in high-quality TV shows like "Grey's Anatomy" or "The Simpsons." The scarcity of impressions available in this high-quality context helps a publisher maintain pricing.

But when buyers start to purchase audience segments, rather than context, this scarcity evaporates. There may be limited numbers of impressions against "Grey's Anatomy" on the Internet, but there are essentially unlimited impressions available against women who are between 18 and 49 years old. An advertiser looking to target that demographic need not pay the scarcity-driven pricing of Grey's Anatomy, and could instead find that audience anywhere at a much lower cost. This is the ultimate challenge of segmentation for a publisher. Will the ability to increase prices for

desirable segments outweigh the decreases associated with less emphasis on context, and the creation of remainder inventory?

It is important to note that we argue buyers will have a decreased emphasis on context, but they will not ignore it all together. Remember our discussion earlier about the perils of being a brand manager, putting a brand at risk with every media purchase. No matter how focused at buying a specific target audience brand managers become, they can never ignore context completely, because to do so would inevitably put their brands next to potentially objectionable content. A balance of trusted environment with audience segmentation will inevitably win the day – at least for image conscious advertisers – and for a quality publisher, this is welcome news.

It Is Not That Easy – The Scale Challenge

One of the key questions for publishers will be whether they have sufficient scale, sheer audience size, to slice it up and deliver the segments that advertisers are looking for. In the new digital ecosystem this scale can be accumulated in a number of ways. A publisher can have the scale outright if they are a highly trafficked property. Generally speaking this means that the publisher has sufficiently strong content, brand, and promotional apparatus to attract a large audience. In effect, the audience finds them. Examples of this kind of publisher might be ESPN or the New York Times. Alternatively, a publisher can syndicate its content; distribute it widely on properties it does not control. This is in effect sending the content out to find its intended audience, rather than having the audience find the content. The advantage of this strategy is that it can greatly expand the reach available to a publisher, but it also introduces the potential of their content, and the ads associated with it, being placed in unflattering, or potentially objectionable contexts. The last strategy is to participate in some form of advertising network. These networks group together many publishers allowing an advertiser to buy across the different properties. For a publisher this allows for extending both the frequency (an advertiser can follow a target user from one piece of content to another) or the reach (an advertiser can purchase a target audience across property) of their offerings to advertisers.

Of course this diminishes publishers' control over the inventory, and requires sharing back and forth with other publishers, something that historically has been hard to accomplish. It may well be that the easier way for publishers to handle this brave new world is through cross-platform selling. A publisher may not have scale on the Internet or in mobile, but by combining those platforms with their scale in television, and selling targeted audience segments across all three, they can accumulate sufficient mass. One of the interesting questions will be whether or not something similar to the online ad networks develops to create segments across all of these platforms, including TV. More on that later in the Service Providers section. And if all else fails, established publishers can always acquire critical mass through business combination – mergers and acquisitions. Independent digital media companies like Yahoo are unique in that they already have substantial scale for delivering audience segments to advertisers.

Agencies and Advertisers

The Creative

Like with publishers, the changing video environment is having significant impact on how advertisers and their agencies approach developing and delivering effective video-based brand communications.

As we write this chapter, one of the most noticeable changes is occurring on the creative side of the business. For decades, top advertisers, agencies, and the industry in general had a love affair with the TV commercial. Big consumer brands and their agencies would spend months, sometimes longer, to develop deep consumer insights, evaluate them, boil them down to the "big idea" and then develop a few highly produced and expensive TV commercials. In the era of passive viewership, intrusiveness, and "mass media" – this worked, and was an efficient use of their ad budgets. It worked because at the end of the day, if you were talking to large groups of people who could not easily be segmented, and who could not self-select what information/experience they wanted from the advertiser, focusing on a lowest common denominator message was the right strategy.

In a world where consumer control takes over, addressability becomes a reality, and interactivity spreads – consumers quickly expect more relevant experiences (especially from the advertising that interrupts their primary viewing experience). Bottom line, the creative underpinnings of the TV (or video) business shift radically. Instead of a few highly produced video ads, advertisers soon will need to maintain a variety of video-based options that deliver appropriate messages to particular target segments. If you are a financial services firm, it makes much more sense to surface a college savings-related message to a household with kids than a message oriented to seniors living on a fixed income. And to the degree possible – if you can tailor those executions with relevant information to make the ad more appealing to the viewer (based on geographic data, time-of-year insights, or other criteria) you stand a greater chance of being relevant to the viewer.[16] But where the creative game really changes is when you remove yourself from the "linear" perspective – which is predicated on delivering a single message, or benefit, as part of the advertising communication. In a world of interactivity – creative needs to be thought of as an invitation, not a summons. Advertising needs to shift from a model of telling an audience what the advertiser wants them to hear, to a model where consumers make choices about what they are interested in. The impact this change has on the creative development process is radical, and is just being addressed by clients, agencies, and the creative community. At the very least, it requires agencies to think of multiple creative versions, with branching "information architecture" (how a user navigates through) and a cost-effective process for creating and managing those versions.

Media Planning and Buying

Just as the creative process is being reformed, so is what is known in the industry as the "media planning and buying" process. There are many ways that addressability and interactivity change the video-based media planning and buying process.

Let us first start by examining the impact of addressability. The shift from "program" or "placement" buying models where an advertiser buys a show, to one where they buy an audience in real time has tremendous implications for how large advertisers manage brand-level advertising budgets. Take a company that has a portfolio of products – each of which is geared to different end users. In the old world, each brand managed its own advertising budget, and had its own "TV plan" – or schedule of shows it was paying to advertise in. But if an advertiser is no longer required to buy fixed positions in shows, and instead can buy real-time audiences – the predictability of when and where their ads should run becomes much less certain. It is no longer dependant on the program. It is dependant on who is watching, what, and when. And this impacts how, and when, and to what degree their ads get delivered, and what costs get tallied by brand. In a world where video content generates dynamic audiences – say a major event occurs that generates large-scale video consumption that is unpredictable – budgets will flow.

Advertisers have always managed their TV budgets by week, month, quarter, and year at the brand level. If you are a company with multiple products, a more top-down portfolio approach may now be the better solution – deliver the particular brand advertising to only the households or people you think fit a target segment. If you are a telecom company, and you know a household recently signed up for a 2-year mobile phone contract – do not show them another acquisition message for that line of business. Show them something relevant – an IP phone or TV product message, or a new service to which you can up-sell them. This requires much more nimble media purchasing as well as creative variation. But it also creates complexity around bottom-up, brand-level budget/expense management. From a corporate perspective, advertisers will want budget/spend to be driven by audience value, not by pre-existing "ad spend" budgets by brand.

Addressability also changes one of the primary constructs of the media planning business – the notion of national and local planning/buying. In the analog world, advertisers had to think one of two ways – either reaching everyone in the country, or piecing together groups of Designated Market Areas (DMAs, of which there are 210 in the United States). DMAs are essentially local TV markets – the New York DMA covers northern New Jersey, Long Island, New York City, and portions of southern New York State and Connecticut. The fast food category represents a terrific example of how businesses managed advertising in this world. Franchise owners contributed to a corporate marketing budget that was spent nationally to support broad promotions, and they grouped themselves by DMA to advertise at a market level – as a co-op – to take advantage of the efficiency of local market TV. Fast-food restaurants have a relatively small trading area (geography where their customers are sourced from) – it would be inefficient for one restaurant owner to buy television commercials on a local TV station because the majority of the audience delivered would be outside its trading area. But if all the restaurants in the franchise group across that DMA buy together, supporting an agreed to message they all honor, it makes sense.

For the past 30 years or so, the cable industry has slowly been changing this model – allowing advertisers to purchase local TV on cable networks on a more

granular level than just DMAs. Because of how the cable industry evolved, in many DMAs, advertisers can buy hyper-targeted ad placements by zip code or other defined geographic area. This enables advertisers like the local pizzeria or dry cleaner to leverage TV – but with just a few exceptions, it is short of true household-level addressability. And true household addressability is the game changer. Once true household-level (or screen-level) addressability is widespread, the notion of national and local planning will deteriorate. In its place will be an audience-based model that is focused on delivering advertiser target groups, regardless of where they are.

This concept is already well established on the Internet. While advertisers continue to think in terms of "national" and "local" delivery – they do not have separate budgets for it. And they do not work through separate sales teams to purchase it (like they do today on TV – you buy national ads on NBC from the network sales group and local ads from each of the NBC affiliates). You can buy online video campaigns today from a multitude of national content properties, specifically targeted to local geographies (zip codes, counties, cities, states, etc.). And many national media properties are accelerating their development of content channels that serve particular geographies to bolster the contextual value of these new targeting capabilities. For example, ESPN recently announced a locally focused ESPNChicago.com to super serve this sports rich market, with plans to expand to other cities.

And we have not even addressed the impact of the social-based media economy that has evolved allowing consumers to create, program, and/or distribute media they have produced or self-selected. This has created a new form of "earned" media (not paid for) that offers advertisers unique (if not difficult to harness) video-based communications. Examples of this have included the Victoria Secret Fashion Show, BMW Films, "Coke-Mentos," Office Depot Elf Yourself, and many others, all harnessing user-generated creative ideas or viral sharing capabilities to promote the brand.

Given these changes it is hard to ignore that the role of "the agency" will be impacted dramatically by consumer control, interactivity, and data-driven addressability.

From a creative standpoint, transitioning from a culture of storytelling to one of dialogue will be the greatest challenge. We (your authors) are not heretics – "the idea" and a compelling narrative for communicating it will continue to separate great advertising from the mundane. But no longer is the art strictly about storytelling – rather, it is about connecting and driving some sort of immediate engagement. This, combined with how much more economical production becomes in a digitized world make the creative side of the video advertising business one that will endure tremendous change over the coming years, before it is reformed to effectively support the new and evolving video-based marketplace. This process has already begun, as creative agencies rapidly search for those versed in the art of digital communications, and reconstitute themselves as resources focused against opportunities of the new digital multimedia reality.

Media agencies – typically responsible for planning and buying on behalf of their clients (i.e., managing how their media budgets are invested), are already mid-stream through a tortuous re-invention. In a digital world, data become a

raw commodity that everyone has access to – deriving strategic insights from it that allow you to take advantage of the marketplace is the new differentiator. Best-in-class application of data-driven insights drives a smarter understanding of consumers, what they care about and engage with, and how they react.

That is actually not that much different from their role in the twentieth century media world. What is different is that in a digital media world, the amount of data and their ability to be actionable in real time is exponentially increased. In fact, to a certain degree, it is infinite. Technology and software is a media agency's "new best friend." It is what will allow massive amounts of data to be collected, processed, and turned into useful insights. And it is what will enable those insights to inform real-time decisions – where an ad is placed, what messages are included in the communication, what options a consumer is given to interact. And technology will close the loop with a return path of information from every ad exposure so that the next engagement with that consumer will be more useful and efficient.

Here is the problem. Media agencies – historically – have not possessed the types of internal technological capabilities that are required to power this re-invention. It is why the face of the media agency has gone through so much change since 2000 – with the addition of analytics functions, application developers, and data processing capabilities.

One of the immediate reasons this has occurred is that as media has migrated online, massive new "exchange-based" and "network-based" buying models have evolved, making it very easy for any agency buyer to source large amounts of "inventory" – without needing to transact with the publisher(s) or seller(s) who controls it. This has not greatly affected the video arena – but it will. Ultimately, the agency that is able to build the tools and analytics solutions that allow it to best leverage the "open exchange/network model" is in the best position to win in the marketplace. The media agency of the future will not be built on how cheaply they source video inventory for their clients, it will be based on how it leverages insights at scale to derive maximum value from video (and other) advertising opportunities.

In many cases though, neither creative nor media agencies will be able to address the changes in the marketplace through internal or organic change. Ultimately, the marketplace is changing so fast, they will be forced to partner, and potentially even consolidate with others in order to bring about the new solutions and scale that are required to move the advertising business to the next stage of its development. We have already begun to see this occur, as large agency holding companies have begun to purchase digital creative and technology companies (WPP and Publicis have been most active in this area to date). But it extends to the types of new "partnership relationships" we have witnessed between Google and Publicis, WPP and Microsoft, etc. Time will tell how intertwined these relationships become.

Service Providers – Video and Technology

By service providers we mean the companies that can provide the technology or infrastructure for enabling all of the high-falutin' wizardry we have discussed above. While it is not the purpose of this chapter to survey the many companies and their

technology necessary to realize the full economic potential of the transformation of the media/advertising ecology, we want to touch briefly on the various pieces of the puzzle, many of which have yet to be resolved.

One of the most important groups of service providers are the cable operators such as Comcast or Time Warner Cable, who are at one of the epicenters of the digital transformation.[17] Cable operators provide both video services (linear and on-demand) as well as Internet access to consumers. This puts them in a unique position to both collect data about users, and to provide cross-platform technology for leveraging that data for targeted, interactive advertising. Because cable operators send you a bill each month they know who you are and where you live. Because they provide you with TV service they know what you watch, and because they provide you with Internet access, they can know what sites you visit. This is really a tremendous amount of data. And of course that is their challenge. The sheer quantity of information that cable operators can know about a specific household is pretty staggering, and thus makes them a target for those interested in safeguarding consumer privacy. Your authors will not wade into the thicket of what is or is not an appropriate balance between consumer privacy and commercial interests, but we feel confident that such a balance can and will be struck, and we proceed with this section of this chapter on the assumption that it will be.[18]

The commercial opportunity for the cable operators is substantial. As noted, they have the ability to collect the data necessary to drive a cross-platform advertising segmentation engine. Of course having the means and actually executing are two very different things, and the cable operators have significant executional challenges. They are geographically distinct. While this works for delivering local advertising, as we noted above, the distinction between local and national advertising is dissolving. In order for the cable operators to execute against their potential they must connect to each other and build a common platform covering as much of the country as possible in order to offer a national footprint (and nationally delivered audience segments) to advertisers. This platform must be able to leverage a segmentation engine to deliver addressable, cross-platform advertising, on a screen-by-screen basis, manage complex advertising campaigns, and generate real-time delivery reports, all from a single point of contact with a simple, consistent process accessible to publishers (networks) and advertisers. The cable infrastructure, even upgraded to digital, is not yet capable of this functionality, and pulling together all of those pieces of technology will require substantial investment and cooperation.[19]

Recognizing the broad marketplace opportunities and oncoming competitive challenges, in 2008, a group of nearly all of the largest cable operators announced Canoe Ventures, a company they funded to create "advanced advertising products and services to help network partners and their clients reach and engage millions of viewers across cable's national footprint." As of the writing of this chapter in 2009, Canoe Ventures had not yet launched its first product.

But of course, while the cable operators may move deliberately, trying to husband capital expenditures and carefully understand the effects of new technology on old business models, the Internet waits for no one. Indeed, led by the broadcasters[20] there has been an explosion of quality long-form video content made available on

the Internet. In addition to making TV shows available on their own sites, NBC, Fox, and later ABC combined to form the company Hulu, an online destination for aggregating high-quality video content. The cable operators have looked on the growth of online video with some trepidation. While they provide the broadband access that makes this online video viable, they are nevertheless concerned that at some point a tipping point will be reached, and consumers will cancel their traditional cable service, keeping only their Internet access. As a result, they have not been supportive of cable networks repurposing content originally produced for linear television (and arguably paid for in part by cable operator subscriber fees) on to the Internet. Recently the cable operators have announced an approach which would make much more (perhaps all) cable network content available on the Internet, provided that the person attempting to access this content could be "authenticated" as someone who already has a linear TV service which includes that content. This initiative (sometimes called TV Everywhere) is in its infancy, and it will be interesting to see if it gains traction.

Regardless, numerous companies now offer technology and services for forecasting inventory, managing complex video advertising campaigns, providing audience segmentation engines which can deliver addressable, on a screen-by-screen basis, interactive video ads, and generate real-time delivery reports, all from a single point of contact with a simple consistent process accessible to publishers (networks) and advertisers – on the Internet! While TV has the scale both in terms of advertising spend, and time spent, the Internet moves at lightning speed.[21]

Consumers

At first glance, consumers are the big winners in the digital world. The long list of benefits to the consumer is considerable. They have more control over their viewing experience, and are able to choose the time and even the place for viewing video content. They have greater access to content through new distribution channels. There is more content to watch as the means of video production (cameras, editing software) become widely available, and hours and hours and hours of homegrown video becomes available to them. They have a greater variety of pricing models to choose from when consuming video content, ad supported and not. If they choose an ad-supported model, the advertising they see will be more relevant to who they are, and will allow them to "drill down deeper" should they choose to interact with the ads. A relevant ad that allows you to engage is not an ad at all, it is a valuable source of information! The consumer is king, and it is good to be king.

But look deeper and there looms a very large issue. The growth in on-demand viewing and new distribution channels will inevitably lead to greater fragmentation of viewing audiences. With greater control may well come greater viewing, but it will almost certainly bring, like the DVR, the potential for greater commercial avoidance. And, at least today, new distribution channels such as broadband video on the Internet have a lighter ad load. This combination of audience fragmentation, commercial avoidance, and lower commercial loads could well pencil

out (notwithstanding the value creation of addressability and interactivity) to less revenue for content creators – and therein lies the problem for consumers.

The vast majority of professionally produced video content available today is supported by advertising. If there is less advertising revenue flowing to content creators, there necessarily must be a decrease in the costs in producing that content, and/or less content created. Are consumers still the big winners if the natural evolution of the digital media/advertising ecosystem, for professionally produced content, is toward lower quality, and less diversity?

In many ways that are not obvious, when it comes to video content, principally television, we are all in it together. Whether we are willing to admit it, as consumers, we have accepted the bargain that we would rather watch advertising, than pay directly for content. This agreement allows TV networks to pay TV studios for the content they create, and in turn the studio pays the creative talent, actors, writers, directors, editors, as well as technical people and others to produce the content. While certainly the cost of content can be reduced, actors can be paid less, more shooting can be done on set, rather than on location, fewer special effects, etc. eventually you get what you pay for, and if consumers change the bargain, they will be paying, and getting less.

And this bargain we are all in together extends beyond just the advertising. While 2009 Nielsen research says that the average US home receives nearly 120 channels, the same research indicates that households, on average, only tune-in to 16 different channels. But the 16 that one household tunes to can be very different than the 16 chosen by another. So if we are each only watching 16 channels, how is there a business to support nearly 120? The answer is bundling. Large groups of channels are bundled together in tiers, such as "basic cable." Though my 16 may be different than your 16, when we each pay for a bundle that includes both of our preferred 16 channels we are supporting programming diversity, and making it possible for both of our programming preferences to be serviced. In effect we cross-subsidize each other in service of having both of our preferences met.

This bundling, or tiered approach has been the basis for linear cable television nearly from its inception. But what happens when we move to a strictly on-demand world where individuals make programming choices show by show without reference to a linear network? It is by no means assured that the same kind of bundling that works in the tiering world to support program diversity will translate to the on-demand world. For the foreseeable future, the Internet is a strictly "à la carte" medium, where each piece of content stands alone.[22] While undeniably the Internet supports a vast array of content for nearly every taste, or lack thereof, what the Internet has thus far failed to prove is that it can support the production of high-quality professional content.

This history of online video is littered with failed companies and the business challenges that these companies could not surmount are considerable and still in play today. The inability to bundle content together makes it more difficult to develop an audience, and further to cross-promote from the audience of one show to another. Quality content itself, of course, is expensive to produce. Further, a company that has developed quality content and gets an audience can become the victim

of its own success. In linear television, whether one person or a million people watch a show, the distribution costs are essentially the same. Not so in on-demand viewing especially on the Internet. Each viewer consumes technical resources in bandwidth, server capacity, network routers, etc. The costs of distribution rise with each viewer.

Online video companies address these challenges in a number of ways. They can reduce the costs of content creation by either repurposing content that was created for television (Hulu) or transmit content acquired for free, with the costs of production borne by users (YouTube). They can leverage off-line promotional assets, such as what the broadcast networks do when they promote their Web sites on air. They can use clever technologies that reduce the bandwidth and other costs of distribution. But at the end of the day, it is not yet clear that these strategies will produce a highly profitable business supporting high-quality content online. For example in 2009, YouTube, according to analysts at Credit Suisse Equity Research, lost $470 million. A different analysis put forth by IT consulting firm Ramp Rate put the loss at $170 million a year – either way, a staggering sum.[23] Hulu, while showing strong user growth has not said that it is a cash flow positive business, or close to profitability. As of 2009, a number of original content video sites have struggled (or even failed) to maintain their business models (Joost, Veoh, ManiaTV, Stage6, Maven, Ripe TV . . . the list goes on).

The good news, from a consumer perspective is that "video" is no longer one thing. Unlike TV – which is linear, program based, and standardized – online video can be anything. It can be short, raw, and consumer generated. It can be a 2–5-min "quality snack" – at the office, on your mobile device (think music video, news clip, or sports highlight). Or, it can be a long-form, quality production. The bad news is that the high costs of production and promotion, limited ability to bundle, and high costs of distribution, may create a strong incentive for content creators to develop lower quality, lowest common denominator content. To borrow an old joke, we may have 5 million channels and still nothing to watch. Unless quality content creators can find a business model that compensates them at rates similar to linear television today, this may well be the future.

Final Thoughts

Though we end our consumer discussion on a cautionary note, overall we do not feel that pessimistic. One of the great changes brought on by the growth of digital technology is how inexpensive professional quality production tools have become. The democratization of production should be good for everyone. With a broader base of people capable of creating quality programming, and a much easier path to making that programming publically available, talent that would previously have gone unnoticed now has a real chance.

And while the transition from an advertising world dominated by context, to one more focused on audience segments will be painful for some well-established players in the media/advertising business, we are very confident that this transition

can be successfully managed. We look forward to consuming on our own terms, quality media, supported by relevant, engaging, interactive advertising that adds value to our experience and lives.

Notes

1. Shrewd readers will of course note that there is likely to be a fair amount of audience duplication, day to day, for advertising running in the soap operas used in our example. The total number of unduplicated people who were exposed to Mr. Wanamaker's ads is known as the audience "reach" of the campaign. The average number of times that a person reached was exposed to Mr. Wanamaker's ads is the "frequency." Frequency is necessary for a message to penetrate – although effective levels differ by individual campaign. People don't usually remember the message of an advertisement after a single exposure. Reach, frequency, and total impressions have a simple mathematical relationship, where Reach × Frequency = Impressions.
2. http://www.scribd.com/doc/13182115/Enhancing-the-TelevisionViewing-Experience-through-Commercial-Interruptions-by-Nelson-Meyvis-Galak.
3. The benefits a consumer perceives they will receive if they purchase a certain product or service.
4. A survey released July 1, 2009 by Harris Interactive confirms this. Harris reports that: "Over one-third of Americans (37%) say that television ads are most helpful in making their purchase decision while 17% say newspaper ads are most helpful and 14% say the same about Internet search engine ads. Radio ads (3%) and Internet banner ads (1%) are not considered helpful by many people. Over one-quarter of Americans (28%), however, say that none of these types of advertisements are helpful to them in the purchase decision making process." http://www.harrisinteractive.com/harris_poll/pubs/Harris_Poll_2009_07_01.pdf.
5. MAGNA December 2008 Advertising Report, http://www.magnainsights.com/docs/Coen%20Insider%27s%20Report%20December%202008.pdf.
6. http://www.comscore.com/Press_Events/Press_Releases/2009/3/YouTube_Surpasses_100_Million_US_Viewers.
7. A good example of how hard it is to control your brand in the new media/advertising ecosystem is the story of Dave Carroll and his band the Sons of Maxwell. Dave was dissatisfied with United Airline's response to his claim that United baggage handlers broke his expensive guitar. So, he wrote a song "United Breaks Guitars" and produced a simple, but professional looking music video, which was posted on YouTube and as of writing had received over 3 million plays, and coverage on CNN.
8. This is sometimes referred to as "least offensive alternative" viewing. The assumption is that the viewer is picking from a plethora of bad options. This concept speaks to a cynical perspective on the medium of television, which your authors here do not endorse. While there is no question that much of today's TV programming is akin to the old carnival sideshow, much of it is not. Indeed, a successful TV drama, with over 20 episodes a season for many seasons, allows for deeper character development than nearly any other narrative form except perhaps the novel.
9. Hulu is a company owned in part by Disney, News Corp, and NBC/Universal. Hulu's mission is the distribution of TV video content over the Internet.
10. There is a clear history of which of these two models will yield the largest amount of viewing. Again, notwithstanding, people's claimed aversion to commercials, the vast majority of television viewing is of ad-supported programming. For example, according to Nielsen (the leading television measurement company) the most popular premium (paid, no ads) television channel is HBO, which is purchased by only about 30 million of the approximately 110 million US

television households. In general, given a choice between paid content without commercials or free content with commercials, most people choose the commercial supported product.

11. A content delivery network, or CDN is a specialized network used to deliver high-value assets (files) to an end user more efficiently, and reliably, than over the public Internet.
12. It is worth noting that while 30% penetration is very substantial, it is lower than any expert prediction made when DVRs, lead perhaps by TiVo, first hit the marketplace in the late 1990s. It is important to remember that technology and people don't always move at the same speed.
13. http://blog.nielsen.com/nielsenwire/wp-content/uploads/2009/04/dvr_tvlandscape_043009.pdf.
14. Nielsen provides multiple separate "streams" of linear TV ratings, or viewership. One stream of data is related to the program itself and indicates how many people were watching a show live and also how many recorded the show and watched it later. The recorded viewing is broken out further to show recorded viewing done the same day the show aired, and within 7 days of when it aired. Nielsen recently began another stream of ratings for the commercials. These ratings represent the average number of viewers for all of the commercial minutes in a particular show. Nielsen does not currently, because of technical constraints, provide ratings for specific commercials. The commercial ratings are broken out into live viewing, and commercials viewed from recorded playback within 3 days of the original air date. For broadcast networks, most buying and selling of advertising is done using the commercial ratings plus 3 days of recorded playback, data.
15. In a linear environment, one possible way for publishers to avoid this problem is to insist that advertisers purchase all of the available audience watching, rather than just a particular segment. This is similar to what happens today. When an ad which has been purchased based on a demographic CPM, adults aged 18–49 for example, runs, it is seen by all viewers not just those 18–49. One could argue that the value of this "waste" is already factored into the demo-based CPM paid. Targeting could be executed to deliver different creative based on the profile of the viewer. However, while this might make a traditional media buy more effective, it will not make it more efficient.
16. Relevancy isn't as easy as it sounds. Recently the Nobel Prize winning Princeton economist and New York Times columnist Paul Krugman related how when logged on to the Internet from his office in Princeton, he received an ad that said: "Princeton mom lost 47 lbs following 1 rule." Later, from the same office, when he logged on to the Internet through the New York Times network he received the same ad, except this time it said: "New York mom lost 47 lbs following 1 rule." This underscores three points for advertisers. The first is that ads designed specifically for a particular user run the risk of being creepy if executed without any subtlety. The second is that just because an ad has been customized to make it *more* relevant to a user (in this case geography) doesn't necessarily mean the ad *is* relevant to that user. Whether he is virtually in New York or Princeton, Professor Krugman isn't a mom. Finally, please note, even blogger, columnist, economist, Nobel Prize winners notice ads. http://krugman.blogs.nytimes.com/2009/07/06/annals-of-the-modern-age/.
17. We focus on cable operators, and not satellite operators (like DirecTV) here because cable operators have a natural two-way connection to the home and also provide Internet access to consumers. Nevertheless, there is no question that satellite operators will continue to play an important role in the digital media/advertising ecosystem, and much of our discussion of cable is applicable to them as well. Also, to the extent telephone companies like Verizon are now providing video services they stand in a nearly identical position to cable companies.
18. This balance of course, will have to be determined in the context of various legal regimes, including the Cable TV Privacy Act of 1984, which governs how cable operators collect and use personally identifiable information.
19. Two major phone companies – AT&T and Verizon – have invested heavily to introduce an alternative to the legacy cable operator infrastructure noted above. They have built a next generation delivery system that allows them to deliver TV programming, and advanced

addressability and interactivity solutions to the home. Launched to great fanfare in 2006, Verizon's FiOS and AT&T U-Verse (2008 launch) services have attracted about 4 million subscribing homes by the end of 2009. It will be interesting to see how much share of the customer base these telephone companies can accumulate. While the services will roll out nationally, they will be contained to high-density areas as the build out of the service requires substantial new fiber infrastructure. Not to mention, both companies will have to market aggressively against entrenched cable and satellite providers.

20. Broadcasters such as ABC, NBC, CBS, or Fox have a different relationship with the cable operators than "cable networks" like ESPN or MTV. Cable networks are paid a "subscriber fee" by the cable operator based on the number of subscribers of a particular operator who receive a particular network. Broadcasters, while carried by the cable operators, are not paid a subscriber fee. This situation is largely the outgrowth of shifting federal regulations governing television going back to its inception, and as you might expect, broadcasters are trying to change it and negotiate subscriber fees too.
21. In fairness, while there are Internet companies out there trying to solve forecasting, yield management, and creative customization – we are still some distance from their being viable solutions to operate at scale, in a highly dynamic environment. The point remains though, that real activity is already happening on the Internet, and not on TV.
22. There have been attempts, so far not successful, to mandate through federal regulation, or statute, the unbundling of cable networks to an à la carte model. This effort is supported by arguments that it would save consumers money, and opposed by arguments that it would greatly diminish program diversity.
23. http://ramprate.wordpress.com/2009/06/17/youtube-google%E2%80%99s-phantom-loss-leader/

Chapter 3
Branded Entertainment: How Advertisers and Networks Are Working Together to Reach Consumers in the New Media Environment

Rachel Mueller-Lust

Introduction

The media landscape is evolving and viewers are now able to access video content on-line, time-shifted using DVR devices and on mobile platforms as well as on traditional linear television. In light of this new era of technology, advertisers and networks are working together to develop the best ways to reach their consumers through these diversified viewing modes. Additionally, advertisers are charged with delivering brand objectives with tightened budgets. As advertisers seek new ways to break through to television viewers, the marketplace is moving beyond traditional advertising spots into innovative ways of sending an advertising message to the audience.

The concern that video viewers are not watching as much branded messaging is in part fueled by the penetration of DVRs in the US which is now 25% of US Households. Homes that acquire a DVR are likely to view more of non-prime dayparts and watch more cable programming but time-shift more broadcast prime television. Top-rated programs are typically the most time-shifted with the exception of live sports. There is concern that viewers who use a DVR are exposed to fewer ads and research confirms that recall of ads among persons who watch using a DVR is one-third less than among those who do not (Nielsen IAG, 2008). As the penetration of DVR increases, the opportunity for ad-skipping increases; therefore, advertisers are putting greater focus on integrating their brands directly into the entertainment vehicle.

Inserting advertising messaging directly into a program is not new. One type of in-program advertising messaging that has a long history is sponsorships. In the early days of television in the 1950s, many programs were solely sponsored by one advertiser. Radio programs were sponsored by advertisers as early as the 1930s. Sponsorships continue to be an important part of the advertising landscape and have evolved into a broader approach that is often referred to as branded entertainment.

R. Mueller-Lust (✉)
The Nielsen Company, 770 Broadway, New York, NY 10003, USA
e-mail: rachel.mueller-lust@nielsen.com

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Through traditional TV ratings, there is information about the number of people viewing the program while a brand is present. To understand what different types of branding are occurring in-program and how viewers are impacted by those brand integrations, Nielsen IAG developed a syndicated measurement service.

Nielsen IAG Measurement

Nielsen IAG measures the impact of traditional advertising and new and emerging branded entertainment to understand how well advertising messaging is breaking through to viewers in all video environments. Nielsen IAG is tracking and measuring all of these formats to provide advertiser and media clients with insights into which initiatives are driving brand objectives.

The most frequent type of branded entertainment used is in-program placements or integrations (also referred to as IPP). In-program placements are taking on a greater importance in communicating advertiser benefits because of the concern that commercial pods are being avoided. A more recent and creative deployment of branded entertainment takes the form of Vignettes or, as Nielsen IAG coined, Hybrid Ads. A hybrid ad is branded entertainment that occurs during ad pods. Although they reside in commercial pods, unlike traditional ads they contain entertainment content that is typically relevant to the viewer of the program or network where it is shown and supplement the traditional commercial brand message. The goal is to keep the viewers more engaged during the commercial pod by creating branded content that is relevant to them. In addition, sponsorships and limited commercial interruptions are re-gaining popularity though this is not discussed further in this chapter.

In-Program Placements (IPP)

Nielsen IAG measures in-program placements for a brand or product that is shown and/or mentioned during the program or is a sponsor. Nielsen IAG measures the vast majority of in-program brand appearances during primetime television and sports, regardless of whether they were paid. This includes placements sold by networks, sold by producers, brands accepted to offset production costs (e.g., vehicles), brands introduced into a plot or scene by writers, set dressers or prop-masters, brands incidentally appearing in the scene (e.g., a reality show contestant's personal apparel). Occurrences are measured if at least 50% of the brand name (or iconic logo) is visible, or if an unbranded visual exposure is accompanied by a brand name mention. Occurrences include physical appearances of the product in the program as well as on-screen graphics containing the brand or logo. Occurrences that are exclusively audio in nature are only measured when there are either multiple mentions of the brand, adjacent TV advertising for the brand, or if the advertiser has purchased measurement. Occurrences are not measured if they fall into a specified set of categories for exclusion (e.g., announcer billboards and brand-dense shots, a.k.a.

Table 3.1 Attributes of in-program placements

Mentioned, shown, both
Number of segments
Embedment (more than one embedded within same episode)
Multi-type (different types within same episode)
Visual duration
Number of mentions
Brand/logo visibility
Product clarity
Physical contact
Character involvement
Product usage
Prizing
On-screen super
Presentation sponsorship
Commercial-free/limited interruption sponsorship

the "refrigerator rule"), discontinued products, brands that are proprietary eponyms (like "Xerox", etc.). In order to understand what attributes of in-program placements drive performance, a number of different characteristics of each placement are coded as shown in Table 3.1.

Hybrid Ads

Because hybrid ads occur during commercial pods, they are easier to identify and classify than in-program placements. The simple rule is that all hybrid ads that are at least 5 s long are measured. Several different types of hybrids have been identified since their emergence in 2007. These include Microseries, Program Tie-Ins, and Network Tie-Ins. Microseries have a storyline that airs across several spots. These are sometimes shown throughout one program but are more often shown sequentially each week throughout a series or for consecutive days at the same time. A program tie-in hybrid is branded content that extends or is related to the program in which it airs. A network tie-in hybrid is similar to a program tie-in except that the content is not specific to a certain program but is more generally related to the network. Program tie-in hybrids are more common in specialty networks such as FOOD where, for example, a tip about making a certain dish which highlights a particularly brand or product may be relevant to the viewers of most of the programs on the network. Program tie-ins, because they are aligned to a particular program, are most successful when they are aired during the associated program and not in other programs on the same network. Program and network tie-in hybrids can also include call to actions such as directing viewers to additional-related content available on-line or inviting viewers to enter a sweepstakes or other associated activity, either on-line or by telephone.

Measurement Methodology

Nielsen IAG is a syndicated service that measures viewer response to TV programming in a nationally representative opt-in online panel. Each day, Nielsen IAG surveys viewers of national television programs about what they watched the prior day. Currently, Nielsen IAG measures in-program placements on ABC, CBS, CW, FOX, A&E, BRAVO, DSC, ESPN, FX, LIFE, TBS, TLC, TNT, USA, and VH1. Hybrid ads are measured on those networks as well as on FOOD, HISTORY, HGTV, MTV, NAN, SCIFI (now SYFY), and SPEED. The surveys are designed to focus on the viewer's recall of the program content as well as the traditional and alternative advertising used in the program. For in-program placements, viewers are asked a series of questions: Was the viewer paying attention at the time of the placement? If so, did the viewer recognize the placement from the specific advertiser? For those who knew the placement was from an advertiser, did the viewer feel the placement fit seamlessly into the program? How much did it change their opinion of the brand? A similar series of questions is asked about the hybrid and traditional advertisements.

The data included in this paper are aggregated results for the 2008–2009 broadcast season. Data were gathered from approximately 5,000 panelists per day, edited for outliers and weighted daily on Age, Gender, Income, Region, and Race. The results are presented in two sections: Activity and Trends and Performance Impact. Activity and trends describes the landscape of branded entertainment; what are the different types observed, how are they changing over time, what are the differences by program genre and how do cable and broadcast differ. Performance Impact describes how viewers recall and react to the branded elements and explores what attributes of branded integrations drive performance.

Branded Entertainment Activity and Trends

During the 2008–2009 broadcast season, there continued to be a growth in the number of in-program placements. As shown in Table 3.2, NBC has the highest number of in-program placement occurrences on broadcast television – double that of ABC and the CW. Among cable networks, BRAVO and TLC far outpace their competitors in the breadth of occurrences.

With far fewer repeats on their schedules, broadcast networks air the majority of branded integrations only once. Conversely, on cable, programs repeat more often than on broadcast. Therefore, the average integration will be repeated on cable four times as seen in Fig. 3.1.

The number of in-program placements varies by the genre type of the programs. On broadcast, Reality and Drama programs have the highest number of occurrences in total. Furthermore, the reality genre has the most placements per episode (see Table 3.3). ABC's Extreme Makeover Home Edition tops the broadcast list as the program with the greatest number of placements per episode.

Versus the prior season for the same time period on broadcast, Reality programming has greatly increased the number of placements per episode as seen in Fig. 3.2.

Table 3.2 Network in-program placement activity – original airings

IPP activity – broadcast			
Network	Number of brands	Number of placements	Number of occurrences
ABC	298	676	899
CBS	375	1,004	1,297
CW	283	696	857
FOX	261	763	1,164
NBC	454	1,354	1,953
Broadcast total	*1,236**	*4,493*	*6,170*
IPP activity – cable			
Network	Number of brands	Number of placements	Number of occurrences
A&E	200	502	589
BRAVO	496	1,353	1,674
DSC	244	401	532
FX	45	86	100
LIFE	46	122	149
TBS	45	64	70
TLC	514	1,055	1,274
TNT	71	187	233
USA	148	428	537
VH1	12	18	27
Cable total	*1,365**	*4,216*	*5,185*

Source: Nielsen IAG In-Program Performance Data, 9.22.08-3.31.09; P13+Limited to Primetime Non-Sports Programming, Original Airings only.
*Total unique brands across all networks.

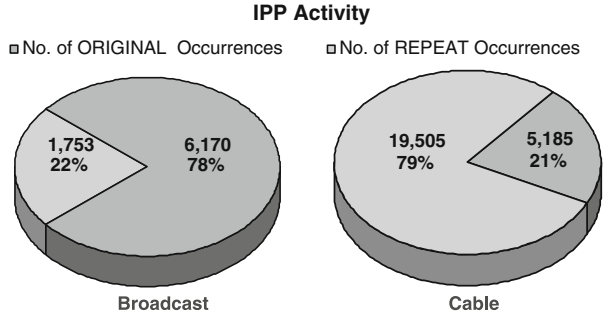

Fig. 3.1 Network in-program placement activity – original and repeat airings broadcast v. cable. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, All Airings

This abundance of in-program placements in Reality programming is driven by a number of factors. Reality programs lend themselves well to product integrations. For instance, competition reality shows often include prizing, providing a perfect

Table 3.3 Broadcast in-program placements by show genres

IPP activity – broadcast					
Show genre	Number of brands	Number of placements	Number of occurrences	Brand density	Placement density
Animation	37	49	67	1.2	1.6
Awards/pageants/parades	85	109	148	5.3	6.8
Drama/adventure	532	1,977	2,499	0.9	3.3
Game show	60	79	87	3.2	4.2
Reality/documentary/ent.doc	640	1,927	2,956	2.6	7.9
Situation comedy	156	283	336	1.1	2.0
Broadcast total	*1,236**	*4,493*	*6,170*	*1.2*	*4.2*

Source: Nielsen IAG In-Program Performance Data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only.
Note: Placement density = average number of unique placements per episode; Brand density = average number of unique brands per episode.
*Total unique brands across all show genres.

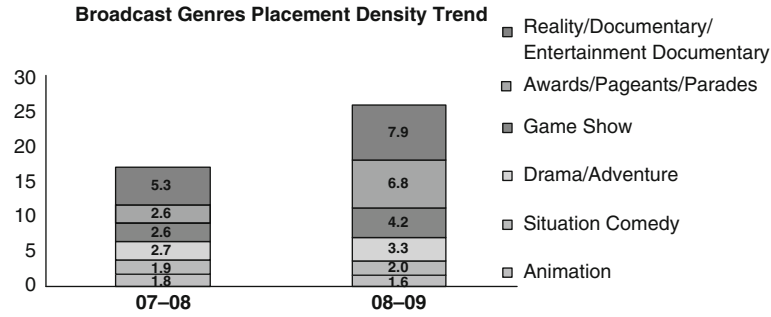

Fig. 3.2 Average number of unique broadcast placements per episode. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only. Note: Placement density = average number of unique placements per episode

opportunity to integrate a product or brand. Professional actors in scripted programs may be less willing to include a brand in their scene than their amateur counterparts in Reality programming. Furthermore, writers of scripted programs such as dramas may be more sensitive to how products are integrated into their scripts so that they do not distract from the story line.

With less original drama and comedy programming in total, the cable in-program placement landscape is dominated by the reality genre, which accounts for almost 80% of occurrences as seen in Table 3.4. Top Chef on BRAVO is the leader in number of placement occurrences in cable.

In cable, Reality is by far the most prevalent genre with in-program placements and continues to increase the number of placements per episode. However, wrestling

Table 3.4 Cable in-program placements by show genres

IPP activity – cable					
Show genre	Number of brands	Number of placements	Number of occurrences	Brand density	Placement density
Awards/pageants/parades	52	93	148	2.6	4.7
Drama/adventure	178	524	624	1.4	4.3
Reality/documentary/ent.doc	1,194	3,264	3,973	2.6	7.0
Situation comedy	40	83	101	1.0	2.0
Talk/variety	18	37	54	1.0	2.1
Wrestling	65	215	285	2.3	7.7
Cable total	1,365*	4,213	5,185	2.0	6.0

Source: Nielsen IAG In-Program Performance Data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only.
Note: Placement density = average number of unique placements per episode; Brand density = average number of unique brands per episode.
*Total unique brands across all show genres.

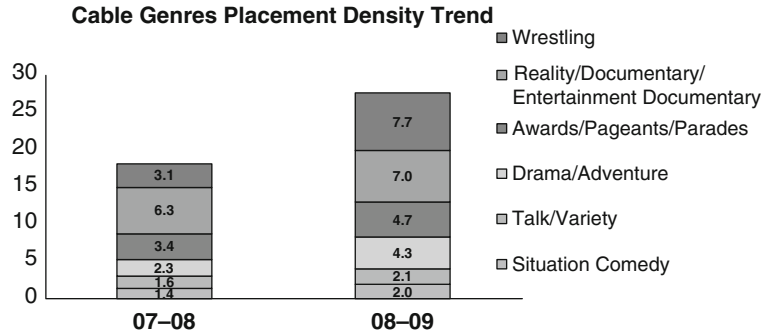

Fig. 3.3 Average number of unique cable placements per episode. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only. Note: Placement density = average number of unique placements per episode

programming shows the greatest gain in placement density, beating Reality for the most densely integrated genre as illustrated in Fig. 3.3.

Overall, networks are giving advertisers more opportunity to place products in their programming. Although the average number of in-program placements on broadcast is fewer than on cable, the placement density per episode has increased on both broadcast and cable over the prior season as seen in Fig. 3.4.

Interestingly, drama has shown the highest increase in activity year over year in general (see Fig. 3.5). Perhaps this is a sign that writers and producers of scripted programs are gaining comfort with integrating brands into their stories or an indication that the financial benefit of getting advertisers to pay for integrations outweighs any concern.

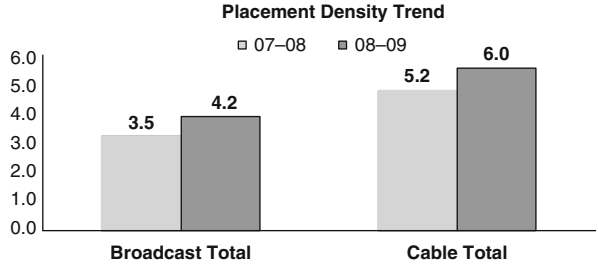

Fig. 3.4 Trend of average number of unique placements per episode. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only. Note: Placement density = average number of unique placements per episode

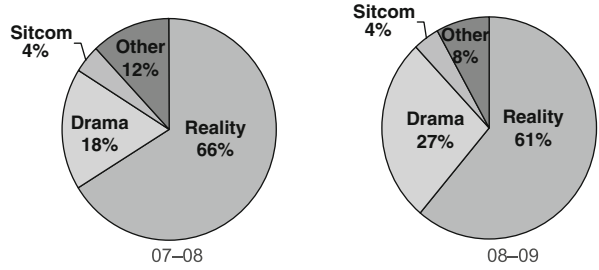

Fig. 3.5 In-program placement genre activity trends broadcast and cable combined. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only

Branded Entertainment Performance Impact

Nielsen IAG asks respondents a force-choice response question to determine whether they recall the section of the program where a brand was present. If they recall that correctly, they are asked to recall which brand among four choices. They are then asked questions to understand how well they feel that the brand fits into the program. Respondents are given a scaled response choice of: Natural and Seamless, Somewhat Natural, Neither Natural nor Forced, Somewhat Forced or Forced, and Awkward. They are also asked whether seeing and/or hearing the brand in the program influences their opinion of the brand on the following response scale: Greatly improved my opinion, Somewhat improved my opinion, Neither improved nor lowered my opinion, Somewhat lowered my opinion, or Greatly lowered my opinion.

There are a number of key factors that consistently drive strong performance of placements and hybrid ads. On broadcast, more than half of brand occurrences appeared in multiple segments or were used in multiple ways during the 2007–2008 season; cable was not far behind at about half of all brand occurrences. Brands that appear in multiple segments or in multiple contexts within a program episode

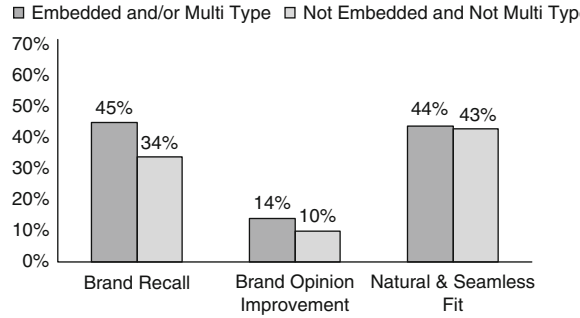

Fig. 3.6 Broadcast multiple/embedded in-program placement impact on performance. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only

generate higher rates of Brand Recall and positive Brand Opinion than those that occur only once as shown in Fig. 3.6.

Integrations in cable programs have the same trend, but the impact is even stronger. The perception of fit of the in-program placement, however, does not appear to be driven by this factor (see Fig. 3.7).

In-program placement performance increases when there is an ad or hybrid ad for the same brand in the same airing of the program. For broadcast, there is a 26% increase in Brand Recall for the placement and a 45% increase in Brand Opinion when there is also a traditional ad during the same airing of the program. If there is a hybrid ad for a particular brand as well as an in-program placement, the performance of the placement improves dramatically, up 46% for Brand Recall and 58% improvement for Brand Opinion.

The same is true for cable. The performance of an in-program placement for both Brand Rrecall and Brand Opinion improves when there are also ads (23 and 17% increase, respectively) or hybrids (19 and 21% increase, respectively) during the same program. These increases are more than what would be expected from frequency effects. By using different commercial vehicles like traditional ads, hybrid ads, and in-program placements in some combination, a synergy is created that provides lift to the performance of each element.

Unfortunately, over the past season a product placement that occurred with a traditional ad or a hybrid ad during the same program was infrequent. As Fig. 3.8 illustrates, over 85% of placements do not have an ad or hybrid ad appearing in the

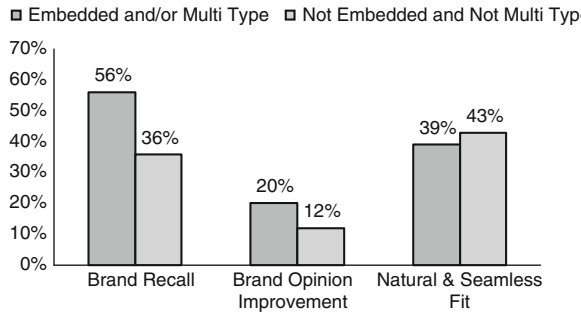

Fig. 3.7 Cable multiple/embedded in-program placement impact on performance. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only

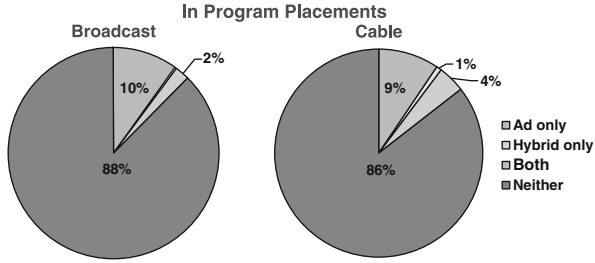

Fig. 3.8 Percent of in-program placements that have ad or hybrid in same program. Source: Nielsen IAG in-program performance data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, All Airings

same program. Given the finding that the presence of a traditional ad or a hybrid ad helps boost the performance of a placement, this is an area that offers a lot of room for growth.

In contrast, there are many fewer hybrid occurrences in total than there are in-program placements (nearly 10 times more in-program placements than hybrid ads) but more than half of hybrids have ads or placements for the same brand occurring in the same airing of the program as shown in Fig. 3.9. The performance of the hybrid ad benefits greatly from being paired with either a traditional ad or an in-program placement.

It is very unusual for products to experience negative perception in terms of Fit or Brand Opinion through integration. On average, only 2% of the integrations measured in a year greatly or somewhat lowered opinion of the brand. Thirty-six percent of in-program placements are perceived as greatly or somewhat improving the opinion of the brand. The remaining 62% majority are seen as not having a negative or positive impact. Forty-one percent of placements are seen to fit naturally and seamlessly while only 2% are seen as either somewhat forced and awkward or forced and awkward. Fifty-seven percent see the fit as neutral. These findings are fairly stable over time. While Brand Recall has increased incrementally over time, Brand

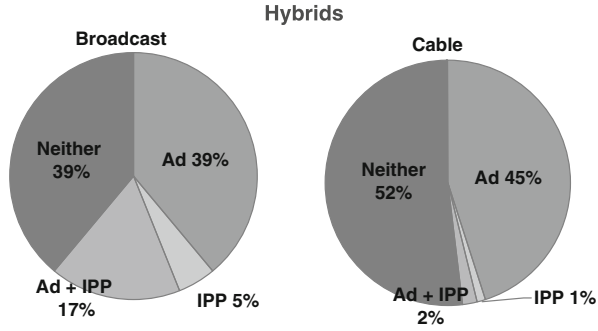

Fig. 3.9 Percent of hybrids that have ad or in-program placement in same program. Source: Nielsen IAG, September 24, 2007–May 31, 2008; P13+; Limited to Prime, Non-sports Programming, Original Airings only

Opinion Improvement has remained broadly consistent. Negative perceptions have always been negligible (see Fig. 3.10).

Perception of Natural and Seamless Fit, which had been on a downward trend, appears to have stabilized in recent quarters and it has always been rare for a placement to be considered Forced and Awkward as shown in Fig. 3.11.

In-program placements that are both mentioned and shown are better recalled and have higher Brand Opinion as seen in Table 3.5. The visual length of a placement has an effect on brands that were shown only, such that Brand Recall increases from 35 to 48% on average with increasing exposure length. Whereas increased time on screen does not appear to materially impact Brand Recall or Brand Opinion for

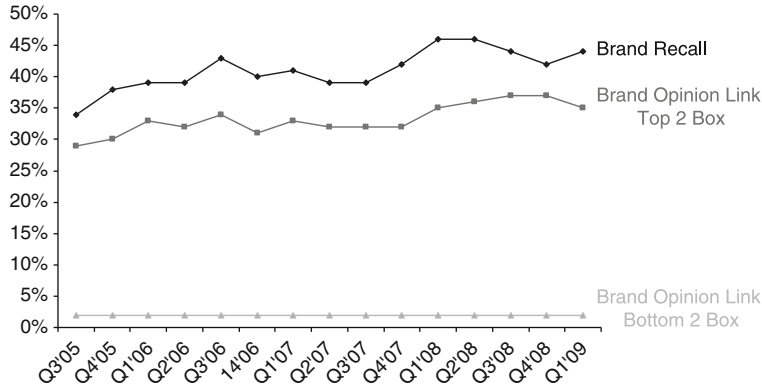

Fig. 3.10 In-program placement brand opinion trend. Source: Nielsen IAG in-program placement data, 9.24.05–3.31.09; P13+; Broadcast and Cable, Non-sports, All Airings. Note: Brand Opinion Link is Brand Opinion among those who recall the Brand, *Top 2 box* is Greatly or Somewhat Improved Opinion, *Bottom 2 Box* is Greatly or Somewhat Lowered Opinion

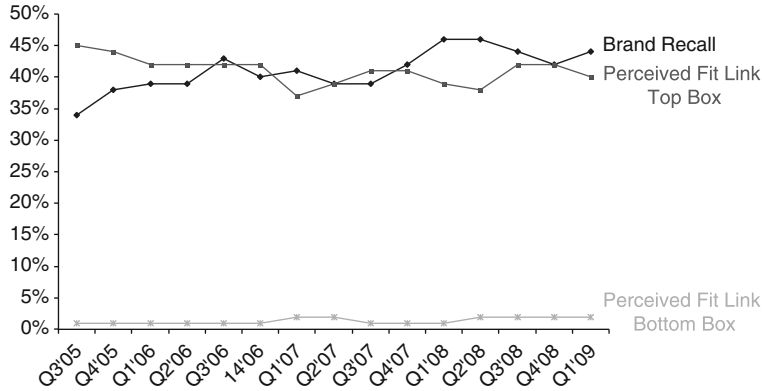

Fig. 3.11 In-program placement perceived fit trend. Source: Nielsen IAG in-program placement data, 9.24.05–3.31.09; P13+; Broadcast and Cable, Non-sports, All Airings. Note: Perceived Fit Link is Perceived Fit among those who recall the Brand, *Top Box* is Natural and Seamless, *Bottom Box* is Forced and Awkward

Table 3.5 Impact of mention, shown and duration on in-program placement

Conveyance	Visual duration	Number of placements	Number of occurrences	Brand recall (%)	Brand opinion improvement (%)	Brand opinion improvement link (%)	**Natural and seamless fit (%)**
Mentioned and Shown	1–29 s	1,327	1,702	53	16	31	43
	30–59 s	198	296	53	18	35	43
	1–1:59 min	126	215	53	18	34	44
	2+ min	194	419	53	18	34	44
Shown (not mentioned)	1–29 s	5,608	6,382	35	10	30	43
	30–59	638	1,008	38	11	30	45
	1–1:59 min	371	701	41	12	30	45
	2+ min	247	632	48	14	29	42

Source: Nielsen IAG In-Program Performance Data, 9.22.08–3.31.09; P13+; Limited to Primetime Non-Sports Programming, Original Airings only.

placements that have both a visual and verbal component. Mentioning and showing a brand for a shorter period of time is perhaps a more cost-effective method of impacting in-program placement performance.

Conclusion

As Advertisers look for the best methods to reach their consumers in new media environments, they have adopted a number of different and successful techniques. They have increased their focus on targeting across all media while looking for ways to advertise to consumers where reach is optimized. Evidence of this is the increasing spread of advertising dollars across media vehicles, including broadcast and cable TV, the Internet and the small but growing mobile, and video-on-demand platforms. They look to engagement metrics to drive effectiveness as seen in recent upfront deals where networks give advertisers guarantees on Program Engagement as well as traditional reach metrics (Wall Street Journal, 2006). They look for the relevancy and media "Fit" with the brand and they use branded entertainment in the form of in-program placements and hybrid ads in order to improve their ability to connect with viewers.

Branded entertainment can be a powerful method of reaching consumers that increases brand recall and messaging as well as brand opinion. To better accomplish the task of reaching the consumer, advertisers can combine multiple advertising methods in the same program by coupling a traditional ad with either an in-program placement or a hybrid ad. The combined effect is greater than the sum of the individual parts, thereby making it a smart strategy for marketing brands cost-effectively. Advertisers should consider season-long program partnerships because brand gets positive association with the show and regular viewers have the brand's name and image reinforced. The positive effect of multiple brand exposures per episode can be achieved with varying the type of placement occurrence in the program episode. Finally, advertisers for now at least need not be fearful of viewer backlash because the data consistently show that negative perceptions are rare. Today's audience appears to be very comfortable with branded integrations, especially when a programming environment provides a suitable and relevant content to include advertisers' brands. And while advertisers can ensure that their message is not missed by integrating their brand into the program itself, creating relevant branded content in the form of hybrid ads can increase the likelihood that the viewers will not skip the commercial pods.

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Chapter 4
The Evolution of Cross-Platform Media Use in the United States: Insights from Consumer Research and NBC Universal's "Olympic Research Lab"

Horst Stipp

Introduction

During the last decade, there have been profound changes in media use patterns, not only in the United States, but in many countries around the globe. To a large extent, these changes are a result of new media technologies that have increased consumers' options with regard to content as well as origin. As a result, traditional as well as new media companies are facing difficult decisions as established business models are being challenged and new business models have to be created.

A very difficult challenge was faced by NBC Universal (NBCU), a worldwide media company headquartered in New York, in connection with their investment as the exclusive carrier of Olympic video in the United States. NBCU had been very successful covering the Olympics in the United States for more than a decade. The Games had consistently achieved high ratings and sponsorship revenues made them profitable despite the high license fees paid by the network. During the 1990s and the early part of this decade, "Olympic coverage" meant, of course, *television* coverage. However, with the growing use of the Internet, the network had to decide if the 2008 Beijing Summer Olympics should be covered differently than prior Olympics. Additionally, in light of changing consumer preferences, NBCU was in need of data that would help prepare coverage strategy for Vancouver (February 2010) and London (August 2012).

Research at NBCU, as at other media companies in the United States, had been tracking regularly Americans' media consumption habits as well as Olympic viewing specifically, and was able to apply the learning from that research to the Beijing coverage strategy (Coffey, 1997; Stipp, 2003). The 2008 Olympics promised a unique opportunity to gain much deeper insights because of the unprecedented expected size of the Olympic audience – not only on TV but also on the web and on mobile phones. NBCU invested in an extensive research program, dubbed "Olympic Research Lab.". The "lab" was commissioned to combine various

H. Stipp (✉)
NBC Universal, 30 Rockefeller Plaza, New York, NY, USA
e-mail: horst.stipp@nbcuni.com

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research methodologies that provided new insights into media behavior in the United States in 2008 and also revealed emerging usage patterns that are likely to evolve during the next years and impact how the audience would want to experience Olympic coverage in the future.

Americans' Media Use 2007–2008

As NBCU was preparing coverage of the Beijing Games, Americans were acquiring new media technologies at a fast pace. This was true of both Internet technologies, such as broadband, and technologies that enhance viewing of TV content, such as High Definition TV (HD) and Digital Video Recorders (DVRs, also referred to as "TiVos"). On the other hand, despite the strong growth, the majority of US consumers did not own many of these technologies. In fact, many technologies were in less than 40% of all homes, indicating they were still not mainstream products (Fig. 4.1).

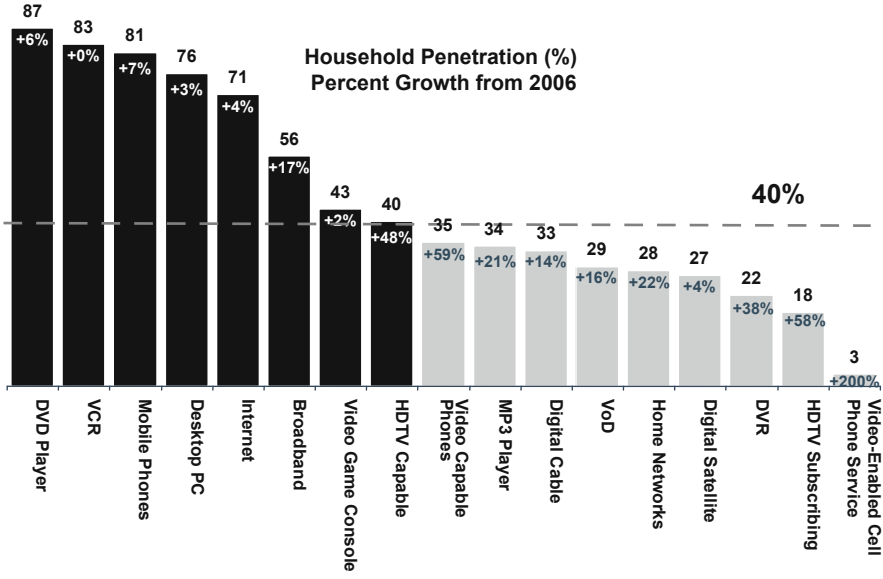

Fig. 4.1 Media technology ownership and growth 2007

Behavioral data, primarily from NBCU custom studies and Nielsen ratings data, showed that these technologies were changing media use. Those changes could be most easily observed among young people, but it appeared that they were spreading among older age groups as well. The most significant changes were the growth of time spent on the Internet, the emergence of internet video as a result of growing broadband adoption and speed, time-shifting through DVRs, and adoption of flat-screen TVs and HD. Portable media (video on cell phones) did not yet play a

significant role. At the same time, all data agreed that there was no evidence "traditional" television was being replaced by new forms of consuming content nor was it being replaced by user-generated content which was referred to frequently due to the emergence and growth of YouTube. In sum, the data clearly showed that consumers' media use was evolving, but there was no indication of a "revolution," in the sense of a replacement of one medium through another.

Of all these changes, broadband video and the Internet were deemed most important for the Olympics coverage. First, the increase in viewing television content on a computer, facilitated through broadband, could increase the viewing audience, but it also had the potential to be disruptive, since the traditional advertising-based television business model relied on large audiences watching programs on television, especially during Primetime. Revenue from online advertising in connection with streamed shows was small in comparison to TV. Therefore, it was important that online video would not cannibalize the TV audience. Research had shown that cannibalization was unlikely. NBC had started to make shows available online the day after they aired on TV in 2006. Figure 4.2 provides an example of one popular prime time program, "Heroes," that was offered on several platforms and shows the relative amount of usage of those platforms. The data indicate that although there was a substantial amount of online viewing, television remained by far the preferred viewing platform for Heroes.

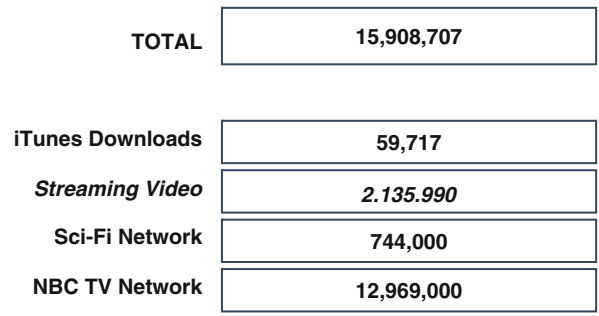

Fig. 4.2 Online viewing of full TV episodes (*heroes*)

Another trend in media behavior that was likely to have an impact on the Games was the adoption of High Definition TV. As the analog TV system in the United States (NTSC) has a much lower resolution than PAL and SECAM (which are used outside of the United States), the difference in picture quality between "regular" TV and HD is much starker in the United States than many other countries. The difference is evident to most viewers on TV sets as small as 25 inches. This had led to a faster adoption of HD in America, compared to Europe, for example. With regard to Beijing, this trend seemed to have upside potential: HD was found likely to enhance the TV experience and could help draw large numbers of viewers to the television set.

Time-shifting through DVRs was considered less important for the Beijing coverage. While some popular TV series were being time-shifted through DVRs by over a quarter of viewers, ratings analyses had shown that sports events were watched

overwhelmingly "live" by DVR owners. Mobile content and video, however, were considered of interest despite their comparatively low usage levels at the time, for two reasons: First, there were already millions of smart phones with video capability on the market. It was likely that the number of users of mobile video would increase by the time the Olympics would be aired and maybe even during the Games, especially among young adults, an important target group for many advertisers. Second, based on the available research, it was safe to assume that mobile consumption of content would be relevant for future Games.

Coverage of Beijing Summer Olympics

Based on these data, as well as on technical and on business considerations, a plan for the coverage of the Beijing Games was devised. The plan tried to maximize audience reach and satisfaction by making an unprecedented amount of Olympic events available on three screens (TV, PC, and mobile) and show most in High Definition on television.

Apart from some soccer matches prior to the Opening Ceremonies, coverage of the Beijing Olympics started on August 8, 2008 and ended August 24, 2008. (Non-video online content was, of course, available on NBCOlympics.com prior to and after the Games.) Events were aired on NBC Universal's TV networks (NBC, USA, Oxygen, CNBC, MSNBC, Universal HD, and Telemundo). TV coverage over this time added up to about 1,200 h. In addition, NBCOlympics.com offered more than 3,500 h of online video (2,200 h of which were streamed live), as well as in-depth athlete profiles, photos, and games. Finally, NBCOlympics2Go provided mobile coverage with live streams, highlights, and, to subscribers, "breaking news" and "alerts."

Compared to prior Olympics, this coverage represented a significant increase in TV coverage, an expansion of HD production, and a tremendous increase in online and mobile content, especially video. The coverage strategy promoted cross-platform usage. Despite all these changes, one thing remained the same: an emphasis on the Primetime TV coverage on NBC, consisting of the most popular events (live when possible, but often recorded and edited), the opening and closing ceremonies, and features about athletes and the host country. During Primetime, no competing live coverage was made available on other networks or other platforms.

The coverage of the Games turned out to be very successful: NBC reported that the Beijing Olympics was the most viewed event in America's television history, reaching 214 million viewers. In addition, 52 million visited the website, looked at over one billion pages and streamed a total of 10 million hours of video. Finally, 6.5 million used the mobile offerings (50% of users accessed video for the first time). While all this contributed to the bottomline, the high ratings for Primetime were the most important factor in making this a profitable event for NBC Universal.

Many factors, including Michael Phelps' extraordinary performance, played an important role in the high viewership numbers. The learnings from NBCU's

"Olympic Research Lab" showed that the multi-media coverage strategy contributed a great deal to the success as well.

The "Olympic Research Lab"

Major television events in the United States (such as the Academy Awards, the SuperBowl, and the Olympics) are typically accompanied by research on the event's audience reach (using Nielsen data) and on the impact of advertising (through proprietary custom research or syndicated studies). Often, there is also special research on audience satisfaction. NBC Universal decided to develop a much larger research program in connection with the Beijing Olympics because, as said, the Games were seen as a unique opportunity to gain new insights into Americans' media behavior and emerging trends.

NBCU's "Olympic Research Lab" used the following methods:

- Standard TV (Nielsen), Online, Mobile, and VOD metrics
- A so-called "Olympics TAMi"(Total Audience Measurement index) that aggregated metrics on the reach of Olympics content on the various platforms
- Nationally representative multi-platform studies of over 8,000 adults to measure usage in all locations
- Surveys of over 2,000 viewers to assess attitudes about coverage and Olympics
- Electronic measurement of cross-platform usage
- In-depth focus groups
- Site intercept surveys on nbcolympics.com and surveys of users of NBCU's mobile offerings
- Sponsorship/Advertiser ROI (Return On Investment) surveys (such as pre–post exposure studies)
- Data from IAG, a syndicated service providing ad recall and impact data
- Cross-media campaign effectiveness studies (online intercept surveys conducted by Dynamic Logic and Insight Express).

As this listing shows, there was an extra effort to measure and understand multi/cross-platform media use and satisfaction with the offerings on the various platforms. The results of this research effort were deemed very valuable because they did provide the new insights the company was looking for – learning about media behavior that would reveal patterns likely to evolve during the next years and impact how the audiences consume and experience media content, including Olympic coverage, in coming years.

Lessons from the Research Lab

The findings from the Research Lab can be summarized in ten points that provide insights on how this event was consumed, but also provide valuable lessons regarding the on-going changes in media consumption. These points are the following:

1. *TV is (Still) King*: Despite the focus within the media business on the growing popularity of online video it is sometimes overlooked that television is still the most widely used medium by far. The research on the Olympics confirmed that statistic: As shown in Figs. 4.3 and 4.4, over 90% of the Olympics video coverage was consumed on television. Moreover, majorities within all age groups watched coverage *only* on television.
2. *HD Boosts TV's Appeal*: The research clearly supported the assumption that HD would enhance the TV experience and help make the TV set the preferred way of watching content – especially sports events – for many consumers. NBCU's surveys found that 35% of viewers watched Beijing coverage in HD and of those, 93% agreed "watching the Olympics in HDTV adds to my enjoyment." Qualitative studies helped gain more insight into this phenomenon indicating

	Mon 8/18	Tue 8/19	Wed 8/20	Thu 8/21	Fri 8/22
TAMi*	94,425,728	95,524,960	91,217,593	87,711,354	79,858,575
TV VOD (uniques)	116,725	110,908	106,532	87,565	74,639
Mobile (WAP uniques and Mobile VOD uniques)	424,842	399,229	426,067	447,297	420,812
Online (uniques)	7,421,161	7,406,823	6,225,994	6,726,492	6,070,124
Television (P2+ reach)	86,463,000	87,608,000	84,459,000	80,450,000	73,293,000

	Sat 8/23	Sun 8/24
TAMi*	80,324,906	91,094,643
TV VOD (uniques)	74,531	89,444
Mobile (WAP uniques and Mobile VOD uniques)	417,481	430,614
Online (uniques)	4,249,894	4,684,585
Television (P2+ reach)	75,583,000	85,890,000

"TAMi"= Total Audience Measurement Index, NBCU's method of adding metrics for all platforms.
TAMi does not takeoverlap between platform audiences into account, that is, the total does not necessarily represent different individuals

Fig. 4.3 Total exposure to Olympics (during week 1)

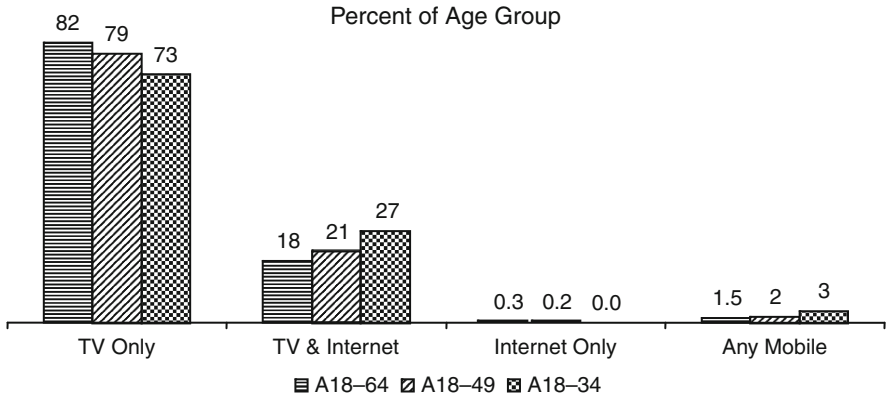

Fig. 4.4 Olympics platform use by age

that the nature of the event – frequently live sports, spectacle (opening ceremonies) and the viewers' high involvement – made the Olympics a "made for HD" event. The data also suggested that HD is similarly important for viewing other events of this kind, the SuperBowl, for example, and visually compelling movies, but relatively less important for many other kinds of content, such as newscasts.

3. *Most Consumers Use and Expect Multi-platform Access*: Television's dominance during the Beijing Olympics in terms of reach and time spent does not mean that other platforms were not important: Online use was four times larger than during the Torino Games only 2 years earlier (winter 2006) and mobile Olympic video was consumed for the first time.

   In addition to the metrics summarized earlier and the data shown in Figs. 4.3 and 4.4, the Research Lab provided valuable insights in the *how* and *why* of multi-platform media use.[1]

   - An innovative, single-source mobile electronic measurement of cross-platform usage revealed details of usage patterns, including use of mobile devices in the home while the TV was also tuned to the Olympics and changes in media usage. It appears that platforms are being chosen depending on life circumstances, such as being at home vs. being at work (Fig. 4.5).
   - Surveys revealed that consumers, irrespective of their own usage pattern during the Beijing Games, expressed a strong desire and an expectation that events such as the Olympics would be covered on all screens, not just TV (Fig. 4.6).

4. *Digital Content can Enhance and Increase TV Viewing and Consumer Satisfaction*: NBC research found that the availability of multi-media coverage can *increase, rather than decrease*, TV viewing time and satisfaction with the coverage and the event overall.

   Past research had shown that the multi-media coverage particularly appeals to fans of a content genre – which is not surprising. As Fig. 4.7 shows, this research indicated that constant availability of TV scheduling information, additional content, and video increased not only satisfaction, but also viewing time. This was a critical finding, since, as mentioned, there was concern that online video might cannibalize the TV audience.

5. *Consumers Love to Control Their Content Experiences*: The various studies confirmed that American consumers are increasingly getting used to – and enjoying – controlling their content experiences. This was evident during the Olympics even though there was less DVR time-shifting compared to other content (such as Primetime TV series). The research also suggests that even the choice to time-shift and manipulate the viewing experience with new technologies can be seen as an expression of control and choice by consumers. At the same time, interest in controlling content should not be interpreted as a desire to interact with or create content. To most consumers, it's primarily about choosing the content they want, on the platform they prefer, at the time they choose.

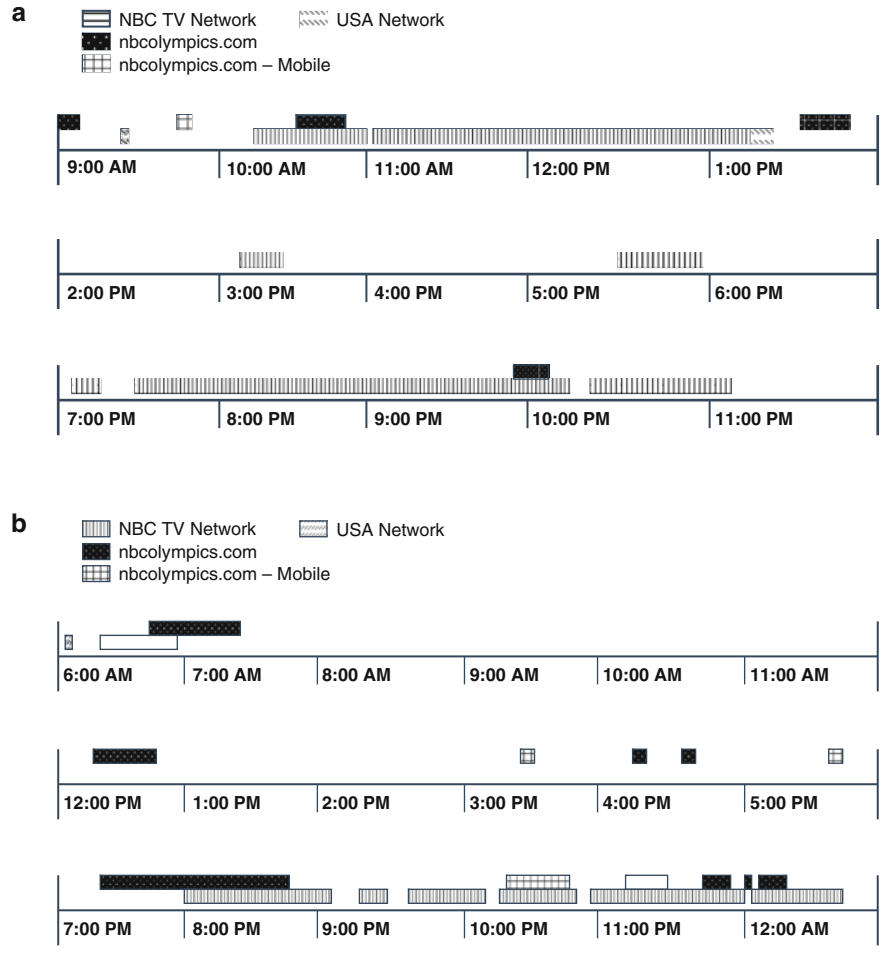

Fig. 4.5 (**a**) A day in the Olympic media life: *Miami female, 23 years old – Sunday 8/10/08*. (**b**) A day in the Olympic media life: *Miami female, 23 years old – Monday 8/11/08*

That choice can be being a "couch potato," i.e. choosing just to "lean back" and enjoy viewing with no interaction at all, but, more and more, this "traditional" viewing behavior is only one of the many facets of most consumers' media use repertoire.

6. *The Internet has a Strong Informational Function*: As shown in Fig. 4.8, online video use has exploded since 2006. As a result, focus tends to be on the video and less on the strong informational function of these websites. This was very evident during the Games too: There was a huge amount of video usage, almost 34 million views of video highlights and 14 million views of live events.[2] But most online usage was of non-video data – from TV schedules to athlete profiles to information on how sports performances are rated by judges. Again, the

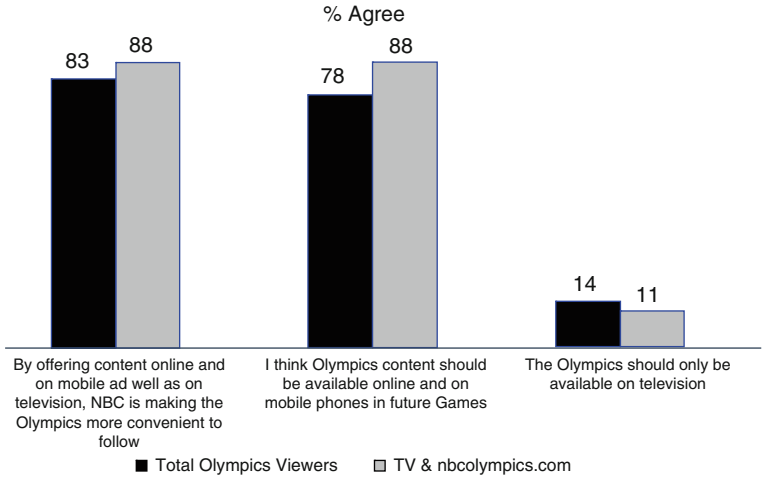

Fig. 4.6 Consumer expectations of multi-platform content

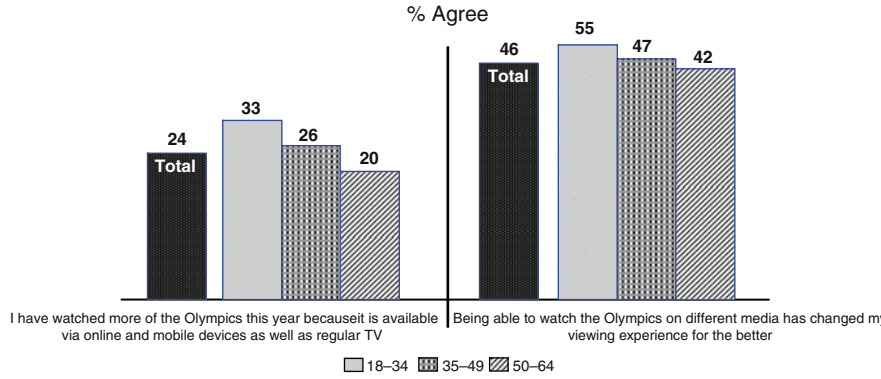

Fig. 4.7 Impact of multi-platform use on Olympic viewing

implication is that the internet and television offer compliment each other by offering different benefits and that one is not a replacement for the other.

7. *Online Content has to be Tailored to Audience Interests and Expectations*: The growth in new media technology penetration and the changes in consumers' use of those technologies does not mean that consumers adopt technology indiscriminately. In fact, since there is more competition for consumers' media time now, they can be choosier than ever. This is true for all platforms, but has special implications for websites: They need to serve sophisticated web-mavens as well as those who are looking for simple, easy navigation. Thus, it is important to not only consider the audience's interest regarding content, but also their needs regarding the form in which the content is presented. The user experience is critical.

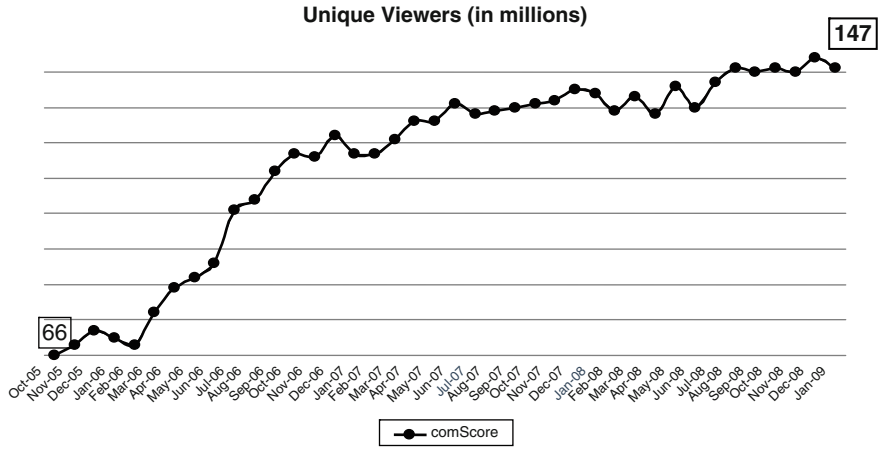

Fig. 4.8 Online video growth

8. *The Olympics are an Extraordinarily Powerful Advertising Platform*: In the United States, the Olympics are broadcast on commercial networks that depend on sponsor/advertiser revenues to provide coverage of the games. Over the years, it had frequently been demonstrated that the Olympics provide a superior advertising platform and that Olympic sponsorship is very effective (Stipp & Schiavone, 1996; Stipp, 1998). Figures 4.9 and 4.10 show that the evidence from the 2008 "Olympic Research Lab" confirmed that finding. For example, brand recall/lift was up over 100% for some participating brands.
9. *Multi-platform Advertising Works*: As the Beijing Olympics involved more multi-platform coverage, usage, and sponsorship than previous games, it was important to document the effectiveness of multi-platform sponsorship and advertising strategies. The data in Fig. 4.11 are an example of the many ways in which it was possible to demonstrate that multi-platform advertising increases the impact of Olympic sponsorship even further.

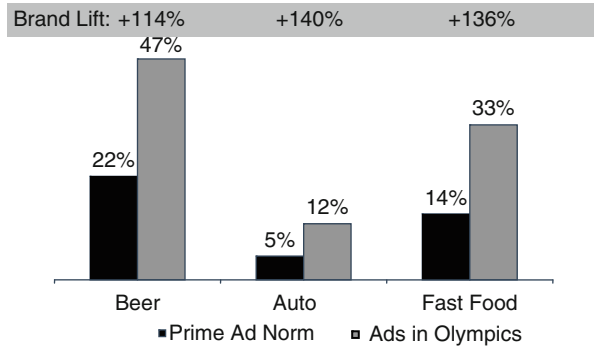

Fig. 4.9 Olympic ad effectiveness: Brand recall

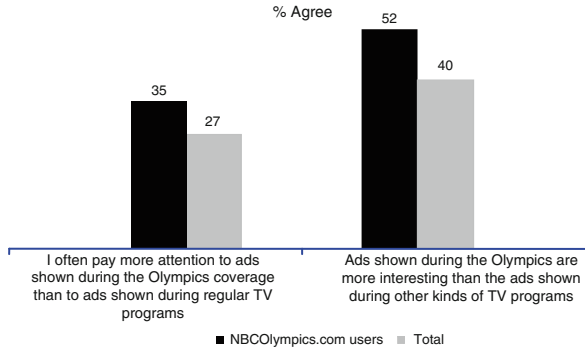

Fig. 4.10 Olympic ad effectiveness: Attention and engagement

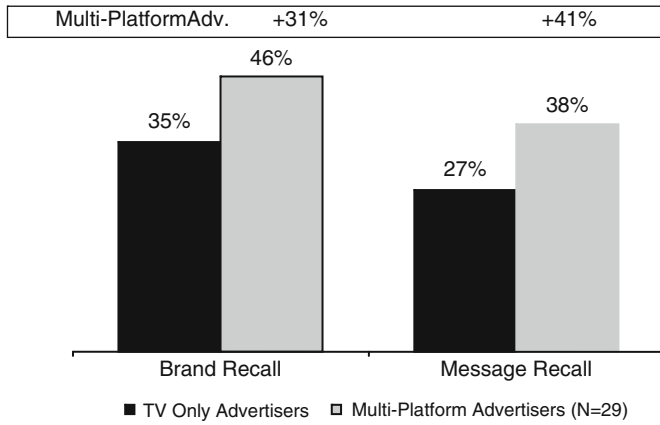

Fig. 4.11 Olympic ad effectiveness: Multi-platform impact

10. *New Methods Are Needed to Adequately Measure New Media Usage Patterns*: One of the unique features of the commercial media business is that the product being sold is the measurement: Media companies' revenue largely depends on measures that document exposure to advertising to be used as "currency" in negotiations with advertisers.

Traditionally, television networks in the United States, such as NBCU, used metrics provided by the Nielsen company that measure television exposure. As the internet emerged as an important player, web usage metrics and more recently, mobile usage metrics were created and offered by several companies in the United States. However, none of these measures is "single source," that is, obtains exposure to several media from the same individual, and there is no "currency" for multi-media exposure to content or advertising.

As described, during the Olympics, NBCU used a variety of metrics to create a substitute measure, called TAMi, to estimate the total reach of Olympic content on

all platforms. In addition, self-reported data was obtained from large surveys and a small panel of Olympic viewers was measured using a special cell phone method by iMMi, as described previously. The insights from the data confirm the need to create better measures, not only to track the evolving media usage behavior, but also to document unduplicated reach and frequency of contact with ads. This is essential to the development of multi-media sponsorship and advertising.

The Evolution of Media Use

In sum, the "Olympics Research Lab" provided new insights on Americans' media behavior – not just as a snapshot in time during the Beijing Olympics in August 2008, but also, in the context of on-going research into the changing media landscape and evolution of consumer behavior, as a basis for better forecasts regarding the pace and direction of change. While gathering insights for the coverage of future Olympics was a major goal of this research effort, its findings went far beyond that. For example, it became very clear that the use of the various media and platforms depends largely on the nature of the content, how it is presented, and how important it is to the consumer. Thus, even though there was no evidence of a dramatic, sudden "revolution" in media use but more of an evolutionary process, the Lab confirmed that constant research to track and understand changes in consumer media use and preferences is essential.

Notes

1. The study was conducted with iMMi, a company which distributed specially adapted cell phones to a sample of volunteers ($N = 39$ in six markets) who expressed interest in the Olympics and multi-media use. All data are based on measurements of usage, not self-reports. (A discussion of "single source" data can be found below under the heading "10 New Methods are needed . . . .")
2. Omniture 8/8-8/24-08; NBC Research.

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Part II
The Changing Face of Traditional Media: The News Business Case Study

Chapter 5
We Interrupt this Program . . . The Cosmic Change in the "News Business"

Jeff Gralnick

This history of global communicating growth and the history of the businesses that have been created so that people could reach out to other people with news and knowledge are measured in the time lapses between disruptions caused by new and innovative technologies.

What this chapter attempts to provide is a documented reading tour through that history as one new technology after another produced cosmic change in what we call "the news business." It was not so much just dog-eat-dog competitiveness that changed this business and the business of journalism. It was instead new technology displacing old that produced the disruptions that first challenged successful business and then turned into failures those that could not adapt, adept, or chose not to compete. Those who won did. Those who did not died.

Disruptive Technologies: New vs. Old

Movable type – Gutenberg's, not today's web publishing tool – displaced monastery-bound calligraphers in the 13th century and began to make reading materials available to the masses.

Radio brought the world of entertainment and news into people's homes, which put the first pressure on newspapers to be quicker on their feet but did not appear to cut into growing American newspaper circulation in the first half of the 20th century.

Something called the transistor was invented in the 1950s, which made possible the transistor radio and magically a socially binding wire was cut. With those small plastic boxes in purse or pocketbook or shirtfront pocket the world went with you – news, sports, music – any time, any place. It was "on demand" before the phrase had been invented to go along with a new technology. And the company that introduced the transistor radio in 1954? It was a little firm called Tokyo Tsushin Kogyo Ltd. which today we know as Sony. Later on in this chapter we will deal

J. Gralnick (✉)
Global Business Development and New Media at NBC News, New York, United States
e-mail: jeff.gralnick@nbcuni.com

G. Einav (ed.), *Transitioned Media*, The Economics of Information, Communication and Entertainment, DOI 10.1007/978-1-4419-6099-3_5,

with the true meaning of that little transistor to the businesses that we call news and entertainment.

Television was the next so-called game changer as the cost of having that "box which brought pictures through the air into your home" came down to the point where the TV was something every middle class home had to have. It was radio with pictures and it mesmerized.

1953

- APRIL: 5,343,000 TV sets are in American homes
- MAY: 103 TV Stations in 60 cities
- SEPTEMBER: 7,535,000 TV sets in USA
- OCTOBER: 8,000,000 TV sets – 107 stations

1959

RCA SELLS 90,000 *COLOR* TV SETS – Model CT-9. In 1960, after spending more than $130 Million in research and advertising, color television finally records its first profit for RCA. From a production standpoint, the one million units per year barrier is not broken until 1964. http://www.tvhistory.tv/index.html

This growth of television stations and television sets also began to make outdated and ultimately unnecessary that American staple, the evening newspaper, which slammed onto the porches of millions homes each late afternoon. Trace the "de-circulation" of newspapers and it begins in 1960 as television news began to mature on both national and local levels. The numbers are startling.

In 1960, the population of the United States was still below 200 million and in that year Americans bought and read just under 60 million morning and afternoon newspapers, with slow growth to continue until 1980 and then the cratering began. By 1999, with the American population at 277 million, newspaper circulation had dropped to just under 56 million and the rate of decline continued to accelerate. By 2008 total newspaper consumption had dropped to 48 million as Internet sites and search engines made them less and less necessary (Table 5.1).[1]

Table 5.1 Number of daily newspapers, total paid circulation

Year	Morning	Evening	Total newspapers	Morning (000)	Evening (000)	Total (000)	Sunday	Total newspapers
2000	766	727	1,480	46,772	9,000	55,773	917	59,421
2001	776	704	1,468	46,821	8,756	55,578	913	59,090
2002	777	692	1,457	46,617	8,568	55,186	913	58,780
2003	787	680	1,456	46,930	8,255	55,185	917	58,495
2004	814	653	1,457	46,887	7,738	54,626	915	57,754
2005	817	645	1,452	46,122	7,222	53,345	914	55,270
2006	833	614	1,437	45,441	6,888	52,329	907	53,179
2007	867	565	1,422	44,548	6,194	50,742	907	51,246
2008	872	546	1,408	42,757	5,840	48,597	902	

Source: Editor & Publisher International Yearbook, http://www.editorandpublisher.com/

Equally instructive in charting the decline of the newspaper in the United States is to look at those evening newspapers. They were the first casualties of the advent of television as the beginnings of "news at the dinner hour" on television – both local and national – made totally outdated the paper picked up on the way back from work or at the doorstep on arriving home. In 1960, 34 million afternoon papers were sold; by 1999 that number was down to just under 10 million; and that had dropped another 3 million by 2008 (Table 5.2).[2]

Table 5.2 The decline of the evening newspapers

Year	Population	Morning circulation	Percent of population	Evening circulation	Percent of population	Total morning/ evening	Percent of population
1960	180,671,158	24,028,788	13.30	34,852,958	19.29	58, 881, 746	32.59
1965	194,302,963	24,106,776	12.41	36,250,787	18.66	60, 357, 563	31.06
1970	205,052,172	25,933,783	12.65	36,173,744	17.64	62, 107, 527	30.29
1975	215,973,199	25,490,186	11.80	35,165,245	16.28	60, 655, 431	28.08
1980	*227,224,681*	*29,414,036*	*12.94*	*32,787,804*	*14.43*	*62,201,840*	*27.38*
1985	237,923,795	36,361,561	15.28	26,404,671	11.10	62, 766, 232	26.38
1986	240,132,887	37,441,125	15.59	25,060,911	10.44	62, 502, 036	26.03
1987	242,288,918	39,123,807	16.15	23,702,466	9.78	62, 826, 273	25.93
1988	244,498,982	40,452,815	16.55	22,242,001	9.10	62, 694, 816	25.64
1989	246,819,230	40,759,016	16.51	21,890,202	8.87	62, 649, 218	25.38
1990	249,464,396	41,308,361	16.56	21,015,795	8.42	62, 324, 156	24.98
1991	252,153,092	41,469,756	16.45	19,217,369	7.62	60, 687, 125	24.07
1992	255,029,699	42,387,813	16.62	17,776,686	6.97	60, 164, 499	23.59
1993	257,782,608	43,093,866	16.72	16,717,737	6.49	59, 811, 594	23.20
1994	260,327,021	43,381,578	16.66	15,923,865	6.12	599, 305, 436	22.78
1995	*262,803,276*	*44,310,252*	*16.86*	*13,883,145*	*5.28*	*58,193,397*	*22.14*
1996	265,228,572	44,789,322	16.89	12,200,486	4.60	56, 989, 808	21.49
1997	267,783,607	45,433,888	16.97	11,294,021	4.22	56, 727, 902	21.18
1998	270,248,003	45,643,495	16.89	10,538,603	3.90	56, 182, 092	20.79
1999	272,690,813	45,997,367	16.87	9,981,971	3.66	55, 979, 332	20.53

Source: Editor & Publisher (2000).

The Decline of Traditional Network Broadcast News and the Rise of Cable

Trace the "de-circulation" of traditional network broadcast news and its decline and the year to circle is 1980. CNN's creation that year by Ted Turner was the beginning of the long and continuing downward slide for what is now called "over the air news." In the late 1970s, the three evening news broadcasts were watched "at the dinner hour" by those in almost three-quarters of American homes owning television sets. When I produced the first iteration of the nascent ABC News World News Tonight in 1978, our program was a distant third, but still during the winter standard-time months, it commanded a share in excess of 20% while the CBS Evening News with Walter Cronkite had a 35% share and the NBC Nightly News

Table 5.3 Evening news rating and share – TV

	NBC		CBS		ABC	
1977	12.4	26	14.1	30	8.9	18
1978	12.2	25	13.4	28	9.2	20
1979	11.9	24	14.0	28	11.2	22
1980	12.0	23	14.0	27	12.0	24

	Each rating represents
1977	718,000 homes
1978	734,000
1979	751,000
1980	775,000

Source: NBC Universal Research.
Reprinted with permission of NBCU Research.

the rest, an audience size that held through 1980 as the race among the then "big three" tightened (Table 5.3).

The numbers are stunning by today's standards, as we will see. By 1980 29.4 million American homes were tuned to one of the three network evening news broadcasts at the dinner hour. Population that year stood at just over 227 million which meant that just under one in every 8 households was still settled into the decades old habit and of that number over a third were still wedded to Walter Cronkite.

But the most astonishing statistic I recall from that era was the share 3rd place World News Tonight had in Philadelphia the year before. Each evening, WPVI, the long dominant local ABC affiliate in the City of Brotherly Love, delivered to World News Tonight a 70 share which meant that at the dinner hour, seven of every television sets on in that city were turned to ABC News and its nascent three-anchor broadcast. That was the power of broadcast news before the erosion caused by the next waves of disruptive technologies – cable – and then the Internet.

By the time CNN reached its 16th birthday in 1996 it had been joined by NBC which launched MSNBC and then Rupert Murdoch who was still months away from his launch of Fox Cable News. But even with only two new choices for news viewers, the impact of cable news was beginning to be felt fully on traditional network news programs. The 75 share total that the three network powerhouses enjoyed at the dinner hour less than two decades before were nothing but painful memories. Cable news and its lure hurt as did changing life styles, which made settling in for the news "at the dinner hour" nothing more than a dim memory.

Just after 1996, the three-network share was well below 30% and worse for the outlook of the industry as a whole. You also found NBC Nightly News, which I was producing at the time, tied for first place with smaller audience than it had when it was third 4 years before and that steep decline did nothing but continue. In August of 2009, NBC Nightly News posted its 28th consecutive first place weekly finish, but the total number for the once "big three" was anything but encouraging for anyone looking for a future for this broadcast form.

Total Viewers: NBC: 7,770,000/ABC: 6,790,000/CBS: 5,560,000[3]

For that week in 2009, barely 20 million were watching news at the dinner hour which had come to mean in some parts of the country 5:30 in the central time zone and 4:30 in the mountain states and 6 pm in much of the rest of the country when so-called HUTs – homes using television – were low. Put another way, the three broadcasts together had lost fully a third of the audience they had enjoyed in 1980 despite a population increase of more than 75 million.

But there was worse ahead for broadcast news and print as well as 1996 was drawing to a close. As noted, Murdoch was about to launch Fox Cable News but even before that news on the Internet – true news and information on demand – was on the verge of its disruptive and explosive growth. CNN.com was the first and then with the joint venture created by NBC and Microsoft, MSNBC.com entered the field in early 1996, followed almost immediately by ABCNews.com and finally the Fox News Web site. Internet users were not yet great in number; computers back in that day were slow and clunky to be kind; and web speeds of 14.4 kbs were the norm. Pages downloaded slowly; pictures even more slowly; and streaming video was still nothing more than a hopeful gleam in the minds of news web site designers.

Look at how slowly it grew from a bare beginning just three years after what is considered the nominal invention of the Internet. From just over 50 million Internet domains in mid-1994 to over 450 million as 2006 was drawing to a close – almost a half billion new places for those interested in news and information and knowledge to seek out instead of traditional sources (Fig. 5.1)[4].

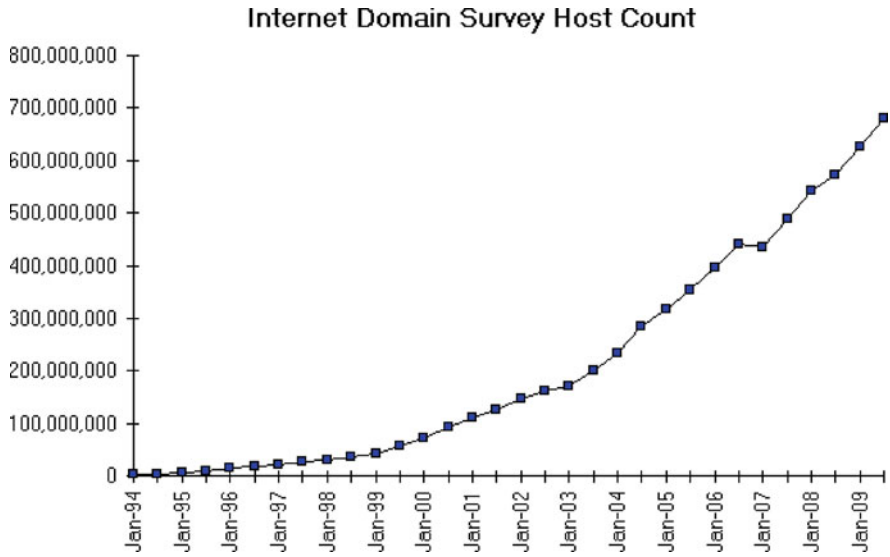

Fig. 5.1 Internet growth 1994–2009. How the baby has grown.
Source: Internet Systems Consortium, https://www.isc.org/solutions/survey

And the worldwide growth of Internet users has skyrocketed the same way as computer speeds and speed of the Internet grew almost boundlessly. The number of Internet users increased almost 80-fold. From under 1% of global population to almost 16% by mid-2006, an increase from 16 million users to over a billion in under a decade and that geometric growth continues as big sweeps of the so-called third world begin to be wired for broadband connectivity (Table 5.4).[5]

Table 5.4 Internet growth users: 1995–1996

How the baby has grown . . . and grown		
Year	Number of users (million)	World population (%)
Dec-95	16	0.40
Dec-96	36	0.90
Dec-98	147	3.60
Dec-99	248	4.10
Dec-00	451	7.40
Dec-03	719	11.10
Dec-04	817	12.70
Dec-05	1,018	15.70
Jun-06	1,043	16.00

Source: World Wide Web Consortium, www.w3.org

The Internet Earthquake

In a way, the invention of the Internet in 1991 was much like an undersea earthquake which set in motion unseen forces that ultimately created a tsunami of change that would wash over traditional news sources. It would accelerate the decline of newspaper consumption started by broadcast news and combined with the growth of cable news would begin to drive a stake into the heart of over the air broadcast news on the major networks. It was the beginning of a cosmic transition in the way we get our news, information and knowledge.

True, news on the cable networks was always on removing the need to wait for "scheduled news," but the Internet now made news ubiquitously and instantly available, first to those tied to wired computers in their homes and workplaces and then as bandwidth and transmission speeds grew, ubiquitously and instantly available to anyone, anywhere at any time on devices that slipped into purse and pocket as easily the transistor radio had four decades before. Instantaneous availability of breaking news on the Internet made newspapers outdated even as they were being shaped by their writers and editors and old and in many ways unnecessary by the time they were delivered. Circulation for many collapsed along with advertising as other web

sites ate into print's cash cow, the classified ad. And what was true for print was similarly true for broadcast news. Its audiences knew the news long before the dinner hour and so the audience erosion continued and with it ad revenue for broadcast as well. And where those ad dollars went was to the Internet, first in a trickle and the as part of the tsunami wave set in motion at the start of the 1990s. Total US Internet advertising had reached $21.2 billion in 2007, a 26% increase over 2006 and those were the ad dollars once spent elsewhere.[6]

But if there was and is disruption that was and is endangering the old and accepted media models there was – and continues to be – huge opportunity for those with foresight enough to embrace rather than resist the change that was happening. So at this point in this chapter I am going to focus on a single instance – a case study, if you will – that I know well and that is, I believe, emblematic, of how when management is smart and daring "old media" can leverage the new to its advantage and both create and grow the communication and business models that work and succeed.

The MSNBC.com Case Study

The case in point is MSNBC.com, arguably by 2009, the dominant news website in the United States a point it had reached in fewer than 15 years. Its birth in 1995–1996 was a product of recognition by Bob Wright, then Chairman of NBC, that significant change was at hand and that NBC News, if it was to continue to grow, needed to change as well. CNN was making it abundantly clear that cable was a place NBC needed to be, but would that be enough? Enter here Tom Brokaw, anchor and Managing Editor of NBC Nightly News which I was producing after a Brokaw invitation that lured me away from ABC News after almost two-and-a-half decades.

Brokaw was an early new media visionary and pushed for inclusion of news about that change in the program he anchored. He also had a close relationship with someone named Gates who owned a company called Microsoft. What Brokaw saw in the Internet in those early days was the potential of reporting news and informing an audience in multiple ways simultaneously. He was talking about multi-media before the phrase had really entered the lexicon. Brokaw talked about the concept with Bill Gates and he connected Gates and Wright which led to a seminal moment in the fall of 1995.

October 16 of that year was the date set for the Million Man March on Washington, a day of black awareness and mobilization. Brokaw was in Washington for that day's special coverage and at one point disappeared for several hours. Where? He told me later he had been on a conference call linking NBC's Wright, then NBC News President Andrew Lack and Microsoft's Gates during which he spelled out a vision for the future where web sites and broadcast news would coordinate on events such as the one they were watching, providing deep and unifying coverage and content.

That is nothing special now but in 1995 it was exciting and captivatingly ahead of its time. It set in motion several months of intense negotiations between NBC and Microsoft that 2 days before Christmas[7] gave birth to joint ventures forming both MSNBC as the nation's second cable news network and MSNBC.com. For the joint announcement, Wright, Lack and others from NBC were connected with Gates in Redmond, Washington and Brokaw at the US Air Force Base in Frankfurt, Germany where he was attempting to get into Bosnia to cover events there. Seminal it was and all the players sketched out a vision for the powerful unifying force of Microsoft's technology and the NBC News reach both as a traditional over the air broadcaster and now as a cable news player. It was perfect synergy and a model many in media are still trying to replicate today.

And it has paid off mightily for NBC News because even as its reach and audience diminished as we have seen, its reach and audience has grown greatly on its two new platforms. MSNBC-tv has steadily grown from also ran status, overwhelmed by CNN's history and brand identify and Fox Cable News' politically driven juggernaut to the point of being a viable and dangerous competitor for both (Fig. 5.2).[8]

As for the dot com piece, it too has become a juggernaut. It has been number one news web site in unique users for a string of months beginning in 2008 and continuing to this writing in late summer 2009 and by every metric, it has done nothing but grow. The chart below tracks Unique User[9] growth from the beginning until 2008 (Fig. 5.3).[10]

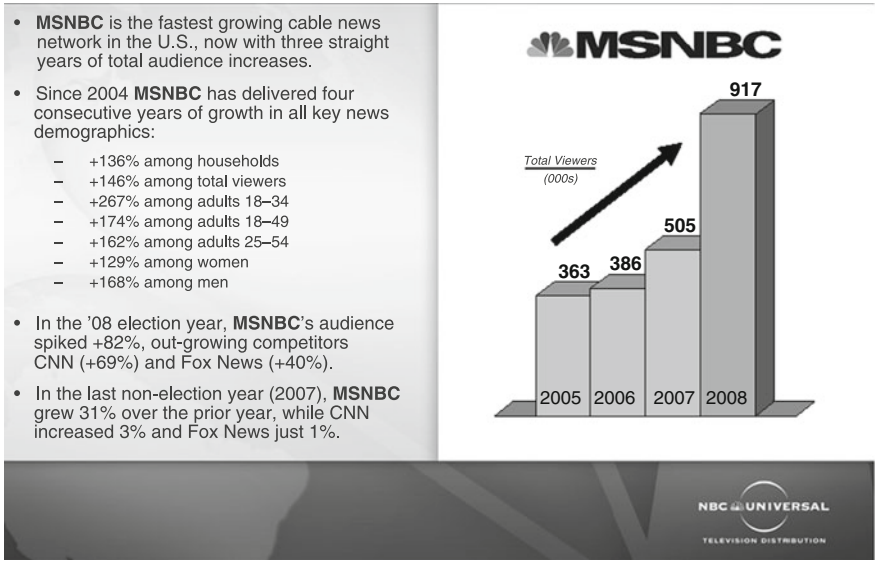

Fig. 5.2 MSNBC is #1 in cable news audience growth.
Source: Nielsen NHI, calendar years as dated, primetime M-Su 8–11 P.M. average viewer impressions. Includes all programming. Demographic increases based on 2008 vs. 2004 averages. NBCU research. Reprinted with permission from NBCU Research

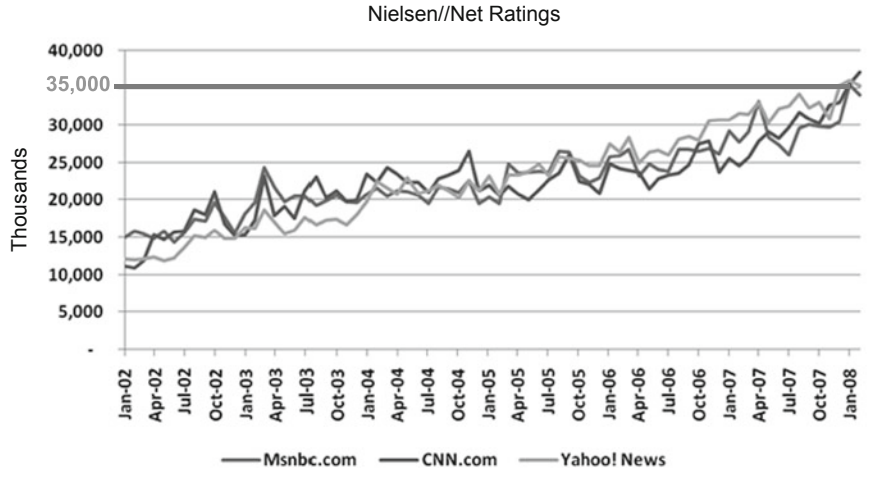

Fig. 5.3 MSNBC.com on-demand video growth (in millions).
Source: MSNBC.com Research/Nielsen Net Ratings, NBCU Research. Reprinted with permission from NBCU Research

More stunning even than User growth has been the growth in what those users prize the most, video clips and streaming live streaming video which allow them to see what they've missed or ARE missing and in more cases than not see all that will be on the news that night even before they reach a television set. Aided by increased bandwidth and far better technology, MSNBC.com has seen geometric growth (Fig. 5.4).[11]

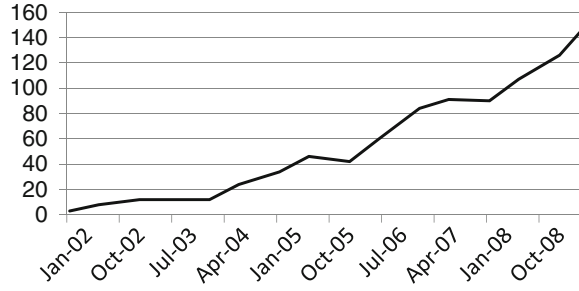

Fig. 5.4 Streaming video growth.
Source: MSNBC, NBCU research. Reprinted with permission of NBCU research

And the truth of the matter is that the preparation of charts and graphs cannot stay current with the growth of use that continues to explode. Unique Users for MSNBC.com reached a monthly average of 60 million by late 2009. Video usage reached a monthly of average 160 million in the same time frame and page use was averaging in excess of 1.2 BILLION a month by then.

So, here you have a creation barely into its mid-teens providing more than a billion pages of information and tens of millions of video viewing opportunities to

what amounts to more than 6 broadcast rating points of users and doing it steadily month in and month out and growing as it goes. In addition to MSNBC.com, CNN.com and the news site of Yahoo.com have also been providing a billion or more pages of information a month and countless video streams to its viewers. So, is there any wonder why traditional wait-to-see-it broadcast news viewers are in decline and wait-to read-it-until-its-published newspaper circulation has and continues to crater?

And what has seizing the future, in essence before it had truly become visible, meant for NBC News? Survival and a longer life for its brand is this author's guess. The two MSNBCs – tv and .com – are significant profit centers for NBCs News Division and without them it would be forced to make even deeper operational cuts as traditional revenues have fallen.

So there we have in the preceding dozen or so pages the past as guide to what the growth of new media has done to old media and one case study of how embracing the old and accommodating to it was the path to survival and future growth for at least one old and potentially endangered journalism and media giant. We could pause here to annotate failed efforts and opportunities missed – CNN.com and ABCNews.com attempts at pay-to-see streaming video and the lamented New York Times "Select" – but they are documented and can be studied at leisure, so best to move forward to the current "game changer" or what I called in 2006 "The Next New thing" and its meaning and opportunity. And it is called wireless.

Wireless, the Current "Game Changer"

Earlier in this chapter one of the disruptive technology changes pointed to was the invention in late 1947 of a complex little sliver of silicon by Bell Laboratories now known as the transistor. This led to development of the transistor radio and then after fierce competition among a number of companies around the world, a small technology firm in Japan called Tokyo Tsushin Kogyo Ltd introduced its TR 63 "pocketable" radio in the United States in March of 1957.[12] Some months later it mass marketed the TR-610 which sold an astounding half million units at more than $100 a unit. Trade name for the device was Sony which became the company name a year later and the little battery-powered portable radio it marketed changed the way we live. It made no longer necessary sitting at home to hear news, follow sports or experience entertainment. The world – all worlds – now traveled with you without benefit of wired connection and made forever different the way we consumed what we now know as media.

Pick a date when old media in the United States and ultimately the world began to die and I think it fair to offer up that date in 1957 when Tokyo Tsushin Kogyo offered for sale the first of its little Sonys. And why all this fairly ancient history? It is because what the so-called pocket radio did to media consumption and the way we lived just past the turn of the 20th century foreshadowed perfectly what another invention by Bell Labs in 1947[13] – the cell phone – would begin to do four decades later.

The cell phone and all the variants that followed – Blackberrys, iPhones and myriad other brands of hand held devices and PDAs – completed the job of unwiring the information seeking world. It became no longer necessary to be connected to any kind of device – tv, desk top, or laptop – to access news and information of any kind; see television news live or, in one form or another on demand; watch or review sporting events; and experience entertainment of almost any kind. The 4.1 billion of them in the hands of global citizenry by the end of 2008 made broadcast and print news content out of date and old even as it was being created. What the cell phone was doing was mirroring what television news had done to print a half century before and doing the same thing to broadcast news itself.

And how big the threat to what remained of news media as we knew it once and know it now? The numbers tell the story beginning with global growth.[14] By the end of 2007 in the developed world there were 97 mobile phones for every 100 people and just under half that number in the hands of those in the total world population (Fig. 5.5).

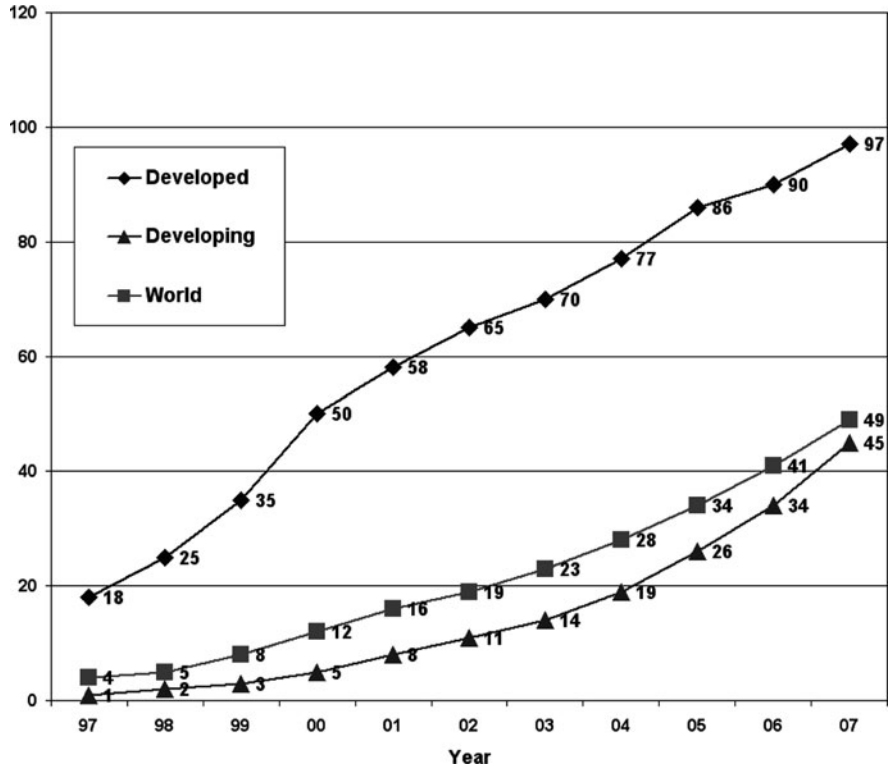

Fig. 5.5 Mobile phone subscribers per 100 inhabitants 1997–2007.
Source: http://en.wikipedia.org/wiki/Mobile_phone. See: http://creativecommons.org/licenses/by-sa/3.0/

Within those numbers some equally startling numbers I have learned as I traveled. In India alone it was expected there would be more than 300 million video-capable hand held devices in use by the end 2009. In Vietnam, Motorola's President told a west coast media conference in 2007, there were already 50 million mobile phones and wireless PDAs in use and that was then and this was the now of just a year later (Fig. 5.6).

And if this was the now of the first quarter of 2009, what of the future beyond that point?

- By end 2009, China alone will have 116 million video-capable cell phones.
- By 2010, global shipment of new cell phones will reach just over 1 billion; 87% of those will be video capable.[15]
- By 2010, 228 billion images (still and moving pictures) will be transmitted by cell phone. That is more than will be taken by all other devices combined.[16]

What of the future, indeed? To that end in search of an answer, something I wrote barely 35 months before this writing in mid-2009 that holds up and I would offer because it continues to hold up and speaks to the shaping of the future for the industries of news and information.

> Put all of this together [the explosive growth of handheld broadband] and it adds up to the kind of omen a very smart man I once worked with would warn about when he perceived a coming trend or event that demanded attention: "There's a cloud," he would say, "out there

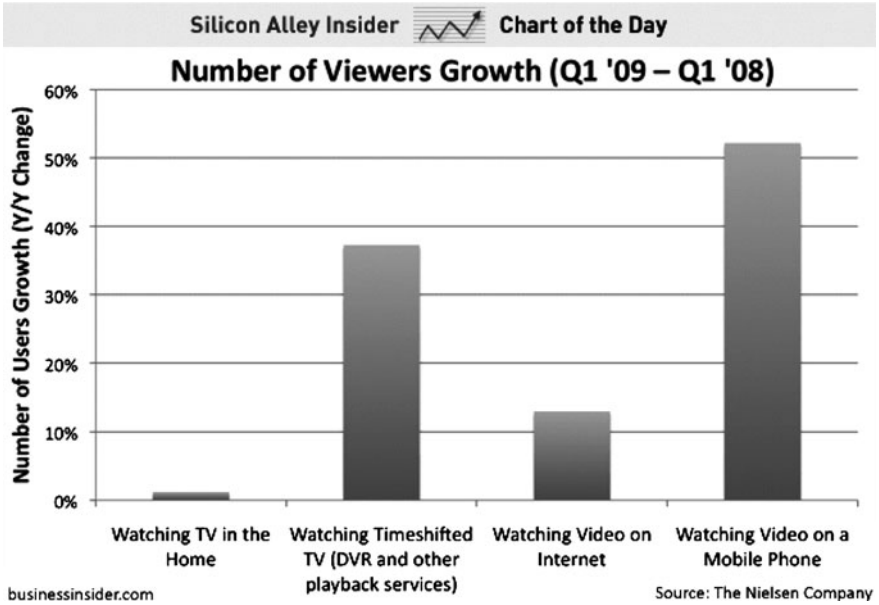

Fig. 5.6 Number of viewers growth (Q1'09–Q1'08).
Source: Chart of the day http://www.businessinsider.com/chart-of-the-day-screen-shift-us-dvr-and-mobile-video-growth-climbing-fastest-2009-5

> on the horizon that's no bigger than a man's hand right now." Small now, he was suggesting, but watch out when it gets here. That is exactly what cell phone video represents—a coming cloud ready to burst over the communications landscape. What will the world be like when it does? Listen to several experts:
>
> At the Barcelona conference where Virgin made its announcement, T-Mobile Chief Executive Rene Obermann predicted that "mobile will progressively become the primary personal access to the Internet."
>
> Sree Sreenivasan, former director of the New Media Department at Columbia University's Graduate School of Journalism, currently the dean of student affairs and a regular and respected commentator on the Internet, and digital media, sees a world that will be made both "exciting and scary," where there is access to "video of things we haven't seen properly [or ever] before." He cites the horrific Paris Concorde crash in 2000 as an example. "Instead of just a couple of grainy photos, we'll get high-resolution video from . . . hundreds or millions . . . ready to whip out their [cell phone] cameras and point them at every perceived event." It's a world of instant reporting by a universe of citizen journalists who are empowered by and armed with nothing more than cell phones.
>
> Adam Clayton Powell III, director of the University of Southern California's Integrated Media Systems Center, projects a world in which cell phones begin providing the opportunity for truly merged communicating.
>
> "It is clear," he told me, "that people want video wherever they are. And in a few years, video IM [instant messaging] no doubt will coexist on cell phones with [programs like] the NBC Nightly News and people will be toggling back and forth between the broadcast and video IM to chat with friends about the news and the newscast." In this merged world, he wonders "whether those users will still be called 'viewers' and the programs they watch will still be called 'television.' "
>
> How fast is this happening and how do we know it is happening?
>
> Dr. Reuben Abraham, who has done work for the Columbia Institute for Tele information (CITI) is convinced that while doing research in India he found the answer. "I watched fishermen come in from a day on the sea," he told me, "and they were watching videos and news on their cell phones. So when it is already happening in parts of the economic spectrum where you would least expect it, you know it is exploding."[17]

And what does this mean for what is left of the traditional media – broadcast news, print news in all forms, and even cable news of today? It means constant and ongoing change and a growing need for incredible flexibility if the so-called digital pennies, in the words of Richard Ebersol, Chairman of NBC Sports, that are replacing analog dollars in all mediums are to grow in a way that keeps old brands alive in new forms. When he and I spoke briefly after the 2008 Beijing Olympics where Ebersol had added broadband access on the NBC Sports site we agreed that scale – multi-platform reach – was the likely only answer.

And how to achieve the scale and growth needed to keep the brands of journalism alive was a question I put to Dr. Max Nikias who is Provost of the University of Southern California and before that Dean of its Viterbi School of Engineering and before that as an Associate Dean created the Integrated Media Systems Center. And the prediction of this visionary in essence is think small.

"Journalism's future lies in the creation of smaller news businesses," he told me. "We'll increasingly see journalists and entrepreneurs form their own companies

to provide news and news analysis. We've already seen a similar paradigm unfold in the music industry, and it's just a matter of time before it takes hold in the large broadcast media companies." And Nikias is not talking about the profusion of so-called Citizen Journalist sites and business trials and has this pointed warning

> In order to survive, particularly in the face of all the various disruptive technologies, traditional broadcast news must preserve journalism's core values: the relentless search for truth and a commitment to finding where truth lies.

Notes

1. http://www.naa.org 2009.
2. Editor & Publisher, 2000.
3. http://www.mediabistro.com/tvnewser August 4, 2009.
4. Source: World Wide Web Consortium (WC3).
5. Source: World Wide Web Consortium (WC3).
6. http://www.wikinvest.com/concept/Impact_of_Internet_Advertising.
7. http://en.wikipedia.org/wiki/MSNBC.
8. Nielsen NHI, calendar years as dated, primetime M-Su 8-11 pm average viewer impressions. Includes all programming. Demographic increases based on 2008 vs. 2004 averages.
9. business dictionary.com Individual visitor to a website who is counted as a single visitor irrespective of the number of times he or she revisits the site in a given measurement period.
10. MSNBC.com Research/Nielsen Net Ratings.
11. MSNBC.com Research.
12. http://en.wikipedia.org/wiki/Transistor_radio.
13. http://en.wikipedia.org/wiki/Mobile_phone.
14. http://en.wikipedia.org/wiki/Mobile_phone.
15. Info Trends, 2006.
16. Info Trends, 2006.
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Chapter 6
Mobile Social Networking and the News

Laura Forlano

In recent years, mainstream media coverage has integrated mobile social networking and micro-blogging tools such as Facebook and Twitter. These interactive communication channels have transformed our interpersonal relationships as well as our links with organizations and content including news and entertainment. In particular, our experience of the news has become mediated through these platforms. These tools have transformed one-way transmission channels into two-way interactive media. While there has been significant discussion of the role of online forums, listservs and blogs as arenas for democratic participation and citizen journalism, there has been less analysis of how micro-blogging social networking tools are transforming the social practices around news and information. Drawing on James Carey's ritual view of communications, this chapter will analyze the role of these tools in the experience of our daily lives as well as our consumption of news and participation in significant media events of our time. First, this chapter will describe the changing habits of individual users in their daily news rituals. Second, this chapter will describe the ways in which news is represented on Facebook and Twitter as well as how these channels are reintegrated with mainstream media broadcasts. Third, this chapter will describe the use of CNN's Facebook plug-in during political media events such as the 2008 Presidential election and the Obama inauguration in 2009. Finally, this chapter will recommend future directions for the use of mobile social networking in mainstream media coverage.

There are three primary theoretical perspectives that ground the following analysis of social networking sites and micro-blogging tools: the ritual view of communications from communication theory, actor network theory from science and technology studies, and the theory of affordances from design research. Carey's ritual view of communications offers an insightful theoretical lens to the understanding of the shifts in news rituals that we are currently experiencing (1988). While the majority of studies of the media and communications focus on the content of the news as a transmission of information, facts, and worldviews, Carey argues that a ritual view is more appropriate to the understanding of our communications as a

L. Forlano (✉)
Interaction Design Lab, Cornell University, Ithaca, NY, USA
e-mail: lef55@cornell.edu

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cultural practice. By studying the use of social networking sites and micro-blogging tools as ritual or cultural practice rather than analyzing the content of the information that is being transmitted, it is possible to understand the social transformations that are occurring with respect to the media's transition into the digital realm.

The social construction of technology and actor network theory, perspectives imported to communications research from science and technology studies, also offer instructive ways of understanding the emergent phenomenon with respect to the transformation of the media and news. The social construction of technology stresses the ways in which technologies – in this case, social networking sites and micro-blogging tools – are the product of complex interactions between developers and users of the tools (Bijker, Hughes, & Pinch, 1987). By telling the social, economic, political, and cultural stories behind the technologies that we interact with it is possible to gain a deeper knowledge of the role of such tools in society. Actor network theory focuses on following the actions of the user as well as an expansive network of human and non-human actors and their relationship to one another (Latour, 2005). As such, I will explain in detail the process by which users (namely, myself) engage with the various tools and artifacts including laptops, browsers, social networking sites, the television, mobile phones, mobile applications, etc.

Finally, the theory of affordances from design research by way of psychology is helpful in understanding the perceived and actual properties of tools, objects, and artifacts (Norman, 1990). This theory is important because it allows room for the discovery of new, unanticipated uses by users themselves. In particular, users of Facebook, Twitter, and other social networking sites have been actively engaged in the creation of new ways of using the tools beyond those intended by the developers themselves. Twitter's use by protesters during the Iranian election in June 2009 is a good example of the appropriation of social tools for political purposes.

For the purpose of this analysis, I employ ethnographic methods, relying on self-reflection my own experiences using Facebook and Twitter. In particular, virtual ethnography, network ethnography (Howard, 2002), and trace ethnography (Geiger, 2010) have been developed specifically to account for the analysis of online communities, listservs, chatrooms, and data-streams. As such, I will use specific examples from my own Facebook status updates and Twitter postings in order to illustrate the use of these tools with respect to the socio-cultural transformations that I argue are occurring vis-á-vis the news and media events.

Social networking sites such as Facebook and Twitter are among the fastest growing media and platforms for expression in human history. According to a study by Pelli and Bigelow, "authorship," or the ability to publish in books and new media, is growing 100 times faster than traditional media (2009). While it took 600 years for the number of book authors to reach 1 million, Facebook reached 75 million users in 4 years and Twitter reached 1 million in only 3 years. In this assessment, authorship is defined as anyone whose writing reaches over 100 people. While I would disagree with the study's definition of authorship – specifically, I would argue that what Facebook and Twitter represent is more akin to verbal communication exchanges rather than written text – Pelli and Bigelow illustrate the great speed at which these innovations have diffused through selected social networks around the world. Their

study provides a useful benchmark against which to understand the way that these sites are integrated into our experience of news, media, and our everyday lives.

I have been "on" Facebook since summer 2007. Currently, I have 824 friends and 29 photos in my profile (only one of which was posted by me). I have installed TripAdvisor's "Cities I've Visited" and Dopplr's "Where Next" applications in my profile, which broadcast my travel patterns to my social network, and I belong to nine causes including Access to Knowledge, Barack Obama is My President, MobileActive, Net Neutrality, and Creative Commons. I typically do not install any other applications in my profile or participate in the myriad of games and quizzes that frequently make the rounds on Facebook. Compared to my friends and colleagues that are more active on Facebook, I would classify myself as a moderate user.

I have been a user of Twitter since November 16, 2008 at 4:43 P.M. when I sent my first Tweet. Since then I have posted 269 updates. Currently, I follow 196 people and have 106 followers. Compared to my friends and colleagues, I would classify myself as a very light user of Twitter; on some days, I do not check it at all or post anything and, on other days, I might post one or more updates. When I am attending a conference where tweeting is considered to be part of the documentation or participation, I am more likely to post multiple updates on one day. Recently, I've begun posting photos directly to Twitter with a short post or description of the image.

Twitter as News Ritual

I fondly remember James Carey quoting Benedict Anderson's *Imagined Communities* in the Social Impact of Mass Media course, which I took in Fall 2001, my first semester as a doctoral student in Communications at Columbia University. "The nation was born when we got up and read the newspaper together," he said. According to Anderson, the subsidization of newspapers by the United States Post Office and the development of print-capitalism played an important role in the emergence of our national conscience through the daily habit of newspaper reading (1983). Given the current crisis in the news industry with declining newspaper subscriptions, the shift to online news, the decrease in television viewing, and the increase in Internet use, it is importance to ask how our changing media rituals and daily news habits might shape an emerging consciousness that considers the self or one's social network rather than the nation or the world to be the primary focus of attention.

On September 30, 2009, I awoke, opened my 2-month-old MacBook Pro, loaded the Safari browser and logged into Facebook. You see, there was something very important that I had to share with the world. I replaced the thought-provoking "What's on your mind?" in the status update with the words "Woke up covered in mosquito bites – the Med fly strikes again" and hit the blue "Share" button. I had made my own headlines in the daily news feed of life. Within minutes, a friend posted the comment "could be worse," which included a link to a September 16

New York Times article entitled "A Vacation Bug Bite That Keeps Biting," a health column by Tara Parker-Pope that recounts a woman's story about a trip to Belize that resulted in an unwanted stowaway insect, which I would not have otherwise have even glanced at. While sociologists of the mass media and public opinion as early as Lazersfeld have long recognized the importance of one's first-degree social network such as family and friends in models of voting and social influence, such models get increasingly complicated when attempting to assess the current situation of the mass media and news in everyday life.

Media historian Paul Starr has emphasized the importance of accidentally coming across news articles while reading the analog newspaper, a ritual that he laments will no longer occur with the movement of journalism to online portals; however, as the above example suggests, one of the affordances of Facebook's status update and commenting features is the ability to create a conversation around news stories themselves as they relate to individual experiences. In this example, the user's own experiences come first and the references to news come second. However, the reverse may also be true. While discussions of the news may have always been self-referential, social networking sites and micro-blogging tools have allowed such discussions to be increasingly self-referential – in fact, they appear in one's personal profile alongside a plethora of more personal information about one's daily life – as well as being tracked and recorded as traces of one's social relationships with friends, colleagues and onlookers (depending on one's privacy settings).

To digress briefly, the sharing of intimate personal details alongside a smorgasbord of political news, entertainment, and ongoing commentary has called individual privacy into question. For example, one Sunday morning I awoke to find that one of my Facebook "friends" (to remain anonymous) had allegedly posted a recording of himself making love to his girlfriend. I dared not click the link. "Was this akin to sex on a park bench?" I wondered. Another "friend" had posted that her young son kept her up all night because he "had the runs." These examples are by no means outliers among the kinds of status updates and tweets that are the currency of social media. However, they raise important issues about the amount of transparency that one allows into their personal lives, the size of the network that is privy to such details and the nature of the privacy settings that may vary from person to person. Legal scholar James Grimmelmann has argued that while Facebook allows for a great degree of control over one's privacy settings, users misunderstand the risks involved with using the site and, as a result, they rarely modify the privacy settings (2009). Philosopher Helen Nissenbaum's concept of "contextual integrity," which ties privacy protection to contextual norms, offers one approach to the governance of personal information on social media sites (2004).

Now, back to my morning media diet. After posting my mosquito-ridden update, I spent 30 min skimming the happenings of my social network on Facebook and Twitter by reading through a litany of status updates. Rather than asking the question, "What is going on in the world today?" I instead seek to know "What is going on in MY world today?" I quickly catch up on the most salient occurrences in my network since last logging on. These include life-changing events such as, for example, who has had a baby, moved to a new city or taken a new job as well

as the more mundane remnants of human existence including who is mad at their dog, who ate what for breakfast, and who needs a break from their work or their kids. After that, I listen to the BBC's World News for about 30 minutes and start my day.

As described above based on an auto-ethnographic account of my own daily experience, among Facebook and Twitter users, reading the "social network news" has become an important ritual of everyday life. In trying to understand this cultural practice through Carey's ritual view of communications, one might ask what the consequences of granting one's social network the time and status that once might have been reserved for Walter Cronkite or Good Morning America. While this brief analysis does not offer a quantitative account of the adoption of such practices by the users of social networking sites, nor does it attempt to classify the content of the information being shared, it offers a perspective on how these tools operate within a network that includes both human actors such as real-life friends, Facebook "friends," colleagues, and onlookers as well as a host of websites, plug-ins, applications, browsers, interfaces, and computing tools alongside the traditional components of the media and news such as journalists, articles, videos, and news organizations themselves.

In so describing such a complex network of actors, we must not forget that news organizations themselves are also present on social networking sites to add as "friends" or, more commonly, to become "fans" of or "follow." For example, CNN's iReport team has a Twitter feed that follows over 30 thousand people and/or organizations and has nearly 30 thousand followers. The feed provides followers with links to new assignments, photos and video footage about breaking news. This further complicates the relationship of individual subjects with the media and the news by transforming what was once known as the audience into a fan, which denotes approval of the content rather than mere consumption. Unlike previous discussions of the emergence of blogging and citizen journalism, which address the user's role in writing about and commenting on the news (at least for a select group of users), micro-blogging via Facebook status updates and Twitter feeds are more lightweight forms of engagement that appear to be less time-consuming and more widely accessible. The next two sections will focus more specifically on the transition of the news with respect to breaking news and media events as well as on Facebook and Twitter's role as important intermediaries in bringing people together around particular news stories.

Breaking the News, One Status Update at a Time

The socio-cultural transformations described above are particularly interesting with respect to breaking news. Facebook and Twitter have emerged as important intermediaries between people and important political, economic, social and cultural events and issues. As early models of social influence might have predicted, there are people within everyone's social networks that are more deeply engaged with the news.

These "news junkies," those who spend a lot of their time reading and commenting about news coverage of important events, many of which are also expert users of social networking sites, are undoubtedly an important source of information for their wider social network. Similar to discussions about the role of bloggers, the status updates of such users filter the news for their social network. However, when there is an important worldwide event or breaking news story, one can see the diffusion of the news through a social network as people post links to specific news stories and comment on those that their network has posted.

Many mainstream news organizations have added features on their websites that allow their readers to easily post stories to their Facebook status updates or Twitter feeds. Such features have the affordance of speeding up the distribution of a particular news story through one's social network as well as allowing for the formation of micro-communities around specific stories through Facebook's "like" and comment tools. In addition, some mainstream news programs such as CNN Newsroom's Rich Sanchez have allowed people to instantly "talk back" to the anchor by posting comments and questions on Twitter. The comments posted by viewers, which are most likely screened prior to their appearance on the broadcast, are scrolled across the bottom of the screen as well as displayed in their original form on screen while Sanchez reads selected comments aloud.

In my own case, while I would not classify myself as a "news junkie," I certainly know a lot of people in my social network who follow and comment on the news voraciously. Out of my many Facebook "friends" and people that I follow on Twitter, there are a small number that consistently post links to news, reports, articles, and video that interest me. I have learned that by keeping up with their status updates and Tweets, I can stay on top of new developments in my field and participate in the conversations that unfold. For example, on Thursday, October 15, 2009, a dreary gray and rainy morning in New York, I was intrigued by a status update posted by my friend and colleague Adam Greenfield, a writer and designer working on the social implications of ubiquitous computing. He posted a link to a blog post called "On Immaterials." I clicked the link and was shepherded away to another website, where I watched a video, "Immaterials: The Ghost in the Field," created by Timo Arnall, a Norwegian researcher for a project on near-field communication called Touch, and Jack Schulze, a designer at the London-based consultancy BERG. After viewing the video, I read Greenfield's essay and then went back to Facebook to comment on his status update (though I could have also commented on the blog directly). "Wonderful video and essay!" I wrote. This resulted in a few brief exchanges with Greenfield about our upcoming trips to Barcelona to participate in Urban Labs, a conference at a Spanish collaboratory and incubator called CitiLab. Next, I decided to repost the link to the video in order to share it with my own social network on Facebook and Twitter. Reposting and retweeting (signified by a capital RT) are important features of these social media, which allow individual updates to move virally through social networks collecting comments, "likes" or thumbs-up and additional reposts along the way. (Note: There is no Facebook feature that allows one to "dislike" or give a thumbs-down.) Later that day I noticed that several of my colleagues working in research and development departments at

top technology companies in Silicon Valley had also reposted Greenfield's original status update, which confirmed my belief that the status update was not only of interest but also a good way of keeping up with the conversations in the field.

Facebook and Twitter are not only communication tools for keeping up with specialized knowledge in one's field or demonstrating one's professional interests and involvement, they are also valuable for getting a quick sense of other breaking news and headlines. Later that afternoon, I quickly scanned the updates on Facebook and noticed that several people had simultaneously posted status updates, links and comments about a boy and a balloon. These included "#ballonboy is down in a field" and "balloon has landed" as well as links to stories on the CNN and NPR websites, and, on Twitter, a link to the *New York Times* news blog *The Lede*. I spent the next few minutes exploring the links and videos about the breaking news story, "Balloon lands empty; search on for boy" on CNN, which detailed the developing story about the 6-year-old boy from Colorado that had allegedly been carried away from his home in a helium balloon. Unfortunately, it was later discovered that the incident was a hoax perpetrated by the boy and his brothers at the encouragement of their father, the mastermind of the event, which was designed to get attention for a reality show.

The story's prominence on intermediaries such as Facebook and Twitter reflected the mainstream media's own coverage of the story. These platforms allowed viewers to "commune" virtually in real-time while sharing their thoughts and reactions to the news. As such, social media are a forum for the world's "collective conscience." Within minutes of the breaking news, it was possible to see links, comments and updates from around the country, and, indeed, around the world, in multiple languages. Experiencing the news event through social media intermediaries is akin to being at a United Nations cocktail party buzzing with chatter about the fate of the boy soaring overhead in the balloon. Carey often referred to his memory of huddling with a group of bystanders watching the first television shows through a department store window as an example of the cultural rituals surrounding the media. It is this kind of "huddling" that we are now doing online through social media platforms. Yet, such rituals are not only reserved for the minutia of everyday life or the excitement surrounding breaking news, they are also significant for critical moments in political history as we will see in the next section.

On Twitter, it is possible to view "Trending Topics" on the main page, which allows people to quickly see the commonly used hash tags, such as #balloonboy, as well as the issues with the most activity (Fig. 6.1). The hash tags allow users to quickly search for specific mentions of their keywords without including commonly used words or phrases in their search. While public Tweets are easily searchable, Facebook status updates are not. This capability makes Twitter more useful for following topics, issues, and news while Facebook is more easily used for generating small group conversations among people in several overlapping networks of friends that are, at the same time, observed by many onlookers.

Perhaps even more influential than posting links to and commenting on the news, Facebook and Twitter, and in particular their mobile platforms, have been used to capture photos and video, which have found their way into mainstream media

Fig. 6.1 A screen shot from the public Twitter feed about #balloonboy. *Source:* Twitter.com, October 15, 2009

reports. The role of these tools in documenting new events is similar to the role that the accounts of bloggers and citizen journalists have played in shaping the media. However, according to the Pew Internet & American Life Project, while bloggers only make up 12% of all Internet users, 35% of adult Internet users participate in social networking sites in the United States as do 65% of all teen Internet users (Lenhart, 2009). These tools are used by nearly three times as many people as blogs, which make them valuable for experiencing and documenting newsworthy events.

For example, over the past year, mobile phones, camera phones and Twitter have been used for the documentation of a number of significant breaking news events including the Bombay hotel bombing, the US Airways jet landing in the Hudson River in New York, and the Iranian election.

Facebook's Election and Inauguration of President Obama

The day after the historic November 2008 election of the first African-American president of the United States Barak Hussein Obama, Facebook, or at least my friends network on the site, was filled with exuberant accolades celebrating the previous evening's results. Yet, that same day, many voters around the country were angry over California's Proposition 8 resolution, which banned gay marriage in the state. By reading through the updates on Facebook and Twitter, it was possible to quickly get a sense of the political views of my social network. For the most part, based on a rough assessment of the status updates, it seems that my social network consists primarily of Democrats who are in favor of gay marriage. This finding supports theories of online homogeneity in which people are more likely to be exposed to people and information that support their own political views and less likely to encounter ideas that they disagree with. Given that Facebook are self-selected networks of "friends," the overwhelming support for Obama and disgust over "Prop 8" among my network makes sense. The reinforcement of homophilous networks, rather than heterophilous ones, via social networking sites is of some concern because more diverse networks are important for reducing inequality as well as for the spread of new ideas and innovations.

The use of these tools as a real-time political barometer during important media events such as presidential elections offers potential yet it is important to consider the impact of self-censorship, group dynamics, and the limited consequences of voicing one's opinions in such a transient and fluid forum. For example, the status updates and posts of an individual moment in time are easily buried in the deluge of personal and political information that is posted in a single hour or on a single day. The larger one's active network, the more difficult it is to keep up with the onslaught of updates. Thus, while individual posts maybe important for their instantiation of participation in the media ritual, they maybe nearly meaningless in the larger context. While status updates and tweets are written forms of communication, like instant messaging or chat rooms, the aesthetics and norms are more similar to verbal communication as mentioned earlier. And, while they are intended as the cultural traces of everyday life, they are in fact stored infinitely as written records – to be searched, surveilled, and cited. This raises serious concerns over the corporate nature of the intermediaries that host these ongoing conversations.

On to the inauguration. On January 20, 2009, audiences around the world witnessed Obama's inauguration. While many made the trip to Washington, DC to watch the much anticipated event from the cold and crowded National Mall, others gathered in video-enabled public spaces around the world such as New York's Times Square and some congregated around flat-screen televisions in restaurants and bars.

I stayed home in my pajamas. I had intended to take advantage of the relatively quiet January day – before the Spring semester's crushing workload started up the following week – to get some writing done. Yet, like the rest of the world, I was so excited and distracted from my work that I soon took to watching CNN from a perch atop of my bed where I sat with my laptop. Around 11:30 A.M., I discovered the CNN's Facebook plug-in (Fig. 6.2). The plug-in allowed me to view the status updates of my entire social network, as well as all of the updates posted by anyone using the tool, in a small box on the right-hand side of CNN's live feed site.

According to top blog *ReadWriteWeb*, there were over 200,000 status updates from about 3,000 people – peaking at 8,500 people – commenting on the Facebook Connect plug-in during the event. CNN streamed the broadcast to 5.3 million viewers (Perez, 2009) but many complained of slow and broken connections and quizzed their networks for links to the best sources for online viewing.

What happened next was quite interesting. As excitement about the inauguration mounted, my friends, colleagues, and acquaintances (hereafter referred to as "friends" according to their designation as part of my Facebook friend's list) around the world posted minute-by-minute status updates. To reuse the cocktail party metaphor, the experience was somewhat akin to being at an intimate gathering where you could hear snippets from all of the conversations in the room or a large soccer tournament where the crowd's cheering roars throughout the stadium. It was not as much about what was said, but rather the fact that we were all together (or at least seemed to be). In short, it was an experience of a communication ritual.

As Barak Obama spoke his first words as President of the United States, one friend mouthed the most significant words of the inaugural address in LARGE CAPITAL LETTERS in her Facebook status updates. The practice quickly caught on as others around the world chimed in, silently pronouncing Obama's words with a tap tap tap of the computer keyboard. Flipping to view the updates of "Everyone

Fig. 6.2 A screen shot from the CNN Facebook plug-in. *Source*: *ReadWriteWeb*, January 20, 2009

Watching" on the Facebook plug-in, it was possible to see multi-lingual notes from around the world.

At the time, I posted only a few updates to both Facebook and Twitter. The first:

> "laura4lano is one minute away from President Obama!!! 12:00 P.M. Jan 20th." Then, minutes later I wrote: "when is that last time everyone took the day off for an inauguration? 12:10 P.M. Jan 20th." Finally, after watching the proceedings with gripping excitement for over 40 min I posted: "Can I go to the bathroom without missing anything now? 12:41 P.M. Jan 20th." A few people laughed and forbade me from leaving my television before going offline (or, at least, off of Facebook) and returning to work.

I remember having been alone, in my pajamas in front of my computer, on several other significant days over the last decade; most notably, September 11, 2001 (the first day of my Ph.D. program) and the Blackout 2003 in New York (which occurred when I was in Tokyo for the summer). Since communications were severely disabled during these two events, it was difficult to understand what was happening. Furthermore, they occurred before the introduction of most social networking sites. With respect to the Obama inauguration, being plugged in greatly enhanced my experience of the news. I will never forget who was "there" alongside me chatting away on the Facebook tool. It was exciting, an important shift in how I experience and interpret media events that has persisted over the past year as I spend more time on these sites.

Conclusion

Social media platforms have become prevalent interfaces linking people, organizations, and content including news and entertainment. For avid users, these platforms are quickly encroaching on other modes of communication including the telephone and e-mail. Instead, users are relying on computers and mobile phone applications that allow them to share personal information, comment on the news, and participate in significant media events.

What impact will these changing norms have on the news institutions and the media as a whole? These industries are already suffering financially as people shift away from print media and television in favor of the Internet. Now, rather than going directly to a new organization's web site, the "eyeballs" are scattered across a range of intermediaries such as blogs, aggregators, and social networking sites. When breaking news stories or media events take places, it is likely that they will make the rounds and become quickly diffused through social networking sites. However, less compelling stories, which still may be critical to the functioning of democracy and an informed citizenry may see even lower readership since they will not "go viral" in the same way. It is important that media institutions take such descriptive, ethnographic accounts of changing news and information habits into account as they continue to struggle with the difficulties of transitioning into the new media environment that is upon us.

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Chapter 7
Parsing the Online Ecosystem: Journalism, Media, and the Blogosphere

John Kelly

Introduction

Familiar questions about whether blogs and other web-native media are obsoleting legacy mainstream media, particularly institutional journalism, tend to oversimplify the matter. New and old forms are held up as antagonists in a zero-sum fight over eyeballs, money, quality, professionalism, and legitimacy. The key question is taken to be about where people will encounter their news, entertainment, and other media objects, and secondarily about qualities of those objects. Will weblogs replace newspapers as primary sources of information? Will online video downloads reduce television viewing hours? Are the articles as fair, opinions as informed, and facts as correct coming from a new media source as from an old one? These questions are important, not least to legacy media institutions, but there is a bigger picture to consider as the Internet continues to rewire society's collective nervous system.

We tend to view current changes through an accustomed lens and ponder what is going on with "the media" in the face of the Internet. It is taken to be a story about information consumers and their preferred troughs: readers and their newspapers, couch potatoes and their TV shows, commuters and their radios, the peanut gallery and the stage. In truth, we are witnessing a recasting of the socio-technical infrastructure of public communication in which the line between audience and stage is blurring; public discourse is less a lecture and more a conversation (Levine, 2001). Cyber-utopian hype notwithstanding, this emerging conversation is not and probably never will be particularly egalitarian. Some voices will always speak louder than others. But there are a lot more voices, and more importantly, these voices are enmeshed in structured, self-organizing, and at least somewhat meritocratic networks of interest and expertise that *produce* information, knowledge, and opinion as much as they *transmit* and *consume* them. But while legacy media institutions face very real commercial challenges in the new information ecosystem, they continue to perform a central role. Continued pride of place in the emerging *networked public*

J. Kelly (✉)
Morningside Analytics, New York, NY, USA
e-mail: john@morningside-analytics.com

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sphere, to use Yochai Benkler's phrase (Benkler & Ebrary Inc., 2006), is available to those that adapt and survive. But as the mass media era passes and the theatre of public communications becomes a circus, newer versions of these old players will compete for center ring, as there will be no center stage.

The empirical core of this analysis demonstrates several things about the vibrant new network environment of blogs, online media, and other websites. First, emergent clusters of similarly interested bloggers provide structure to this network, shaping the flow of information by focusing the attention of thematically related authors (and their readers) on particular sources of information. Second, the network includes new actors alongside old ones, knit by hyperlinked multimedia into a common fabric of public discourse. And third, legacy media, particularly journalistic institutions, are star players in this environment. These points reinforce and ground some observations we can already make about the ways in which Internet-based technologies, and the manifold genres of interaction they afford, are re-architecting public and private communications alike and thus altering the relationships between all manner of social actors, from individuals, to organizations, to mass media institutions.

Many Networks, One Text

The online genre we call a "weblog" or "blog" is now employed by virtual every sort of entity represented online. Firms, groups, organizations, clubs, government offices, schools, political parties, event organizers, and on and on now have blogs, publishing streams of posts about whatever serves their objectives, which are many and varied. Blogs by individuals in particular demonstrate a wide variety of purposes; professional, social, and personal goals are frequently accomplished on the same blog. Originally viewed essentially as a form of amateur editorializing, aimlessly un-directed at whomever in the big anonymous world might happen to care, blogs have come to serve actors at all levels of social scale, in pursuit of all manner of ends, as a key interface for public interaction.

Interaction *with whom* becomes a very interesting question. Because they are publicly visible, as opposed to other more private modes of online interaction with known and selected actors, blogs are promiscuously available representations of what a person or organization would like the world to know. In practice however, it is not the world at large that cares about the content of any given blog, but specifically interested others, as often arise around offline social configurations with which we are quite familiar. Networks of blogs bring together parents, open-source software geeks, citizens riled up about ideologically polarized political issues, hobbyists of many stripes, far-flung academic colleagues, celebrity fans, cat lovers, and in short, interest groups, communities of practice, and all manner of networks that exist offline as well in some recognizable form. Certainly there are new networks we could identify as web-native, but mostly blogs serve as the public interface for a wide variety of "real world" *weak tie* networks.

Online readers typically navigate hyperlinked chains of related stories, bouncing between numerous websites, returning periodically to favored starting points to pick up new trails. The collection of hyperlinks that structures a reader's experience also comprises a network, which is itself a sub-network of the enormous tissue of links connecting most sites on the global Internet. As the number of blogs has increased in recent years, this "citizen generated" network is quickly becoming the Internet's most important connective tissue. The combination of text and hyperlinks (and increasingly, *hypermedia*) makes the blogosphere arguably as much like a single extended text as it is like an online newsstand. And to the extent that readers' patterns of browsing tend to follow the direction of links available in this hypertext network, the structure of the blogosphere suggests a kind of "flow map" of how the Internet channels attention to online resources. The blogosphere is a text authored by emergent collectives: public, persistent, universally interlinked yet locally clustered, and representative of myriad social actors at all levels of scale. It is not simply "media" in the familiar sense of packets of "content" consumed by "audiences."

The Blogosphere and Online Media: A Network View

Blog networks contain a number of different kinds of hyperlinks. There are links for navigation, links to archives, links to servers for embedded advertising, links in comments, and links to link tracking services, among others. This analysis is concerned with links that represent the conscious choices of bloggers, and these fall mainly into two categories: *static* and *dynamic*. Static links are those that do not change very often, and are typically found in the "blogroll," a set of links a blogger chooses to place in a sidebar. Blogroll links are created for different motivations, but the network formed by them is relatively stable, and represents a collective picture of bloggers' perceptions of the blogosphere and their own positions within it. *Dynamic* links change frequently, and typically represent links embedded in blog posts, a hard measure of a blogger's attention. Analysis of dynamic links allows identification of groups of bloggers who are more "attentive" to similar online links. Over time, they share preferences for linking to sets of online resources, including mainstream media (MSM), other blogs, NGOs, local community websites, and government. These *attentive clusters* comprise bloggers who share common interests and preferred sources of information. Identifying these clusters and discovering how they drive traffic to particular online resources is the key to understanding the online information ecosystem.

Before looking at how different communities channel online attention, however, a baseline view of the whole is in order. Figure 7.1 shows the distribution of dynamic links over the past year (links in blog posts) from the 10,000 most highly linked English language blogs. On the left we see that the most popular outlinks (websites linked to by these blogs) account for a large proportion of the dynamic links from bloggers. A "long tail" of increasingly smaller players gathers the rest. The top 100 outlinks, of which only 24 are blogs, account for 37.6% of all dynamic links.

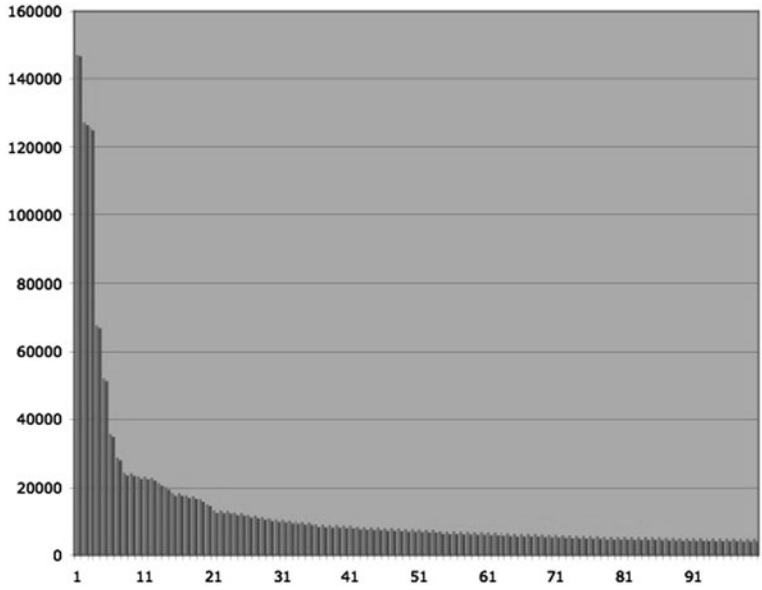

Fig. 7.1 Distribution of dynamic links among top 100 sites

Remarkably, the top 20 outlinks alone account for nearly a quarter (22.4%) of all dynamic links. And the blogosphere channels the most attention to things besides blogs. Of the top 10,000 outlinks, only 40.5% are blogs, and these account for only 28.5% of dynamic links. In fact, the websites of legacy media firms are the strongest performers. The top ten mainstream media sites, led by *nytimes.com*, *washingtonpost.com*, and *bbc.com*, account for 10.9% of all dynamic links. By contrast, the top 10 blogs account for only 3.2% of dynamic outlinks. And though the top 10 web-native sites (blogs, Web 2.0, and online-only news and information sites combined) account for 10.8% of dynamic links, two-thirds of these (7.2% of total) are due to Wikipedia and YouTube alone. Legacy media institutions are clearly champion players in the blogosphere.

Another way to understand the role of MSM in the blogosphere's attention economy is to analyze the network of outlinks formed by co-citations. Co-citation analysis has been used to map the structure of scientific and scholarly disciplines,[1] and similar approaches used in power structure research.[2] If we construct a network in which each node is an outlink, and each tie represents that one or more bloggers linked to both sites, we in essence draw a map representing the collective allocation of attention by the blogosphere. As Fig. 7.2 shows, the co-citation network of outlinks is highly centralized (unlike, as shown later, the social network map of the blogosphere itself). The large dot at the center of the map is *nytimes.com*, and other MSM websites are also clustered at the center of the map. Websites of niche interest to smaller numbers of bloggers are located farther from the center, in proximity to other sites favored by the same bloggers. The map shows how, despite the large number of interest-specific, niche sites on the Internet, websites of the legacy

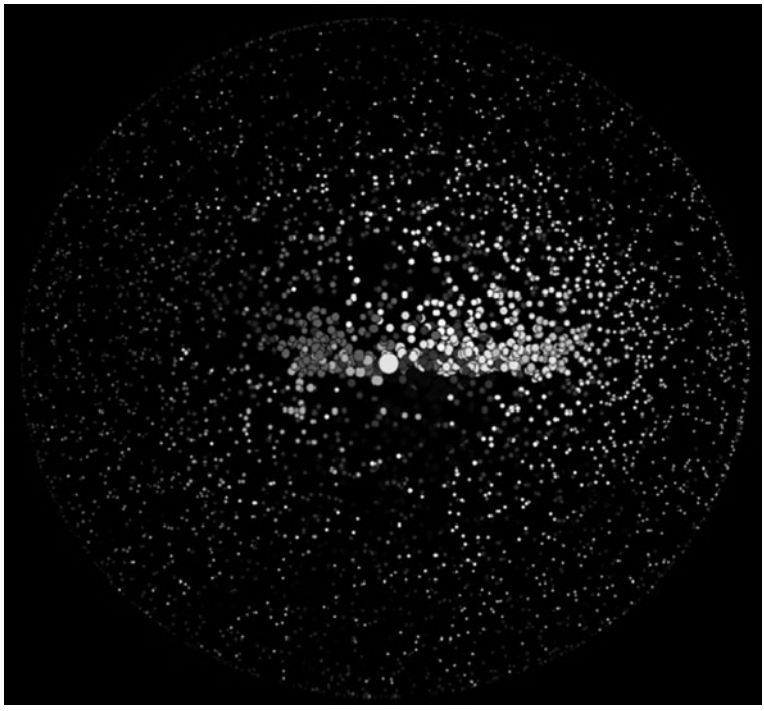

Fig. 7.2 Co-citation network of links from top 10 K bloggers

media, along with newer players like YouTube and Wikipedia, in fact form a locus of common attention for the blogosphere.

The fact that bloggers share a number of common targets of attention does not mean they lack divergent tendencies as well. Bloggers link preferentially to other bloggers who share common interests, and this tendency is especially pronounced for political bloggers, who have a strong tendency to link to their ideological friends. Similarly, bloggers who focus on particular topics and interests will link to sites that serve that niche. So both tendencies are present: blogs channel attention to common resources like the MSM as well as to divergent online resources (e.g., organizations, businesses, interest groups, niche publications, other blogs).

Blogs and the Fabric of Hyperlinked Attention

The blogosphere is not an undifferentiated mass, and therefore as a lens for social attention it is not monocular. It is often described as a kind of haystack, hierarchically organized with a famous A-list on top and B–Z lists extending downward to a floor of complete obscurity. But the blogosphere has a complex yet ordered network structure, formed by billions of individual choices by millions of bloggers about whom and what to link to. Large-scale regularities in these choices result in pockets

of network density around things people care about, for one reason or another. These comprise informational communities in which ideas and information spread quickly. The preferences that lead clusters of bloggers to link to one another with disproportionate frequency also lead these clusters to link preferentially to other things, such as particular media sources or NGOs. Each one of these clusters is thus like a lens, focusing attention on particular sets of online resources.

By identifying some particular clusters of blogs and examining their relative frequencies of linking to large numbers of other websites (outlinks), we can observe this preferential linking phenomenon and identify those sites that have particular influence among key communities of bloggers. This approach provides a method for qualitative understanding of the principles behind the formation of particular network clusters, as well as insights into the role of mainstream media, civil society organizations, and other actors in the "ecosystem" of online communications. Whether or not a blogger links to the New York Times, or YouTube, or Wikipedia reveals very little about his or her interests. At some point, the majority of the top 10,000 bloggers link to each of these three sites. But other, less dominant sites are preferred by particular clusters of bloggers, receiving a far greater proportion of links from them than random chance would allow. Studying the proportion of links from particular sets of bloggers shows the patterns of preference.

The English language blogosphere contains bloggers from across the world. There are native-speaking English bloggers from Britain, Australia, Canada, and New Zealand for instance, and bilingual bloggers from every part of the world who for one reason or another choose to blog in English as well as, or instead of, their native tongue. The latter include members of diasporic or expatriate communities (e.g., many Iranian bloggers), bloggers seeking a global audience (e.g., many African bloggers), and members of networks of practice (e.g., software developers) which benefit from globally shared information. But the largest network structures found among English language weblogs are formed by American bloggers, and in particular political bloggers. Analyzing political blogs around the 2004 elections, Adamic and Glance[3] found a large network structure of blogs, clustered into two ideological groups (liberal and conservative), with most links occurring within clusters, but some across them. The current approach, which selects blogs for mapping on the basis of global network prominence (in-degree) without regard to any prior assignment to thematic categories (e.g., political, parenting, technology), is able to locate these large political clusters as well as a number of other clusters which upon subsequent analysis prove to have their own thematic foci, including *technology*, *parenting*, *science/medicine*, *celebrity/entertainment*, *law*, and *security/strategic foreign policy*.

Figure 7.3 presents a social network diagram of the most highly cited (linked to) 8,000 weblogs in the English language blogosphere.[4] The map uses a physics model algorithm[5] to visually cluster weblogs, represented by dots, into network neighborhoods. In the map, each weblog is represented by a dot. The size of the dot is the number of other blogs which link to it, a measure of its prominence. A general force acts to move dots toward the circular border of the map, while a specific force pulls together every pair of weblogs connected by a link. In this way, the connected tissue of weblogs curdles into its more densely interlinked neighborhoods. The shade of a

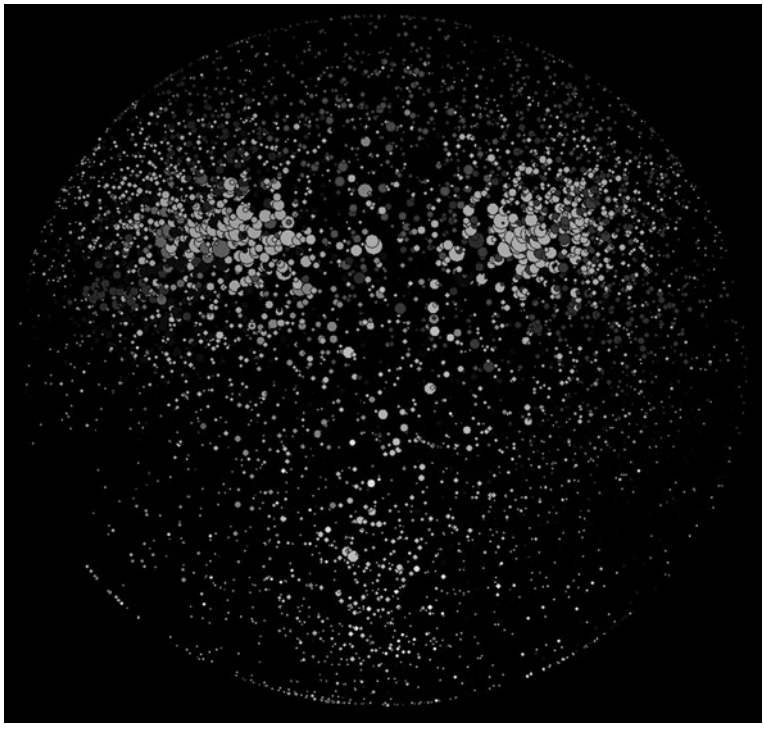

Fig. 7.3 Social network map of the English language blogosphere

dot represents its assignment to a particular *attentive cluster* based on its dynamic link history. Groups of blogs represented by the same shade link to similar things, statistically speaking.

In this map we see the prominence of US political discourse in the network. The two large clusters in the upper region represent liberal and conservative political blogs and are the most visible concentrations on the map. To be clear, this does not mean that most English language blogs are political. Most are not. It means that the largest structures are political, which is to say that political discourse organizes more bloggers into densely linked network neighborhoods than any other topic of online discourse. Note that the liberal and conservative poles break down into a collection of different *attentive clusters*. These allow us to observe different tendencies and interests among bloggers on the same side of the political divide. Some of these clusters are easy to characterize, focusing clearly on such things as Middle East politics and a perceived clash of values with the Islamic world (on the conservative side), and identity politics (on the liberal side). Others are harder to put a label on, but seem to represent differences in principle areas of concern, such as social values vs. military/foreign policy issues (conservative) and local vs. "inside the Beltway" discourse (liberal). Both sides have a core group comprising recognized "A-list" bloggers and others who are more central in the network.

In addition to clearly political clusters, which are embedded in either *liberal* or *conservative* network poles, and non-political clusters, such as exist around technology and parenting, there are two attentive clusters that "straddle" both political poles and also have members outside the political structures. These are (1) law and (2) security. There are weblogs focused on legal matters on the political left and on the political right, whose link history profiles are nonetheless more similar to each other than to their own ideologically aligned cohort. The same is true for security, e.g., foreign policy, strategic studies. Both of these clusters exist around elite specialists in fields with their own prominent publications and organizations.

Link Preferences of Attentive Clusters

Considering the range of themes that organize links in the blogosphere, politics may be unique in organizing meaningfully "bipolar" network structures, where ideological opponents form twin galaxies of contentious discourse. But, as important as politics are, most clusters of interest in the blogosphere (at least in English) are not oppositional in nature. In the blogosphere map used for this study, non-oppositional clusters form around such things as law, security, parenting, science and medicine, technology, and weblogs from the UK and other English speaking countries, among others. In addition to these, we can also look at particular attentive clusters within each political pole, and consider the individual preferences that distinguish them from the rest of the global network, including other clusters in the same ideological category. Attentive clusters of bloggers with similar outlink preferences can be detected wherever a large group of bloggers collect around a set of concerns or issues. Preference measurement requires comparison of the link behavior of these clusters with the rest of the network as a whole.

Figure 7.4 provides an example of a *group focus* graph. These graphs plot each outlink's in-degree (total number of blogs in the entire map that cite it) on the *Y*-axis and a standardized measure of link density from a particular attentive cluster on the *x*-axis. The latter represents the degree to which the particular outlink is of disproportionate interest to the attentive cluster being analyzed, a measure we will call the *cluster focus index* (CFI). The higher the *CFI* on X, the more disproportionately attentive the cluster is to the node in question. A low *CFI* score indicates that the density of links from the profiled attentive cluster more closely matches the average density across the network. Nodes of general interest across most clusters, like YouTube and the NY Times, score low *CFIs* on most cluster profiles. In Fig. 7.5 we see scores for an attentive cluster focused on law, and some examples of websites with high *CFIs* are indicated. The node marked *A* is "prawfsblawg.blogs.com," a group blog authored by law professors at various universities. Nodes *B* and *C* indicate "papers.ssrn.com" (a site for downloading research papers) and "www.abanet.org" (the website of the American Bar Association), respectively. These examples show how this cluster of legal bloggers direct readers to blogs, organizations, and other online resources serving their particular network of professional practice.

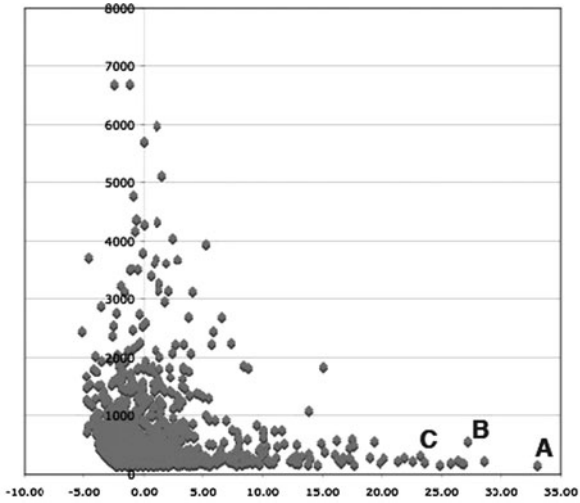

Fig. 7.4 Group focus graph for law cluster

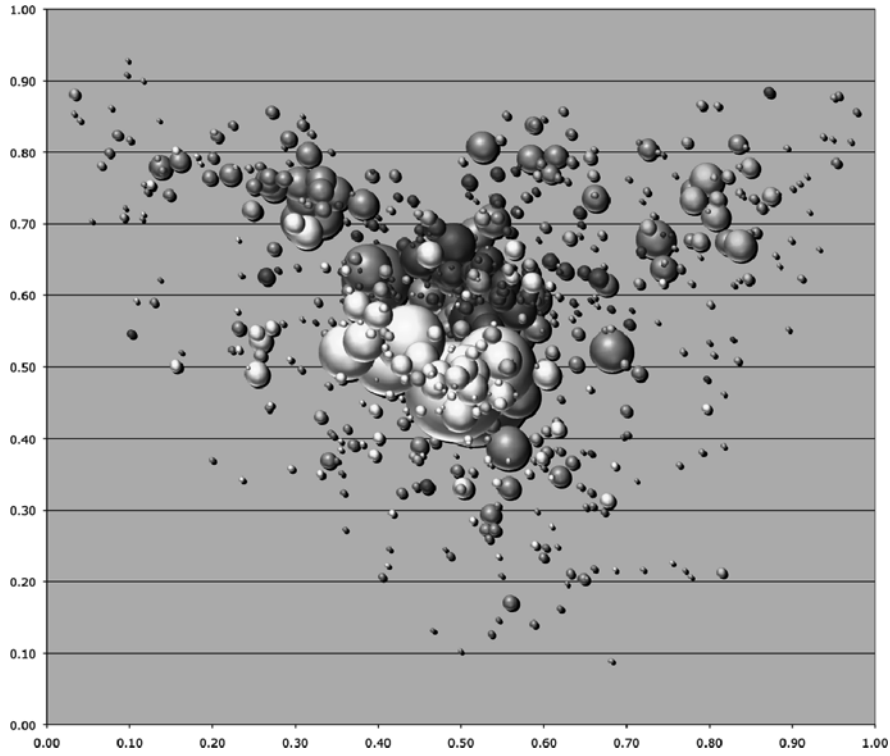

Fig. 7.5 Politicization and valence for top 1,000 news/info + NGO outlinks

All attentive clusters have preferred nodes. Examining *group focus* profiles for *celebrity/entertainment* and *science/medical* attentive clusters reveals their own preferred information sources. For the celebrity-focused cluster, the top CFIs belong to (a) "bestweekever.tv," a blog-style site for a TV show reviewing celebrity and entertainment "news" and gossip; (b) the blog-style news and gossip aggregator of the E! (Entertainment Television) network, a subsidiary of Comcast; and (c) "nymag.com," the website of *New York* Magazine. If the *law* example shows how blogs can serve a network of practice, these examples show how they can serve a more traditional entertainment market segment as well and create a strong feedback loop between bloggers and legacy media outlets. The collection of sites preferred by the science/medical cluster shows it to be a sort of hybrid of the two. Sites with the top CFIs are (a) "nature.com," website of the leading science journal, which aggregates a professional and lay readership; (b) "sciam.com," website for *Scientific American*; and (c) "scienceblogs.com," a collection of blogs on particular issues related to science. These resources serve both professional scientists and a broader audience of interested non-scientists, including educators. In addition to publications, nodes with high *CFIs* also include government websites (several at "nih.gov," the National Institutes of Health, and at "fda.gov," the Food and Drug Administration) and organizations (like "realclimate.org," a group focused on "climate science from climate scientists").

In addition to clusters that represent their own topic domains, clusters that are subsets of other meaningful groups, such as within the liberal and conservative poles of the political blogosphere, likewise have their own cluster focus profiles. They will share certain preferences with the rest of their ideological cohort, but in addition they will have nodes to which they are drawn because of the particular interests that define their subgroup. For instance, there is a conservative cluster focused on Middle East politics, representing a strong pro-Israeli view and characterized also by claims about the dangers represented by Islam. High CFIs for this cluster include (a) "israelnationalnews.com," a web-native site with English-language news about Israel; (b) "jpost.com," the English language website of the *Jerusalem Post*; and (c) "danielpipes.org," a blogger who follows the Middle East, but also looks globally (focus on United States and Europe) at issues of cultural conflict between Islam and the West. Other nodes with high *CFIs* for this cluster mainly include more Israeli news sites, and blogs focused on Islam (many far more strident than Daniel Pipes), with a particular interest in terrorism. On the liberal side, we likewise find a number of different clusters, include one particular cluster of feminist and racial identity-oriented blogs. Its preferred sources include (a) "brownfemipower.com," a blog dealing with race and gender politics from a feminist perspective; (b) "blog.iblamethepatriarchy.com," self-explanatory; and (c) "www.feministe.com," which are in the same vein. The majority of nodes with high *CFIs* are blogs, though some organizations' sites are included as well, such as "now.org" (the *National Organization for Women* website). One of the latter, "rhrealitycheck.org" (Reproductive Health Reality Check) calls itself "an online community and publication serving individuals and organizations committed to advancing sexual and reproductive health and rights," and represents a type of organization mixing public communication, organizational partnerships, and political

mobilization. This hybridization of "talk," "organization," and "mobilization" is characteristic of a growing class of actors in the networked public sphere, examples of how the walls between "media" and "civil society" are softening.

Political Outlink Preferences: Valence and Politicization

While some sites mainly serve particular clusters, most receive at least some attention from blogs across the network, and at the "middle range" between particular clusters and the network as a whole, there are important trends in the distribution of attention from blogs to media and civil society websites. Regarding questions about journalism and public affairs, political blogs are especially relevant. And because of their prominent role in the network, political blogs are particularly important drivers of collective attention. There are two key dimensions to this function. The first, more obvious, one is tied to polarization between *liberal* and *conservative* blogs. Some nodes are strongly preferred by liberals, some by conservatives, and others receive attention from both. The proportion of links from one side vs. the other is referred to here as *political valence.* The second dimension, referred to here as *politicization*, is defined by the proportion of links from bloggers in political attentive clusters of either side, vs. those from non-political attentive clusters. In other words, some outlinks are preferred by political bloggers in particular, and others by non-political bloggers. If we look at the distribution of the most popular outlinks in these two dimensions, we can see how different clusters drive attention to different sites.

Figure 7.5 plots the top 1,000 outlinks in a space defined by politicization (*y*-axis) and *political valence* (*x*-axis). The distribution reveals, unsurprisingly, that nodes disproportionately of interest to political bloggers tend to be more ideologically polarized than those of more general interest across the network. That said, there are politicized nodes that receive equal interest from liberals and conservatives, and some nodes with more general appeal that nonetheless have an ideological skew in terms of the political bloggers they do attract.

The process of *selective exposure*[6] naturally leads bloggers with strong political preferences to choose ideologically "friendly" sites to link to most often. This individual-level behavior has macro-level implications for the way various classes of online resources are drawn upon by bloggers, and these patterns reveal how new categories of actors are joining old ones in the public sphere. We can for instance distinguish between news and information websites, on the one hand, and NGO/advocacy websites on the other. Figure 7.5 presents NGOs (light gray), along with three categories of news and information site: (a) US national/global (medium gray), (b) US local/city/state (dark gray), and (c) foreign (white). Observing the graph, several points stand out:

- Liberal bloggers link more frequently to organization sites than do conservatives.
- In a pattern that is nearly a mirror image of the role of NGOs for liberals, conservative bloggers are served by politicized news/information sites.

- With a handful of exceptions, most local news and info sites receive a disproportionate number of links from political bloggers (high politicization), and yet these tend to be balanced in the number of links from left and right.
- Foreign news sources tend to be less politicized, which is largely a function of high interest among the UK/Aus/NZ cluster, which is not counted among the political poles. However, they tend to skew conservative. There are a number of foreign news and info sites (mainly Israeli and conservative British press) that are frequently cited by conservative bloggers.

We can further clarify this difference between NGOs and types of news and info sites by calculating an additional measure, *skew*, defined as the absolute value of the difference between a node's valence score and the expected valence score based on equal chances of being linked by liberals or conservatives. In other words, how politically "unbalanced" is the attention a node receives. Mean values for skew, politicization, and valence are shown (Table 7.1) for the four categories above, drawn from among the top 1,000 outlinks, as well as all .org nodes (1,579 in all) from the top 10,000 outlinks. Organization sites are clearly more politically skewed than news and information sites (including the MSM), and their valence tilts liberal. Local sites are the least skewed, and yet the most politicized, which goes against the general trend. A possibility is that local sites are rarely ideologically tilted, and yet are of high value to politically attentive people, i.e., *newshounds* who pay attention to news at the local level with similar alacrity as to national or global levels. Finally, foreign news sites have a low skew and politicization, but what tilt they do have is in the conservative direction as noted above. This is attributable largely to a conservative preference for information sites focused on Middle East politics, terrorism, and perceived dangers of Islamic radicalism.

Table 7.1 Average scores by category

	Skew	Politization	Average Valence
NGOs (t10K)	0.267	0.537	0.58
NGOs (t1K)	0.226	0.604	0.54
Media: NAT	0.139	0.578	0.50
Media: LOC	0.086	0.620	0.52
Media: FOR	0.109	0.488	0.44

The data in Table 7.1 indicate that a new class of communicative actors, mainly NGOs and special purpose news and information sites, are linked by specialized (in this case, politicized) sets of bloggers, while the media in general hold more central position in the attention economy of the blogosphere. Though they are found across the space, the liberal side of the blogosphere interacts more heavily with this growing field of civil society actors, a finding consistent with the frequently heard claim that the liberal side of the political spectrum features more bottom-up, grassroots organization. A number of these liberal *.org* sites are little different than ideologically opposite versions of the politicized news and information site that serve conservatives. Popular sites like *commondreams.org* are not-for-profits that

provide alternative news sources for bloggers on the political Left. Others though represent social causes (e.g., http://www.au.org, Americans United for Separation of Church and State) through political organizing as well as participation in public communication via the blogosphere. And others exist mainly to provide specialized information to inform public debate: dots putting themselves forward for the world to connect, like the Iraq Coalition Casualties Count (http://icasualties.org).

Legacy Media and New Media

A closer look at the news and information sites provides greater resolution on the role of the media in the blogosphere. Table 7.2 provides additional detail on media subcategories. At a glance, the major trends are obvious. Local media, dominated by newspaper sites, are far more uniformly centrist than national-level media. Since there are also a lot of centrist national sites, this is just to say that national media contain a great many more politically polarized sites than operate locally. At the national level, broadcast entities are the least politically skewed, followed by newspapers. These media function as they do off-line, as "general interest intermediaries" drawing a range of readers/viewers from across the political spectrum. Magazine sites are more skewed, mirroring print magazines' greater specialization. And online-only sites are the most skewed of all forms of news and information website. We see the essential pattern again: legacy media hold the center, online-only media fray the edges.

Table 7.2 Average scores for media subcategories

Scope	Medium	Type	Valence	Politization	Skew
Local	Other	Other	0.457	0.571	0.027
National	Broadcast	TV/air	0.453	0.595	0.048
Local	Online only	Online only	0.534	0.614	0.073
National	Broadcast	Radio	0.427	0.667	0.073
Local	Broadcast	TV/air	0.421	0.652	0.074
Local	Broadcast	TV/cable	0.463	0.543	0.089
Local	Print	Newspaper	0.540	0.620	0.093
National	Broadcast	TV/cable	0.464	0.563	0.108
National	Print	Newspaper	0.496	0.611	0.124
Local	Print	Magazine	0.530	0.590	0.138
National	Print	Magazine	0.520	0.562	0.140
National	Print	Other	0.551	0.570	0.152
National	Online only	Online only	0.469	0.583	0.162

Discussion and Conclusions

Are blogs and web-native media making old-style institutional journalism obsolete? The question has several faces. At the commercial level, institutional journalism is threatened by the Internet, both in the form of "citizen media" taking its

advertising-earning eyeballs and online "classifieds" taking its rents on informal markets. At the genre level, the integrity and validity of "objective" journalism and responsible expert opinion is contrasted to the more slippery and uncertified forms of online content found in blogs, YouTube, and other user-generated content. At the level of professional practice, journalists and bloggers argue over values of professionalism, independence, legal protection, and legitimacy as vessels of the public trust. But the picture is more complicated than the story of opposition normally lets on. Most links from blogs are not to other blogs, but to a range of online sites among which mainstream media (MSM) outlets are the most prominent. In addition, journalists are keenly attentive to blogs, often mining them for story leads and background research. Furthermore, the blogosphere is becoming as important as the front page of the paper for landing eyeballs on a journalist's article. There is a cycle of attention between blogs and the MSM, in which the MSM uses the blogosphere as a type of grist for the mill, and the blogosphere channels attention back to the MSM. Indeed, it is becoming clear that the blogosphere and MSM are complementary players in an emerging system of public communications.

The above analyses have demonstrated that particular sub-networks of the blogosphere can be discerned based on the linking preferences of bloggers, and their preferences measured in a way that reveals online resources these groups prefer. The implication is that bloggers' aggregate preferences serve to focus the attention of readers onto certain online resources in an extended ecology that uses collective social intelligence to match information to interests. The particular methods of measurement explored herein point toward a way to map in detail how in this way the blogosphere acts as a multi-focal lens of collective attention. Interest among bloggers creates network neighborhoods that channel attention to relevant online content. Discovery and analysis of these provides the promise of empirical exploration of new and critical ideas about the dynamics of public online media.

Even at this early stage though, there are observations to make about the interplay between new and old public sphere architectures, or more concretely, between blogs and legacy media. First, the current analysis indicates a strong symbiosis between the blogosphere and established commercial players of the mainstream media. Legacy media entities are at the center of attention across the blogosphere, continuing to fulfill the role they have aspired to in the past: to be general interest intermediaries at the crossroads of public discourse. There is nothing in the actual behavior of bloggers to suggest this role would diminish on account of lack of demand for this social function. The media's business model problems are of course another matter entirely, but at this stage it looks safe to say that blogs do not make commercial journalism obsolete, least of all in the eyes of bloggers (regardless of what some of them say about the matter). If anything the central role of professional journalism in the expanded economy of political discourse makes it valuable in new ways, and to the extent its near-monopoly on agenda setting and public representation is broken, its role as an honest broker of verified information becomes yet more important.

Second, the Internet-mediated public sphere is not just changing the relationship among actors in the political landscape; it is changing the kinds of actors found

there, and changing what "media" is actually doing. Some of this is easy to see. Ten years ago there were no bloggers and now they are considered a formidable force in public affairs. The established media are changing as well. Newspapers and other online publishers have explicitly added blogs to their offerings and transformed the way general articles are published to seem more and more blog-like (e.g., hyperlinks, reader comments, embedded video). Bloggers on legacy media websites have quickly gained prominence, and some media companies have found great success via blogging. For instance, most people outside the Beltway think of *The Politico* as a website, not a Capitol Hill newspaper. As blogging and online media genres evolve, "blog" vs. "mainstream media" is becoming purely a cultural or perhaps commercial distinction, and not one of format.

Some of these changes are subtler however and will take a long time to play out. If the center of the outlink network is anchored by evolving versions of the MSM (with a hand from YouTube and Wikipedia), the space from the fringes inward is filling with a rich assortment of actors, including bloggers, grassroots organizations, niche publications, commercial firms, and advocacy groups. Many of these actors are essentially new or radically transforming from older selves. Organizations like MoveOn arise from nowhere, as older advocacy organizations struggle to retool for a communications environment that is changing fast. The mingling of citizens, organizations, publishers, parties, and others in a shared, hyperlinked, globally visible, and reciprocal communications space is quickly changing a lot of these participants' game plans, just as e-commerce upset a lot of corporate apple carts a decade earlier. The resulting hypertext corpus and its topologically complex anthill of contributors constitute a new mode of knowledge production, opinion formation, and social mobilization that will grow to interface with established democratic institutions, particularly journalism, in ways we cannot fully predict.

While the Internet, vivified by blogs, fractures the landscape of public discourse across a great many new actors, a core activity of bloggers is to focus attention back to the MSM, particularly to institutional journalism. The structured tissue of bloggers, each a member of cross-cutting communities, creates a new medium of social knowing, but one which so far appears favorable to the presence of the kinds of high-visibility, central platforms represented by legacy media institutions. Big questions loom about the future of journalism in particular. The first is the one everyone is asking: how can professional journalism survive as a business model? Nobody knows of course, and opinions vary. If the answer is that it cannot, the question becomes whether and how its role in democratic society is replaced somehow. Who will be the public's watchdog? There are questions about how well journalists have actually been performing this function, but is nonetheless difficult to see how the situation improves when they are gone, despite cyber-utopian faith in a cocktail of government transparency and blogging volunteers. If the profession finds a way to survive, its values and capacities somewhat intact, then the question becomes how its role in politics and public life changes. Much of what politicians do, they do because of fear of publicity, not its actuality. What kinds of political clout will these future journalists have? It is one thing to speak, another to be heard, and quite another to be a significant force in constraining the behavior of powerful elites. In the new

environment there is clearly a role for mainstream media in general, but commercial survival is only the first hurdle that journalism in particular must face.

Notes

1. Invisible colleges, etc.
2. Board interlocks, etc.
3. Adamic and Glance (2005).
4. Courtesy Morningside Analytics.
5. Fruchterman-Reingold reference.
6. Selective exposure citation.

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Part III
Media Reinvented: Case Studies of Transitioning into a Digital Age

Chapter 8
The Transition to Digital TV: A Case Study of HDTV

John Carey

Introduction

High-definition television (HDTV) has been widely accepted in the United States. For many, the path to implementation of HDTV by the television industry and broad acceptance by the public has been perceived to be relatively smooth. From this unexamined perspective, the FCC and the television industry supported a transition to HDTV in the 1990s, manufacturers quickly began to manufacutre the sets once a standard was adopted, the mass public began to purchase HDTVs in large numbers as the price declined, and the transition moved ahead at a rapid pace. However, the story of how HDTV was adopted in the United States is far more complex and nuanced with many twists in the road to acceptance. The formation of an HDTV standard was a major battle with international fallout; some thought that HDTV would fail; the press was frequently negative about HDTV in its early years; many in the the television industry viewed HDTV as a sinkhole of costs with little opportunity for profit; and the public, if they knew anything at all about early HDTV, was confused about what it represented and the myriad types of HDTVs being offered.

The introduction of HDTV is also a fascinating story with many lessons for policy makers, technologists, the television industry, and those who manufacture and market electronic equipment. And it is a tale that illuminates fundamental aspects of the transition to digital media that is at the core of this book. As we move forward with many new digital media, it is useful to draw from the lessons of HDTV implementation and adoption.

What is HDTV? It is a digital standard for television production, transmission, and display with much higher resolution than the analog NTSC standard that launched television in the 1940s. Generally, HDTV provides 720–1,080 lines of resolution versus the early standard with 525 lines of resolution (486 visible lines) and it has a different aspect ratio, 16:9, which is more like the shape of a movie screen, compared to the older 4:3 aspect ratio of earlier TV screens. It utilizes

J. Carey (✉)
Fordham Business School, New York, NY, USA
e-mail: johncarey@fordham.edu

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the digital 0s and 1s of computer code and merges computing and television technologies. Open up an HDTV set and the inside looks very much like the guts of a computer. However, it did not begin as a digital standard (delays in adopting a standard allowed digital technology to catch up and surpass analog technology) and was almost hijacked by those who wanted to use the extra capacity created by digital compression solely to provide more channels of standard definition (SD) television, not HDTV.

This chapter focuses on the development of HDTV in the United States though its origin in Japan is highlighted. Through the first decade of the 21st century, Europe showed less interest in HDTV in part because its PAL standard (625 lines of resolution; 576 visible) has higher resolution than America's NTSC standard, making HDTV less attractive to European television industries. Europe has moved to a digital standard for TV but it has utilized the standard for other applications such as interactive TV. The chapter treats the early history of HDTV in Japan, the development of a US standard, early (and weak) marketing of HDTV sets, obstacles to broad adoption of HDTV by the general public, a middle period in which HDTV began to take off, applications of HDTV and the behavior of those who began to watch it, and some long-term impacts. It draws on industry research and a series of studies conducted by the author beginning in the late 1990s and through the first decade of the new century.

The Japanese Take the Lead

The planning for HDTV began in Japan during the 1960s. Following World War II, Japan became a manufacturer of inexpensive electronic equipment. By the 1960s, the country wanted to move beyond this niche and develop high-end electronic products that would demonstrate its technological prowess to the world. A higher resolution television standard seemed to be a good target. Table 8.1 shows the highlights of the developments. In the mid-1960s, NHK, Japan's national public broadcasting organization, began a study of a next-generation TV standard. This led to the development of the MUSE system, an analog HDTV standard. The first experimental broadcasts began in the mid-1980s and by the late 1980s regular test broadcasts were begun (Brinkley, 1997).

Table 8.1 HDTV development in Japan

1964	NHK launches study of next-generation TV
1970	HDTV development begins
1984	Japanese scientists create the MUSE HDTV system
1985	First experimental broadcast of MUSE
1989	Regular test broadcasting of HDTV begins
1991	An HDTV set costs the equivalent of $25 K US
1996	Live coverage of Atlanta Olympics
2000	HDTV broadcasts from Shuttle Atlantis
2001	Start of digital Hi-Vision broadcasting

By the early 1990s, Japanese consumers could purchase HDTVs but they were very expensive – the equivalent of $25 thousand US dollars. The market was very slow to develop. All during this period, NHK was actively demonstrating the Japanese system in other countries, hoping that it would become the world standard. However, it was clear by the mid-1990s that other countries, notably the United States and several countries in Europe, wanted a digital standard. The Japanese conceded that an analog standard was not acceptable and in 1997 announced that they would convert to a digital standard by 2000.

The Standards Battle in the United States

In the United States, broadcasters, electronics firms, the computer industry, and policy makers followed developments in Japan closely. In the early 1980s, it seemed that an analog standard was the only choice, as digital technology seemed out of reach in terms of cost. However, industry groups could not agree on an analog standard and as the debate dragged on over a period of years, a digital standard seemed more and more feasible.

There were a number of subplots in the development of a standard. Some in the United States and Europe were reluctant to adopt a standard developed outside their sphere. Mobile phone companies were anxious to acquire some of the broadcast spectrum that had been opened up and broadcasters were determined to find applications that would enable them to retain all of the broadcast spectrum. If nothing else, HDTV provided an argument that broadcasters needed more, not less, spectrum. At the same time, there was a rivalry between the television and computer industries. Microsoft, among others on the computer side, believed that computers and computing technology were more suited to provide next-generation television services. This rivalry erupted in ways large and small, e.g., broadcasters wanted the standard to embrace interlace scanning (a method of creating pictures by scanning alternate lines of a television picture which was used by the television industry since the 1940s) and the computer camp favored progressive scanning that is used in computer monitors and scans each line in succession.

By the late 1980s, a number of companies were proposing standards and the FCC had begun a formal proceeding to evaluate proposed standards (Brinkley, 1997). Table 8.2 outlines some of the major milestones in the development of HDTV in the United States. The FCC was active in the deliberations but showed little inclination to make a decision by itself. They encouraged industry groups who were competing against each other to work together and agree on a common standard. This led to the Grand Alliance, a consortium of several groups – AT&T, General Instruments, MIT, Philips, Sarnoff Research Center, Thompson, and Zenith. The Grand Alliance merged components from several proposals. At the same time, the Japanese remained very active and continued to promote their MUSE system.

In 1993, as the FCC continued to evaluate an HDTV standard, there were five proposals still on the table, four digital proposals and one analog – a “narrow” MUSE standard that used less spectrum and could be broadcast from a tower as

Table 8.2 HDTV development in the United States

1982	NHK demonstrates prototype HDTV system to the FCC
1987	Formal proceedings to develop an HDTV standard begin
1993	Grand Alliance is formed (AT&T, Zenith, GI and others)
1996	FCC adopts a digital HDTV standard
1998	First HDTV sets available and first broadcasts of HDTV
1999	Major broadcast networks offer some HDTV programs
2006	First deadline for conversion to all digital broadcasting passes
2009	(June) Digital conversion is completed

well as a satellite (Seel, 1999). In 1996, the FCC announced a new digital TV standard that included both HDTV and standard definition (SD) digital TV. The concept of a new standard had evolved from replacing the old NTSC standard that was developed in 1941 with a higher resolution standard to a broader concept of digital television with a range of resolutions. In this sense, it was more of a package or framework than a single standard, for example, it included 14 different scanning formats. Critics claimed that this drove up the cost of digital TV sets (Schreiber, 1999) but it was sufficiently inclusive to win wide support. The decision also gave each broadcaster of a full power TV station an additional 6 MHz of spectrum to be used for several years of simultaneous broadcasting in both NTSC analog and the new digital standard. After a period of years, the broadcasters would return the spectrum and transmit only in digital. The original target date for the transition to all-digital was 2006, later moved back to February 2009, and finally June 2009 when it was completed.

Digital Television Begins in the United States

Digital television was officially launched in the United States during 1998. In order to be successful, it had to overcome a number of challenges and put into place a number of elements. These included creating or converting enough content to the higher resolution digital format, finding early adopters who were willing to pay the high price of the first HDTV sets (typically, $5 K or more), demonstrating the benefits of digital television to the public and program distributors, winning favorable press coverage that could generate "buzz" about the new service and making sure that the technology worked. It was a slow process. First, stations had to convert to all-digital operations. This was helped by a transition to digital editing and storage at stations during the 1990s before digital transmission was in place. However, it was slowed down by a reluctance of many broadcasters to build digital transmission systems before the public had purchased large numbers of digital sets – the proverbial chicken and egg problem. By 2002, only one in four broadcast stations were transmitting a digital signal. Cable systems had to convert their physical plant and distribution systems to digital and national satellite systems had to add more capacity to handle the extra digital channels. Both did so, but it was a process that took

several years. Cable systems had the added burden of convincing their analog customers of the advantages of digital service and replacing equipment in customers' homes.

Many consumers in these early years were confused by the wide variety of digital TVs in the showrooms of electronics stores – LCD, plasma, rear projection, and DLP among others. To add to the confusion, some were fully integrated HDTV sets, some were "HD Ready" and required a separate tuner, and some were non-HD digital TVs. The marketing of HDTVs was also poor. If you walked into an electronics store in 2000–2004, it would have HDTVs but chances were that the signal on display was a regular, non-HD cable or satellite channel, which often looked worse on an HD set compared to an earlier generation analog set. As is so often the case, those trying to market the new technology did not know the history of the introduction of the first generation of analog TVs in the late 1940s. Back then, TV set manufacturers built extra-large sets and sold them at a discounted price to bars. People came into the bars, often to watch sporting events, saw television for the first time, were dazzled by the new technology and saved up to buy a TV for their household. It was the era of "Tavern TV" (Bogart, 1972). Nothing like it happened in the early years of HDTV.

During this early period, there was much confusion and skepticism about the business model for HDTV (Schreiber, 1999). Would advertisers pay more for commercials transmitted in HD? Probably not. If not, how could a station make money on HDTV? Some saw it as a sinkhole of costs with little added revenue opportunity. Against this background of uncertainty, a number of alternative uses for digital TV were proposed. Some believed that instead of transmitting one HDTV signal, stations should transmit four or five standard definition signals (called multicasting) and benefit from the extra ad revenue or form a consortium with other broadcasters and provide an over-the-air wireless cable service that would charge for the extra channels and compete with existing cable systems (Davidson, 2004). One problem with these proposals was that very few people bought over-the-air antennas to pick up the digital signals. If they could not charge end users directly, perhaps the multicast SD channels could be carried on local cable systems. However, cable operators, who had their own plans for new digital services and had already begun to multicast cable channel content, were reluctant to carry the extra channels (they were required to carry the main channel of local broadcasters but not the extra digital signals). Some in the computer industry proposed using the extra spectrum to transmit high-speed Web services over-the-air to computers (this was before broadband was widely available) but this proposal never gained steam (Wingfield, 1998). Collectively, these proposed alternatives for digital TV posed a threat to the original intent of the FCC and the television industry to replace standard definition NTSC with a higher resolution service.

One potential problem for the deployment of HDTV – available content in high resolution – was not an obstacle. Nearly all Hollywood movies since the 1930s were shot in 35 mm film and had higher resolution than 1080 HD, so they could be converted easily to HD. Most TV programs in the 1990s were shot in 35 mm film or high-resolution video and were available for HD conversion. Live action sports

required new HD cameras and processing equipment but this was a manageable upgrade. A trickier issue was how much resolution to provide in an HD broadcast or on HD cable or satellite channels. As noted earlier, the digital standard was more of a package or framework than a true standard. In the early days of HD transmission, signals varied from 480 lines of resolution to full 1080 and all could be called HD. Lower resolution transmissions, especially in sports, confused consumers who did not see a great deal of difference between the so-called HD program and regular non-HD programming. Over time, networks moved towards a minimum of 720 lines of resolution in HD programming and most provided 1080.

During these early years, consumers experienced a moderate and sometimes high level of technical problems or obstacles. Many HDTVs required professional installation. Consumers who tried to adjust the complex settings could make the picture worse. Some early HD digital cable boxes had latency problems – they required a longer time to change channels. Broadcast HD did not reach as far as earlier analog NTSC transmission, so the effective audience for a digital broadcast was reduced. In addition, a momentary loss of a signal in cable or satellite transmission could lead to pixelation (i.e., when the picture breaks up into boxes). Though a minor nuisance, the signal in a digital tier of a cable system was often out of sync with the signal from the same channel on an analog tier, so a person watching a program on channel four (analog) in the kitchen would hear the sound from the same channel (e.g., on channel 704 in the digital tier) drifting in from the living room two seconds later. None of these were enough to deter enthusiastic early adopters of HDTV, but they made others cautious about purchasing an HDTV set until all the bugs were worked out.

It is noteworthy how early HDTVs were used. Most were not used to watch HDTV programs but instead to watch DVDs. In 2003, only 22% of HDTVs were picking up HD signals from a broadcast station, cable operator, or satellite system (Video Business, 2004). This was due in large part to the small number of HD channels that were available at the time. Nonetheless, it was a positive development for the long-term acceptance of HDTV. If early adopters were satisfied with watching DVDs on their HD sets (DVDs had much higher resolution than could be displayed on SD sets and looked spectacular on an HD set) it put more HDTV sets in homes, helped to bring down the price, and made it more attractive to program providers to make content available in HD.

The press was not kind to HDTV in the late 1990s and early 2000s. There were many stories about technical problems, weak consumer demand, and the scarcity of HD content. Some doubted that it would ever be adopted widely (Pope, 1999). This was a reaction in part to genuine problems in the launch of HDTV and in part to the hype that accompanied the launch. There were many predictions that HDTV would revolutionize TV overnight and forecasts that it would be in tens of millions of homes within a few years. One industry group predicted that 25% of US homes would have an HDTV set by 2000. When this did not materialize, many reporters took the industry to task for not meeting the forecasts.

HDTV Takes Off

The years 2005–2009 provided a breakthrough period for HDTV, as prices dropped, sales increased sharply, and millions of average consumers embraced the medium. Retailers also improved the way they demonstrated HDTVs. By the middle of the decade, a person walking into an electronics store was likely to see several HD TVs, each displaying HDTV programming. Consumers were still confused about the variety of models offered but they were more comfortable that the TVs worked and were attracted by the lower prices (by the middle of the decade, a consumer could buy an HDTV for under $1,000).

During this period, the consumers buying HDTVs were more mainstream than the early adopters at the beginning of the decade. They had somewhat higher incomes and were more likely to be male, but the age distribution was relatively even. The typical consumers acquiring an HDTV were likely to already have much technology in their households, for example, DVD players, game consoles, personal computers, and DVRs. They also watched slightly more TV than the average household (Boncampagni, 2005).

There were many motivations for getting an HDTV. HDTV service was readily available on cable and satellite services, along with dozens of channels and premier content such as the Superbowl and the Olympics. Many had seen HDTV programs in the homes of friends and were motivated to get one now that the price was more reasonable. For others, the motivation was simply that an old set had stopped working and it seemed to be the norm to get an HDTV to replace it (Einav & Carey, 2009). By 2008, a person going into an electronics store saw only digital TVs. Another reason some purchased an HDTV was the mistaken belief that in 2009, after the digital conversion of broadcast stations, old analog TVs would not work (analog TVs receiving broadcast digital signals did work after June, 2009 but they needed a converter; those with cable or satellite service were unaffected). It was also becoming more common for households to purchase a second or third HDTV.

Obstacles remained for the widespread adoption of HDTVs, but they were more logistical and social. One obstacle was getting large HDTVs home. It was not as simple as putting an earlier 27 inch color TV in the trunk of a car. Setting up HDTVs and fine tuning the display was a hassle for many. In the author's research, it was not unusual to go into a home with an HDTV and see a distorted picture because the owner had gone into the menu and stretched a 4:3 picture to fill up the entire widescreen display. Many reported that they did not understand why there were black bars at the edge of the screen (because the TV show was a 4:3 non-HD program). This produced some bad word-of-mouth about HDTV. Generally, the elaborate menus on HDTV sets created more problems than they solved. Previously, most people rarely or never went into the menu of a TV set and, if they did, the worst thing they might do is set the brightness or contrast to the wrong level; it was then easy to correct because there were only a few things they could change. Menus

on HDTV sets sometimes had dozens of settings, many of which were beyond the understanding of ordinary consumers.

The social dynamics of new technology are often overlooked in studies of adoption and use (Rogers, 2003). In the case of HDTV, an important social obstacle was the size of early sets, in particular the depth of rear screen projection models. They took up a great deal of room and some people (mostly women) objected to having the TV take over the living room. Over time, the technology evolved and rear projection sets were replaced by flat screen models that took up much less space and could be mounted on a wall. One company even created a stand for flat screen HDTVs that could lower the TV into the bottom of the stand when it was not in use. In this position, the TV was not visible and the stand appeared to be a high-end wood cabinet.

HDTV Becomes Mainstream

Near the end of the first decade in the 21st century, HDTV had become mainstream – a common part of the media landscape. Nearly all TVs sold in the United States were digital and 80% of those were HD ready. Over 90% of US households had digital TV service and the percentage with HD service was approaching 50%. Regular HDTV service was complemented by a number of high-definition digital technologies and services, including HD DVRs, high-definition Blu-Ray DVDs, high-definition video projectors in movie theaters, and high-definition video streaming over the Web.

A number of changes in viewing behavior and attitudes about TV have accompanied the widespread adoption of HDTV. Households that have HDTV report that it restores the luster of television and makes it a central focus of the room it is in. This relates in part to its sharper images, but also to the size of the sets. Most people buy HDTV sets which are larger than their previous ones. From observations of them watching HDTV, they appear to do less multi-tasking than when watching regular television since HDTV holds their attention so strongly. However, this is countered to some degree by the growing presence of laptops near TVs, allowing viewers to surf the Web while watching HDTV. In turning on their HDTV sets, most viewers go first to channels that carry HDTV (these are generally grouped together in an HD tier) to see if there is something they would like. Only if they cannot find an appealing high-definition program do they then go to regular channels. HDTV sets have also brought back "TV parties" with friends invited to watch major sporting events or simply have a dinner party with high-resolution content playing in the background. Homes with an HDTV tend to watch more TV and there is more group viewing by the family in HD households (Einav & Carey, 2009). As in the early days of black-and-white television, this is probably a short-term phenomenon. When all TVs in the household are HD, family members will likely go back to personalized viewing of shows.

Viewers of HDTV report that shows with high production values look much better in high definition and shows that are produced with low production values generally look worse than on regular television. They also comment that certain types of visuals work very well in HDTV and are more likely to attract them.

Generally, these are ones with bright colors and physical movements such as a shot from a helicopter panning a city or a camera that can move along a cable and capture live action as the camera moves along with the action. For this reason, sports is a big draw for many HDTV households. Other genres that benefit from HDTV are movies, nature shows, and dramas. However, many HDTV programs do not take advantage of the wider format and sharper resolution. In addition, although most HDTV sets have very good sound capability and some households have added high-end home theater systems to their sets, people indicate in interviews that the sound in HDTV productions varies from spectacular to terrible and, as in the case of low video production values, poor-quality audio sounds worse on HDTV sets. The group that might be expected to take full advantage of HDTV, i.e., advertisers, has been slow to adapt to HD. Many commercials in HD programming are not in HD and even showcase programs like the Superbowl have many commercials that are not in HD. Like the electronics industry, the advertising community was late to realize the appeal of the new technology to viewers.

Observations of viewers of HDTV indicate that there are two problems in using HDTV. The first is finding programs. Channel lineups on most digital cable, satellite and telco services have hundreds of channels. Channel surfing across the entire lineup, which was common is the past, is time consuming and inefficient. It has been reduced sharply in the HD universe, though some people channel surf within a section of their digital service. In its place, most digital HD subscribers use an electronic program guide. They surf the guide to find programs and, often, to program their DVR with shows they want to watch off the schedule. However, even within electronic program guides, observations suggest that many people cluster around channels in the HD tier. This puts programs on non-HD channels at a distinct disadvantage. A second problem can be called the "mode dilemma." Most HDTVs have a number of eletronic devices attached to them, for example, a DVD player, game console, and, more recently, a computer. The HDTV is a multi-device entertainment center and display console. Each of these devices has an input mode and there are often remote controls for each. Interviews with HDTV owners have indicated that it is common for someone in the house to turn on the HDTV and find that it is in the wrong mode, for example, in a videogame mode when the person wants to watch television programs. Finding the right remote and the correct buttons on that remote to change modes is problematic for many. Generally, there is one person in the household who has mastered all the modes but that person may not be around when others encounter the mode dilemma.

Near-Term Effects and Long-Term Impacts

The near-term effects of HDTV are easier to measure than the long-term impacts. We know that viewers of HDTV are more positive about TV and more engaged when they watch HDTV (Einav & Carey, 2009). This is likely a result not just of HD but other digital services that complement HDTV such as HD DVRs that let people gather programs from anywhere in the schedule to watch anytime, greater capacity digital cable and satellite systems, and online digital TV that let's people

catch up with shows they missed. Some of the "wow" factor expressed by early adopters of HDTV has diminshed but it has been replaced by a sense of necessity, much like color TV became a necessity a decade after it was introduced. There are also important side effects to adopting HDTV such as larger screen size and the capability for much better sound. Larger screen size makes picture-in-picture more appealing than on a 27 inch set and provides a broader canvass for promotions, advertisements, and extra content that might accompany the normal content in a program. High fidelity stereo sound makes it possible to enhance special effects in programs and provide a greater sense of space for the actions in a program.

Higher resolution images have also affected makeup, stage sets, and the width of shots in sports. HD shows blemishes and wrinkles more than SD and this has required different makeup techniques. Stage sets, for example, in news programs that were held together with gaffer's tape, look shabby in HD. This has necessitated building new sets with a much higher standard of quality. In sports coverage, many directors use wider angle shots than in the past because HD can display details in a wide shot that would be fuzzy in SD.

In addition to effects on consumer attitudes and production, there have been many effects on viewing behavior and marketing of TV programs. HD viewers of large capacity digital service channel surf less and rely more on electronic program guides, checking out HD programs first. This has had a negative impact on channels that are not in the HD tier – HD viewers are less aware of non-HD channels and programs. It has also become tougher to market new or returning programs. It was difficult enough to communicate the name, channel, and time of a new or returning program in a 30-channel universe; it is much tougher in a 200 plus channel universe.

Gauging longer term impacts require some speculation. It is likely that there will be many more changes in television production techniques as directors, producers, and writers come to better understand the capabilities of HDTV. In particular, the large screen size of most HDTVs will enable multiple video windows to be displayed. These might provide extra content related to the show, advertising, or Web content. At some point, productions may fully exploit the sound capabilities of digital HDTV, for example, it might be possible to allow viewers to tune different elements in the sound of programming such as the relative volumes of announcers and game sounds in a sporting event.

Over the long term, HDTV is likely to have an impact on the types of actors and politicians who are successful. In the past, when silent movies changed to "talkies" and when radio programs added video (television) some actors made the transition, but many did not come across well in the new medium. The more realistic video in HDTV may have the same impact on politicians and their appeal to the public. Marshall McLuhan (1964) argued that the low resolution of NTSC television made it a "cool" medium and politicians such as John Kennedy came across very well in the medium. By his terms, HDTV is a hot medium like film. In the 2008 presidential race, approximately 25% of US households had an HDTV and many more saw the candidates in HD at a friend's house, bar, office, or other public location. Did HDTV's high-resolution video and wide dynamic range audio enhance the relatively unblemished and smooth skin tone of Obama as well as his deep resonant voice? Did

it accentuate in a negative way the aging skin and crackly voice of his opponent, John McCain? Was Barack Obama our first HD president?

Conclusion and Lessons

This case study of HDTV illustrates two general principles about technology adoption. The first, attributed to many different authors, is that we tend to overestimate the impact of a new technology in the short run and underestimate its impact in the long run. Clearly, those who predicted that HDTV would be adopted overnight and transform television before our eyes were overestimating the short-term impact. However, we may be underestimating its long-term impact. It has changed the television viewing experience for millions and begun to change production techniques. It may in the long term affect the mix of content on television (favoring content that benefits from HD), the actors who appeal to the public, and the politicians who are elected. The second principle is that technology determines what is possible for new media but it is a combination of regulation, investment, price, marketing, consumer needs and wants, and content that determine how the technology will be used. Each of these elements affected how HDTV actually developed in the United States.

There are also many lessons to be learned from HDTV deployment and growth. For regulators, the lesson is that for a technology like HDTV to succeed, a standard is essential and, moreover, a simple standard will reduce costs to consumers and minimize confusion about the technology. For marketers, HDTV illustrates the value of knowing the history of related technologies. For example, the marketing of black-and-white television in the late 1940s and early 1950s was helped strongly by putting TVs in public locations such as bars where people could experience television and become motivated to buy one. It is a lesson that was not applied in the early days of HDTV. For the electronics industry, a lesson from the introduction of HDTV is to take advantage of serendipity. Many early adoptors of HDTVs used them to watch DVDs exclusively. This was not anticipated but this serendipitous behavior helped to bring down the price of HDTVs. Other lessons include the danger of too much hype when a technology is first introduced. In the case of HDTV, too much hype in the 1990s set false expectations for journalists who then were negative about the prospoects for HDTV when it did not live up to the expectations that were set. HDTV also illustrates that media adoption takes place in a social context which can help acceptance or create a barrier. For example, the early rear projection HDTVs took over the living room and many women objected to this. Fortunately, flat screen technology helped to overcome resistance to putting HDTVs in living rooms.

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Chapter 9
The Fat Lady Still Sings: Bringing Music into the Digital Age

Lydia Loizides

Introduction

Beginning in 2000, at the nexus of broadband penetration crossing the 15% mark in the US, declines in retail and economic recessions in the 4 of the five markets that comprise 80% of the world's music revenues, and the discovery of P2P software by the "average" Internet user resulted in the devastation of the music industry.

Well chronicled, we will not be covering these events in detail but will point to some of the attempts that were made to stem off losses by curtailing consumer use and using prosecutorial methods to "manage" violators of the copyright law.

Fast forward to 2010, and consumers are able to listen to music literally anywhere, anytime, whether they have paid for it or not. Cellular phones, digital music devices, computers, televisions, game consoles and personal players, satellite radios, and every major online destination site – all service the voracious appetite of consumers of music. But in spite of the plethora of access-points, the industry struggles to regain the glory of yesteryear and the economics of being, and making, a rock star remain challenged indeed.

So what comes next? This paper aims to discuss the one of the opportunities that arguably should drive the industry forward – the monetization of music videos on television through an interactive on-demand television platform.

I hate television. I hate it as much as peanuts. But I can't stop eating peanuts.

Orson Welles

Despite shifts in television viewing, the medium still remains powerful both in its reach, ubiquity, and experiential depth.

According to the Pew Research Institute, television is a regular part of American daily life with 74% of adults reporting that they watch TV almost every day. More importantly, 58% of young adults aged 18–29 also say they watch TV almost every day (see Table 9.1).

Interestingly, television watching increases with age as does the presence of televisions in the home versus computers (see Table 9.2). Thinking beyond the typical marketer's target of the 18–25-year-old, television is still the basis for which

L. Loizides (✉)
Canoe Ventures, New York, NY, USA
e-mail: paphion@yahoo.com

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Table 9.1 Age and TV watching. Young adults are notably less likely than their elders to watch TV on a daily basis

	Almost every day	A few times a week	Less often	Never
All adults	74%	15%	7%	3%
18–29	58	23	12	6
30–49	72	19	7	2
50–64	80	11	5	3
65+	89	6	4	2

Source: Pew Internet and American Life Project Networked Family Survey, Dec. 13, 2007–Jan. 13, 2008. $N = 2{,}252$. Margin of error is ±2% on the overall sample. http://www.pewinternet.org/Reports/2008/Networked-Families.aspx

Table 9.2 Household types and technology ownership

	All adults ($n = 2{,}252$)	Married couple, with child ($n = 482$)	Married couple, no child ($n = 785$)	Multiple non-married adults plus child ($n = 150$)	Multiple non-married adults, no child ($n = 218$)	Single parent ($n = 83$)	Singles ($n = 565$)
2+ televisions	83%	88%	86%	94%	91%	82%	65%
Internet household	77	94	79	90	82	87	44
Broadband at home	52	66	52	55	59	54	27
2+ home computers	39	58	39	54	55	32	n/a
Computer network in home	22	37	22	33	27	14	n/a
2+ cell phones in home	59	89	69	80	65	58	n/a
Have an social network site profile	19	18	9	48	37	31	7
Send text messages	40	53	28	59	49	61	22

Source: Pew Internet and American Life Project Networked Family Survey, Dec. 13, 2007–Jan. 13, 2008. $N = 2{,}252$. Margin of error is ±2% on the overall sample.

most adults with children as well as children themselves find most sources of their entertainment.

Much has been made to date about the shift that is occurring from the television to online viewing, especially with younger viewers. And while this may hold true for certain genres of programming, the author cautions that what we have yet to answer is whether certain *types* of programming are being viewed exclusively online

versus television – that is to say, is the majority of the heavily cannibalized online viewing pervasive in national and local news, for example, shifted all viewing? Or is online viewing one factor in addition to specific times of day, types of content, etc? Without context, claims to the overall erosion are somewhat meaningless. Of note, according to eMarketer data from 2008, the majority of online video content that is viewed is short is news, short form and promotional. While 27% of adults reported that they watch full length TV shows, other data indicates that time-shifted viewing also leads to increased overall consumption of television-based programming (Fig. 9.1).

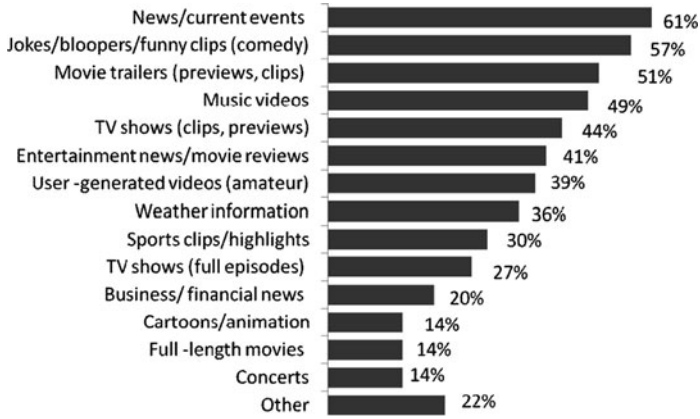

Fig. 9.1 Types of online video content that US online video viewers watch monthly or more frequently, 2007 (% of viewers). Note: excludes advertising or marketing video content. Source: eMarketer estimates, February 2008 (www.eMarketer.com)

Al Gore, Sean Fanning, and Bob Pittman – Swagga Like Us

MTV's pre-history which began in 1977, came out of the Warner Cable TV system that launched the first two-way interactive cable TV system, QUBE, in Columbus, Ohio. The system offered many "specialized" channels, one of which was Sight On Sound, a music channel that featured concert footage and music-oriented TV programs, and where viewers could vote for their favorite songs and artists. This was one of the first deployments of interactive television in the United States.

Then beginning in the mid-1990s, cable operators in the United States began an upgrade of their systems to digital. Industry lore pegs the total cost in the tens of billions but regardless of the price tag, the investment is what brings the United States consumer voice over IP, high-speed Internet, and thousands of channels into the home. And in response to declining land-line customers shifting to cellular networks and other IP-based telecommunications systems, both Verizon and AT&T went into the television business, launching Fios and U-Verse, respectively.

The promise of true two-way interactivity on cable television was first realized through the national deployment of video-on-demand (VOD) services. Search a menu grid, select a program, and watch it immediately.

First conceived as a replacement to movie pay-per-view services, the VOD services of today face several challenges including lack of demographic audience viewing data, long lead times to ad placement and delivery, limited understanding within the media buying agencies, and poor navigation. With that said, VOD is a technology on the verge of a renaissance – one that could benefit the music industry.

In the aftermath of Napster, the focus of the music industry has been on trying to recoup revenues impacted by Internet and digital platforms with marginal success. The ascendency of iPod (a story in and of itself) and MySpace into building blocks of the culture of Generation Y and Z have altered the perception of television as a powerful medium for driving music revenues. But it is the position of this author that television not only continues to be a viable medium but is on the cusp of transforming into a true weapon in the industry's arsenal.

Looking back at the impact that MTV and the medium of television had on the music industry, a study in April of 1994 by the joint Merchandising Committee of the National Association of Recording Merchandisers and the Recording Industry Association of America found that 6% of respondents credited MTV or VH-1 for their music purchase selections. Out of the 40 videos that MTV dubbed "Buzzworthy" between January 1994 and May 1996, over 70% had reach gold or platinum status.

Today, another cable network pioneer, Music Choice, is showing how powerful video-on-demand in for music. In 2009, Music Choice On Demand became the first ad-supported cable network to have its free on-demand offering rated by Nielsen, a testament to the viability of the cable's on-demand architecture. Music Choice On-Demand reaches over 40 million households across the United States and manages nearly 100 million on-demand transactions monthly.

Video Killed the Radio Star

On August 1, 1981, at 12:01 a.m., MTV: Music Television launched with the words "Ladies and gentlemen, rock and roll," spoken by John Lack. At the time, only a few thousand people on a single cable system in northern New Jersey were able to receive the feed – the first music video shown was "Video Killed the Radio Star" by The Buggles and the second Pat Benatar's "You Better Run." Fast forward to 2010 and MTV can be seen in 95+ million television households in the United States, over 110 million households in international markets and has arguably defined three decades of television and music audiences. And while less than 8% of the program lineup today is music videos, MTVs roots in interactive television, bold programming, and the immeasurable impact on the music industry should be the blue-print of music on television for the digital generation.

The Economics of the Music Industry – Money for Nothin'

The music industry, like the rest of the entertainment industry, is a commission and royalty-based business. It is important to understand the economic structure of the industry if one is to identify the benefits of next-generation business models and technology.

The Players

The key constituents in the music industry are as follows:

Record labels – The recording entity that creates markets and distributes the artist's recordings. The four largest record labels in the United States are Warner Music Group, EMI, Sony Music Entertainment, and Universal Music Group.

Performing rights organizations (PROs) – Association or entities that license for public performances, nondramatic musical works on behalf of the copyright owners. The major PROs are: Broadcast Music, Inc. (BMI), The American Society of Composers, Authors and Publishers (ASCAP), SESAC, Inc. (formerly the Society of European Stage Authors and Composers), and SoundExchange for digital licenses.

Mechanical rights agencies (MRAs) – the Harry Fox Agency in the United States and the Canadian Mechanical Rights Reproduction Agency (CMRRA) in Canada issue the mechanical rights to record a song to publishers. Besides issueing mechanical rights for songs, these entities also track, collect, and issue royalites to the publsihers.

Songwriter – A songwriter is the person (or people) who have written the lyrics, music, or melody of the song.

Publisher – The publisher is the company, person, or entity that is responsible for promoting the use of songs commercially and generating revenue. A publishing contract details the assignment of the copyright of the composition to the publisher, usually in return for the commitment that the company licenses the compositions, monitors use, collects royalties, and continue to secure new revenue generating opportunities for the song. The copyrights owned and administered by publishing companies are arguably the most important forms of intellectual property in the music industry next to the master recording which is usually owned by the record label. Some of the largest music publishers in the United States are EMI Music, Universal Music Publishing Group, Bertelsmann Music Group, Sony/ATV Music Publishing, and Warner/Chappell Music.

Music Rights and Royalty Structure

Royalties are distributed differently among the constituents of the music industry. Recording artists, for example, earn money based on the sales of CDs, tapes, and at

one time, long ago, vinyl. A long-standing practice that was changed by the advancement of the digital age was the ability of recording artists to earn royalties for "public performances" digitally – like in a Webcast or on satellite radio. This came about with the Digital Performance Rights in Sound Recordings Act of 1995. Previous to 1995, only songwriters and publishers were able to earn royalties on other public performances as in when music was played on the radio or in bars and restaurants.

There are four types of rights and royalties that drive the music industry: performance, synchronization (or sync), print, and foreign.

Mechanical licenses and royalties refer to the permission that is granted to *mechanically* reproduce music into some type of media (e.g., CD) for public distribution. The music publisher grants permission and a mechanical royalty is paid to the recording artist, songwriter, and publisher based on the number of recordings sold.

Performance rights and royalties allow music to be performed live or broadcast for commerical purposes. Usually the license is a *blanket* license and gives the right to play a PROs entire collection in exchange for a set fee. The performance royalites are paid to the songwriter and the publisher when the song is performed, but not the recording artist, live or on the radio.

Synchronization rights and royalties refer to the use and payment of a song that will be reproduced within a television program, theatrical film, or TV, radio or audio-based commercial – anytime that someone "synchronizes" the composition for a commerical purpose. If a unique version of a composition is used, a master license must also be issued from the record lablel. A royalty is paid to songwriters and publishers.

Print rights and royalties refer to the rights and royalites generated from the production of sheet music.

Foreign Royalties are issued for the use of US copyrighted material in foreign countries through foreign agents, or sub-publishers, who are responsible for managing the licenses and paying royalties to the songwriter and US publisher.

Internet Royalties

SoundExchange was formed to collect and distribute performance royalties from Webcasts and digital performances. As in traditional mediums, broadcasters (cable and satellite subscription services, non-interactive webcasters, and satellite radio stations, etc.) must pay royalties to the songwriters and publishers of the music that is on the site The Digital Performance Right in Sound Recordings Act of 1995 stipulates that broadcasters must also pay royalties to the recording artists. Labels usually treat downloads as a "new media" or "new technology" and will reduce the royalty payment back by a certain percentage, usually between 20 and 50%. This means that if a standard royalty is 10% for physical sales, the artist only earns between 5 and 8% for electronic download sales. Some have begun experimenting with another business model that creates a split of the *net* dollars made on music downloads between the label and artist. It is important to note that the net figure is

after costs of sale, digital and management rights costs, bandwidth fees, transaction fees, mechanical royalties, marketing, etc., have been deducted. As the reader should be able to surmised, in the music industry, there is a cost recoupment model for every aspect of bringing music to the masses.

Change the World?

Despite the fact that US music transaction grew 2.1% in 2009, growth was still down 11% over the last registered year in 2007. And even though digital tracks grew 8.3% to nearly 1.16 billion units that was still down from the 26.7% growth generated in 2008 when that year's total was 1.07 billion downloads. Album sales also declined 12.7% to 373.9 million from 2008s total of 428.4 million (see Table 9.3).

This highlights the continuing decline in aggregate music sales in the United States. The industry is going to have to tap new *integrated* commerce models in order to stem off continuing declines.

Table 9.3 Total US dollar value. The figures below (in millions) indicate the overall size of the US sound recording industry based on manufacturers' shipments at suggested list prices

1999	$14,584.5
2000	$14,323.0
2001	$13,740.9
2002	$12,614.2
2003	$11,854.4
2004	$12,345.0
2005	$12,296.9
2006	$11,758.1
2007	$10,372.1
2008	$8,480.2

Source: RIAA consumer profile 2008. http://www.riaa.org/keystatistics.php?content_selector=MusicConsumerProfile

New Revenue for Labels – Cost per Million and Micro-transactions

What If?

The market for video-on-demand services on cable has been successful for MSOs, but for content owners, it has been challenging. Programmers have had to rely on advertising as the sole source of revenue based on an infrastructure that is less than "programmer friendly." Long-lead times, lack of robust metrics and interfaces, and other technological factors, have all contributed to a market that is valued in and around $100 million per year, a fraction of the $5.36 B of the total on Demand market.[2] Of note, kids programming and music video remain the top generators of traffic for free on-demand services, a point we will explore in further detail.

But there is hope on the horizon. 2010 promises to be a watershed year in interactive television as a key technological advancement is realized: the deployment of EBIF across the US cable market.

Enhanced TV Binary Interchange Format or EBIF is a multimedia content format defined by a specification developed within the OpenCable project of CableLabs (Cable Television Laboratories, Inc.). The primary purpose of the EBIF content format is to represent an optimized collection of widget and byte code specifications that define one or more multimedia pages, similar to web pages, but specialized for use within an enhanced television or interactive television system (Wikipedia). What is important about the deployment of EBIF in the United States is that it creates a standard language by which vendors, cable operators, programmers, advertisers, and marketers will be able to develop, launch, deploy, and leverage interactive television applications. Canoe Ventures, a joint venture of the six largest cable operators in the United States, has a mandate to build a common platform for programmers to reach tens of millions of television viewers with interactive applications, a feat that has yet to be accomplished on a national scale.

The Opera Ain't Over 'Til the Fat Lady Sings (Dan Cook)

Follow the Leader

In product development research, the concept of a *leader user* has been developed and utilized by Eric Von Hippel from MIT. Having had the opportunity to be exposed to the methodology and principles behind lead user research, the author wishes to invoke some the structures here to illustrate where and how next-generation music and television producers and distributors should look to for future product development.

The concept of "lead users" plays a central role in lead user research. Von Hippel defines lead users as individuals or firms who display both of the two following characteristics (1988)[1]:

1. Lead users have new product or service needs that will be general in a marketplace, but they face them months or years before the bulk of the market encounters them.
2. Lead users expect to benefit significantly by finding a solution to their needs. As a result, they often develop new products or services themselves because they cannot or do not want to wait for them to become available commercially.

A lead user is different than an early adopter. Early adopters are early consumers of products that have been brought to market (first wave of consumers of the iPod or business users of the Blackberry). A lead user is a user that invents a solution to a personal or market problem using existing technology but innovating to satisfy their needs (Sean Fanning innovating Napster based off of existing P2P architecture in order to store and share music in a manner other than on a computer hard drive).

Looking at RIAA data, kids and young adults drive close to 29% of revenues. They are also the most likely consume content on the television and the Internet. If they were presented with the opportunity to interact with content on the television, would that drive greater use, value, and overall revenue, from music videos on TV? Perhaps. If we look at some the lead behaviors of the users in this age group two things become apparent: first, the interactivity that this age group experiences online is not replicable on the television; this age group will be one of the first to innovate using technology (think mash-ups, embeds, virtual currencies, and communities). Second, music plays a huge role in the lives of this age group and is ripe for developing new interactive and interconnected products from. While not a scientific fact, most everyone knows to ask the resident 11-year-old of the family how to "fix" the computer, cell phone, or television.

According to recent data published by NPD, 79% of kids aged 2–14 have acquired some form of physical or digital content in the past year while 31% have acquired both. The data also indicates that digital content seems to incremental to the physical collections, a way to supplement their content library. The money spent in these mediums are almost 6:1, with $0.85 of every content dollar spent went to physical items and only $0.15 to digital. Of note, the first type of content that was download was music, the average age which kids make their first digital buy is 7 years old, and girls are big consumersof single song downloads as the first format they adopt for purchasing music (see Table 9.4).

Table 9.4 Music Consumer Profile

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Genre (%)										
Rock	25.2	24.8	24.4	24.7	25.2	23.9	31.5	34	32.4	31.8
Rap/hip-hop	10.8	12.9	11.4	13.8	13.3	12.1	13.3	11.4	10.8	10.7
R&B/urban	10.5	9.7	10.6	11.2	10.6	11.3	10.2	11	11.8	10.2
Country	10.8	10.7	10.5	10.7	10.4	13	12.5	13	11.5	11.9
Pop	10.3	11	12.1	9	8.9	10	8.1	7.1	10.7	9.1
Religious	5.1	4.8	6.7	6.7	5.8	6	5.3	5.5	3.9	6.5
Classical	3.5	2.7	3.2	3.1	3	2	2.4	1.9	2.3	1.9
Jazz	3	2.9	3.4	3.2	2.9	2.7	1.8	2	2.6	1.1
Soundtracks	0.8	0.7	1.4	1.1	1.4	1.1	0.9	0.8	0.8	0.8
Oldies	0.7	0.9	0.8	0.9	1.3	1.4	1.1	1.1	0.4	0.7
New age	0.5	0.5	1	0.5	0.5	1	0.4	0.3	0.3	0.6
Children's	0.4	0.6	0.5	0.4	0.6	2.8	2.3	2.9	2.9	3
Others	9.1	8.3	7.9	8.1	7.6	8.9	8.5	7.3	7.1	9.1
Format (%)										
Full-length CD's	83.2	89.3	89.2	90.5	87.8	90.3	87	85.6	82.6	77.8
Full-length cassettes	8	4.9	3.4	2.4	2.2	1.7	1.1	0.8	0.3	0.4
Singles (all types)	5.4	2.5	2.4	1.9	2.4	2.4	2.7	3.4	2.4	3.8
Music videos, video DVDs	0.9	0.8	1.1	0.7	0.6	1	0.7	1.1	0.4	0.8
DVD audio	NA	NA	1.1	1.3	2.7	1.7	0.8	1.3	1.2	1

Table 9.4 (continued)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Digital download	NA	NA	0.2	0.5	1.3	0.9	5.7	6.7	11.2	12.8
SACD	NA	NA	NA	NA	0.5	0.8	1.2	0	0.6	1.1
Vinyl LPs	0.5	0.5	0.6	0.7	0.5	0.9	0.7	0.6	0.7	1
Age (%)										
10–14 years	8.5	8.9	8.5	8.9	8.6	9.4	8.6	7.6	11.5	7.3
15–19 years	12.6	12.9	13	13.3	11.4	11.9	11.9	12.8	12.3	10.9
20–24 years	12.6	12.5	12.2	11.5	10	9.2	12.7	9.8	11.3	10.1
25–29 years	10.5	10.6	10.9	9.4	10.9	10	12.1	12.7	9.2	8.3
30–34 years	10.1	9.8	10.3	10.8	10.1	10.4	11.3	10.2	11.3	8.9
35–39 years	10.4	10.6	10.2	9.8	11.2	10.7	8.8	10.6	11.9	9.8
40–44 years	9.3	9.6	10.3	9.9	10	10.9	9.2	9	7.9	11
45+	24.7	23.8	23.7	25.5	26.6	26.4	25.5	26.1	24.8	33.7
Channel (%)										
Record store	44.5	42.4	42.5	36.8	33.2	32.5	39.4	35.4	31.1	30
Other store	38.3	40.8	42.4	50.7	52.8	53.8	32	32.7	29.7	28.4
Record club	7.9	7.6	6.1	4	4.1	4.4	8.5	10.5	12.6	7.2
TV, newspaper, magazine, ad or 800 number	2.5	2.4	3	2	1.5	1.7	2.4	2.4	1.7	1.8
Internet	2.4	3.2	2.9	3.4	5	5.9	8.2	9.1	10.9	14.6
Digital download	NA	NA	NA	NA	NA	NA	6	6.8	12	13.5
Concert	NA	NA	NA	NA	NA	1.6	2.7	2	1.5	3
Gender (%)										
Female	49.7	49.4	51.2	50.6	50.9	50.5	48.2	49.6	50.8	51.5
Male	50.3	50.6	48.8	49.4	49.1	49.5	51.8	50.4	49.2	48.5

Source: RIAA consumer profile 2008, http://www.riaa.org/keystatistics.php?content_selector=MusicConsumerProfile

Bring It on Home

So, what does all this mean? It is the intent of the author to provide a hypothetical construct to drive a discussion about the possibilities. This is by no means intended to be the only approach, but rather an integrated approach to bringing disparate pieces of information together as a potential solution to a problem.

The Future's So Bright, I Gotta' Wear Shades

By bringing together the best elements of what has been discussed in the paper: innovative programming (MTV), cable video-on-demand (Music Choice) coupled with EBIF, labels and publishers of music, a CPM-based business model complemented by a platform that could support commerce transactions and other interactive elements like play listing, all of which are executed on a television platform – the probability of music leading in the next wave of innovation seems inevitable. But as history has played out over and over again, it is often hard to see the forest for the

trees, especially in times of industry declines. With that in minds the author offers the following scenario to consider: the challenge is to realize it.

> Johnny grabs his iMOD and syncs it to the library. He just spent the $25 that his parents give him each month for music and he wants to make sure that he has the new tracks to listen to on the way to school. He jumps with his mom in the car and catches the beginning of a great song on the satellite radio station. "Don't change it!" He grabs his phone, holds it up to the speaker in the back and hits the find it button. An automated voice tells him it is the latest from the band Skirmish. He saves the search, navigates to his browser and add it to his playlist of songs on his profile on Beezuz. Later that day, he uploads his playlist for the community to vote on. After all, the winner gets his or her playlist on TV! After school, the group go back to his house since he has the latest Namath that was just release and the biggest TV of the crew. Throwing backpacks in the front hall, they scramble in front of the 60" TV screen, pick up the remote and tune into Channel 754 – the Beezez Channel. "This is it! I can feel it! I am gonna be a winner!" The guys scoff. After all, they have been trying for months to win. Johnny navigates to the Winners section and chooses select. And there, as clear as day, it is his playlist. And because Noke was the sponsor this week, he wins a new pair of kicks. They crank it up, split the screen, and start playing Namath. They are still playing when a track hits that no one has heard before. "Grab that," says one of them. Without a moment's hesitation, Johnny grabs the remote, hits the blue key and graphic pops up – Buy this track? Yes or no. Johnny selects yes. The next screen says are you Johnny? He selects yes again and enters his PIN. The screen shows his balance of $5.85 after the charge of $1.25 for the download. "Score!" Later that night, his mom hands him a box from Congo.com. "Thanks Ma!" "Don't you dare rip that until your homework is done." "Oh, Ma!"

Notes

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Chapter 10
How Cinema Is Digital

Kristen M. Daly

Filmmaking has traditionally been a very structured, expensive, and hierarchical process. Digital technologies open up new mechanisms and processes, which can offer alternatives to the stable systems of production, distribution, and exhibition. There has been a paradigm shift as digital and computer technologies are changing the parameters for how movies are made, distributed, and seen. Acting as a survey of the current landscape, this chapter examines the process of moviemaking and what methods, producers, cooperations, and communities are enabled by the influx of digital technologies. It explores how digital technologies are altering the nature of moviemaking, some of the affordances provided, and the ways in which they are already being exploited by creative and often amateur moviemakers.

A common theme throughout the three sections of this chapter is the formation of new relationships between filmmakers and their audiences, some global and electronic and some local, but each opening new spaces for communities. From production to distribution to exhibition, the cinema experience has become much more collaborative, with audiences involved often from pre-production stages to voting on movies in electronic film festivals. This is a definitive change in the classic moviemaking paradigm, where a few entertained the many through a stable and hierarchical system, and where cinema was experienced exclusively as a mass medium as opposed to a new medium. As a new medium, cinema becomes participatory, nonhierarchial, mobile, mutable, and characterized by excess as opposed to scarcity.

Production

Making a movie on 35-mm film is difficult, expensive, and time consuming. A lot of people and machinery have to be in the same place at the same time. There are focus pullers, gaffers, best boys, key grips, cranes, and tracks. Film theorist Jean-Pierre Geuens in *The Digital World Picture* describes his time on the sets of film shoots. He writes, "As for the actual filming, it looked and felt like a ritual whose

K.M. Daly (✉)
Cine Institute (Film School), Jacmel, Haiti
e-mail: kmd85@columbia.edu

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formalized arrangements had been set long ago."[1] He describes the repetition of the scenes under the cadence of the director's commands; the anxiety of the camera operators faced with the uncertainty of not knowing until days later if the lighting, focus, and framing had worked nor what images had ended up on the celluloid; and the specialists, the apprenticeships, and the danger to actors and stunt people and even the editor due to the "potentially explosive nature of the film's nitrate base." He describes the threat of camera jams and accidents where "despite all precautions, a hair on the gate, a light leak in a magazine, or inexplicable mishaps at the lab can still destroy hours and hours of hard work."[2] This difficulty and threat of disaster made moviemaking a ritual, with specialized clergy and a bit of a miracle at the center for it all to come together. The film medium required time and money, a very particular set of specialists, equipment, and a certain hierarchy, which the digital medium does not necessarily require.

All Movies Are Digital

Digital technologies have penetrated all levels of the production and post-production of movies. Many of these developments are non-obvious, taking place in processes of moviemaking that are well behind the scenes. This chapter illustrates that although on the surface the majority of movies may appear unchanged, in fact, large transitions in the processes of moviemaking are occurring at every level beyond just image capture. These levels are not always obvious to the viewer and do not necessarily change the "product" in obvious ways. Yet, each of these very available technologies has the potential to open up processes and make moviemaking easier and more mobile at all levels from Hollywood to home movie.

For example, at the start of the process, movies are being written collaboratively with digital technologies. Scriptwriting software is widely available and often comes with functionality for collaborative writing, or online sharing tools are easily accessible. Production Web sites, blogs, and social networks allow audiences to begin interacting with filmmakers during the making of a movie. Movies are being cast and staffed through social networks and online sessions, allowing filmmakers to work collaboratively from different locations. Filmmaking how-to's are widely available online so that apprenticeships and mentoring can be virtual and dispersed. Scheduling and budgeting software has become available to the prosumer market and even funding is becoming a possibility online through sites such as Fundable, IndieGoGo, and ArtistShare. The film shot on a particular day used to be sent off to be developed overnight and then the "dailies," the developed raw footage of the day's shooting, would be screened for the director and cinematographer a day or two later so that they could see how the shot had gone. Digital technology enables this process to be simultaneous with the shooting; so the director and cinematographer can see right away how a shot looks, before it is disassembled or before the light changes. Editing software is becoming cheap to free and broadband and sharing sites have made editing collaboration from remote locations more available. DVD authoring has become reasonable on a home computer or through online sites.

Cost, Mobility, Ease

One of the most obvious and often discussed aspects of digital production has been the lowering of costs of production. Film cameras and editing technology have become widely available at low price points or in conjunction with other technologies like home computers and cell phones. Flip Video, Kodak, RCA, and Creative Vado have introduced pocket-sized high-definition (HD) video cameras that are priced under $200. With some cameras, the user can download video directly, with a flip-out USB port, to any computer. The editing software for clips is in the device and is accessed when the camera is plugged into the computer. Hyper-portable video technology in the form of cell phones is making moving image capture more like still image capture in its availability and everyday aspect. In moviemaking magazines, one increasingly finds movies referred to as "no-budget."

This practically cost-free moviemaking technology has created new communities around more mobile and flexible forms of moviemaking. There have been a few examples of full-length movies shot on cell phones and many short films.[3] There are even film festivals created exclusively for movies shot on cell phones, like the Pocket Films Festival in Paris and the Dutch Mobile Film Festival. A variety of speed contests like Cinemasports and the 48-Hour Film Contest have sprung up which challenge teams of filmmakers to make a movie based on a series of requirements in 24 or 48 hours and which then "premiere" at the end of a weekend or online. Machinima is a way of making movies using video games.[4] The software from the game provides camera angles, characters, and sets. Thus amateurs can create movies fairly easily without originating the software or virtual design. Camera angles require only a click and drag. The virtual and networked nature of videogames is such that players/filmmakers from around the world can easily collaborate on machinima projects. Similarly, movies can be made virtually in online worlds.

These are just a few examples that demonstrate the development of a variety of new processes, new communities, new formats, and even new ways of judging movies. The very concept of cinema is expanded as movies become many different types of objects experienced and produced in many new ways. People are increasingly making up their own rules, processes, and definitions as the limitations of the difficult and expensive film reel are eliminated. Although this has not yet affected what one might find at the local multiplex, these new communities and processes need not compete on the same plane as the traditional moviemakers because, as we will see, they have different distribution and exhibition outlets and can thus coexist with ease. The lowered cost and ease of production does open up new spaces for moviemaking and new communities of moviemakers and viewers often overlapping.

Post-production: Editing and Special Effects

One of the most integral aspects of the digital revolution in filmmaking is editing. Almost all movies are currently edited digitally. The role of the editor in production is changing in a number of ways. Editing used to be a very time consuming

and highly specialized skill. One could only edit after the film had been developed. Special effects were not part of the editing process, but were created in a laboratory. All this has changed. Basic editing software is available free on almost every personal computer and free editing programs are accessible online. Users can put together video clips and add sound tracks, titles, transitions, and special effects. They can also easily remix outside content with their own content. As Jim Kaskade, co-founder of free online editing site Eyespot, says, "Editing video is eventually going to be as simple as sending an email."[5]

Amateurs can now express themselves with the same technology as professionals. Oscar-winning editor Walter Murch, who edited *Apocalypse Now* (Francis Ford Coppola, 1979) and *The English Patient* (Anthony Minghella, 1996), was the first to use Final Cut Pro editing software on a personal computer for a major studio film, *Cold Mountain* (Minghella, 2003). He also used a high-definition version of the software for *Jarhead* (Sam Mendes, 2005). Murch says that for him the most exciting aspect was the opportunity to share information real-time from the editing rooms in San Francisco at Lucasfilm with the director on location in Northern Mexico.[6] Editing can occur almost simultaneously with shooting so that the storytelling can be much more organic and seamless. As the roles of the specialists merge and become simultaneous, moviemaking becomes a more collaborative process. Production can be more fluid as it is less confined to tight and separate processes, titles, and hierarchies.

The most rapid changes are occurring in the area of special effects. What used to require a $30,000 special effects workstation can now be done at consumer price level on a home computer.[7] Color correction is available from prosumer editing software along with a number of other effects. Special effects software and plug-ins allow home editors to collage backgrounds and create effects like blizzards and fog. Digital effects have become so reasonably priced that they are being used for "everyday" effects in dramas, comedies, and independent films, not just for science fiction or disaster movies. Ed Ulbrich, an executive producer at computer graphics company Digital Domain, says "We're seeing a whole new crop of young filmmakers who are just as comfortable behind a workstation as they are behind a camera. Pretty soon there may not be any such thing as post-production. We're entering the era of filmmaking as desktop publishing."[8]

The whole system of moviemaking, the economies and division of jobs, is fundamentally changing in the low-budget range. Film can be manipulated in laboratories with treatments like acid washing and lightening effects, but, as film theorist Stephen Prince points out, for the most part, only the whole film could be treated. Under this system, the cinematographer was in charge of the treatment process along with the lab technicians, but that was the extent of his or her involvement in post-production. Now, a movie can be fine-tuned frame by frame in what is called the digital intermediary (DI). This allows filmmakers to change the color scheme of a background, put together scenery montages such as background from one shot with foreground from another, and add together virtual elements with live-action shots. This is practiced widely in movies without evident special effects like independent films and European dramas. Prince says that this "brings the medium closer to the kind of

fine-grain aesthetic control that painters have long enjoyed," and yet the process does not interfere with "the appearance of naturalism."[9] Thus with the DI, which as the price decreases is becoming ubiquitous, cinematography becomes part of post-production. This creates new roles and new understandings as the cinematographer, whether shooting on film or digital, must understand the digital process so that the images captured are appropriate for the ensuing digital manipulation. The roles of cinematographer, director, editor, and special effects supervisor can become blurred as the separate production processes become merged in the digital process.

Production has been infiltrated at all levels by digital technologies to the point where there is almost no such thing as a non-digital movie.[10] At some point in the process, almost every movie is converted into digital form and therefore has the potential to realize the affordances of the digital art object. Digital technologies expand the possibilities for filmmakers who at the extremes can make movies by themselves on a cell phone or completely collaboratively in the video game Halo and, more importantly, anywhere in between.

Some have worried that this influx of filmmakers will diminish the quality of cinema, but I believe that the combination of new modes of production along with new modes of distribution and exhibition creates more room for this excess and a larger more heterogeneous role for cinema in society.

Distribution

Distribution has long been the catching point for filmmakers. A film print can cost between $2,000 and $3,000 and be close to 2 miles long.[11] Because of the expense of producing prints and the infrastructure needed to make and deliver them, distribution remained almost exclusively the activity of the studios. Economies of scale with the expensive film print make distribution a possibility for only a small number of films. Digital technologies are breaking up this distribution oligopoly in a number of ways. As storage and transmission costs fall, the digital copy makes reproduction and delivery costs extremely low, thus distribution stops being a model of scarcity.

DVD distribution, digital downloads, and video on demand (VOD) have opened up new models of distribution, which together with new social networks and communities fostered by the growth of Internet culture allow for the distribution of movies with smaller, niche audiences. Downloading and streaming movies directly is currently becoming feasible with increasing bandwidth, storage capabilities, and the soon-to-be easy connection between computer and television. Here it becomes clear that one must discuss cinema as a new medium. Historically, much of film theory has focused on medium specificity, but with the concept of cinema as a new medium, one must consider not just the material form but the means by which this form travels, is distributed, and received. These now all depend on electronic networks and systems external to the copy.

The affordances of online communities and networks have enabled filmmakers to find their audiences in new ways, using Internet marketing and social networks and therefore opening up the legitimate possibility of self-distribution and smaller distribution outlets. Core audiences can collaborate with filmmakers and become a tool of distribution and marketing. These audiences need no longer be concentrated in cities with vibrant film cultures but can be connected virtually from anywhere. A movie can be distributed in different forms, prices, and times allowing a more flexible, adaptive, and individualized scheme. The lower costs of distribution, combined with lower production costs, can enable filmmakers to break even and make money from smaller audiences and ancillary products like speaking fees, merchandise, or access to specific audiences. New infrastructures enabled by the easily reproducible digital copy, such as piracy, open up new distribution processes, new markets, and new social networks. As a result, although in many ways, getting the attention of large audiences in a media-saturated world has never been harder and marketing costs have been consistently rising; the number of alternative distribution outlets and the new audiences reached can enable more filmmakers to find audiences and have their work seen.

Audience as Distributor

Social networking, enhanced search, rich media, and recommendation functions provide great opportunity for locating and satisfying niche audiences for a wide variety of movies. Increasingly, filmmakers, using these new digital social networking technologies, are taking distribution into their own hands by finding and building their own audiences, which would not necessarily have been reached by the studio distributor since they do not fit with the economics of the studio system either for size or for composition. These tools allow the filmmakers to keep in touch with their audience/subscribers/fanbase, sharing information and resources. By linking with already existing Web sites, blogs, and virtual communities, filmmakers can find interested audiences regardless of geography. Audiences participate in a number of ways, from online communities and commentary, to remixing the advertisements and designing trailers. This creates a new relationship between audiences and a movie by providing a sense of community and a sense of joint responsibility for its distribution.

Some of new independent online distributors, like FilmThreat and Greencine, began as and continue to be movie review and cinema culture Web sites, developing a cinephilic audience. Previously, many of the movies discussed and reviewed on these sites were screened only at festivals and so were not available to most of the sites' users. With digital distribution, an easy next step for these Web sites was to distribute the movies themselves to the audiences that they have fostered. Digital distribution appropriates the communities and social networks for cinema that have already developed online.

Movie as New Media

As a new media, movies can exist in many different forms. Increasingly filmmakers are taking advantage of this to offer different formats to different audiences at different times and for different prices. Filmmakers might post shorts and trailers to the Web site during production and post-production. They might premiere at a film festival selling DVDs or have an online premiere at the YouTube Screening Room or iTunes. They might sell a basic download from their Web site and a high-quality DVD with bonus material through a distributor. They might stop offering the download during a theatrical release or television showing or offer it for sale only where the movie is not showing. Sites like WithoutABox and IndieGoGo are enabling filmmakers to take advantage of these different opportunities and to create individualized distribution strategies.

Digital outlets have been creating vertical synergies between distribution and exhibition. For example, Martin Scorsese's World Cinema Foundation (WCF), which preserves older movies that have previously been neglected, has partnered with The Auteurs, a social networking site that streams movies, and B-side, which arranges movie screenings at universities and film clubs. They hope to align incentives and thus maximize the continuity of publicity and the success of each film.

Economic strategies can also vary. A filmmaker might allow a library, a museum, or a gallery to show his or her film, perhaps sharing ticket sales or the filmmaker might be paid a fee for being present at the showing or for a short talk. Web sites can sell T-shirts, sound tracks, or games based on the movie. Filmmakers can leverage their audiences to create new and innovative business models. For example, Susan Buice and Arin Crumley independently developed a large online audience for their film *Four Eyed Monsters* (2005) and the podcasts surrounding it. Although the movie and podcasts initially cost them more money than they made from theatrical, TV, DVD, rental, and digital downloads, the filmmakers made a deal with online culture site Spout.com. The deal provided that for every person who registered with Spout from the *Four Eyed Monsters* Web site, the filmmakers would get $1. As cinema becomes a new media, the synergy between the communication and community networks of the Internet and the cinema product allows new strategies and distribution channels to flourish.

Piracy

With the advent of the digital art object and porous means of distribution, it becomes easier for audiences to access new cultural products both legally and illegally. Piracy has become a major distribution outlet for digital media. Where broadband is plentiful, illegal downloads have proliferated, while legal downloads have languished, entangled in rights issues. In areas where broadband is not readily available, DVDs are the primary form of pirate distribution. Although piracy is primarily initiated for the distribution of studio fare, it proceeds to open up new outlets for independent

movies, which might not have distribution otherwise. Pirate distributors, ignoring rights constraints, can fully exploit the digital affordances of reproducibility and mobility, developing new audiences and distribution infrastructures, which then influence the traditional, mainstream, legitimate systems.

The British soccer film *The Football Factory* (Nick Love, 2004) provides an example of this two-way flow. A rough-cut, pirate version of the film circulated well before the theatrical release, which was modest. But the controversy, both over the subject matter of fan violence and the piracy, pushed DVD sales way up, disproportionate to its theatrical success. As Xavier Marchand, of the DVD distribution company Momentum, states, "I thought it was going to hurt us, but I'm starting to wonder if it helped us because we could pitch our DVD as a special-edition director's cut."[12] The audience for *The Football Factory* was not necessarily the same as the general theatrical audience, thus the bootlegged DVD satisfied a disparate audience that a larger, legitimate distribution company would not have accessed. Nick Love, the writer and director, has been able to fund his next projects based on the popularity of *The Football Factory* and the ready audience, which the pirates discovered and bolstered. Thus, the pirate infrastructure worked as an effective marketing tool with considerably better aim than a studio could have, accessing communities outside the norm of studio marketing.

Piracy has been purposefully exploited by some filmmakers in order to subvert the traditional distribution channels and censorship. Syrian documentary director Omar Amiralay returned to Syria in 1992 after 12 years in exile in France. In 2005, he made a movie called *Flood*, in response and contradiction to a documentary he was hired by the government to make in 1970 about the Euphrates Dam Project. The film is extremely critical of the regime and would not have been released in Syria. So, Amiralay purposefully gave the movie to pirates to distribute. He says, "Two months later, everyone in Damascus had seen it. It was a digital flood."[13] Piracy is a major part of distribution in the Middle East as cinemas are scarce, or in the case of Saudi Arabia banned, and censorship severe. In many countries, the legitimate distribution system favors Hollywood and Bollywood movies to the exclusion of the local, especially when there are often very few theaters per population. Thus, piracy enables people to see local movies sometimes for the first time.

At the same time, piracy allows the distribution of movies amongst communities who might be facing similar issues in disparate parts of the globe. Mexican director Sergio Arau made an English-language, Spanish- and Mexican-financed film called *A Day Without a Mexican* (2004), which purports to demonstrate what would happen to the economy of California if all the Mexicans suddenly vanished. The movie was a hit in Mexico and video pirates sent messages to Arau and his production company saying "that because the film was so wonderful for our people, they wouldn't make bootlegs until the film ended its theatrical run."[14] After the theatrical run, though, the film became fair game with a number of Mexican and US versions. Arau says, "And I have a friend who bought one in Cambodia. I was very honored, because it was the only Mexican movie to be pirated in Cambodia."[15] The global and immediate reach of pirate networks mocks the legitimate distribution system, which follows archaic perceptions of cultural preferences and bizarre timing schemes. New audiences are

cultivated and communities formed that can communicate with moving images on both local and global issues. A space is opened for a form of social communication outside the established hegemony.

Thanks to the lowered cost of production and distribution, the market strategies for many independent filmmakers can be aimed at smaller or previously undefined audiences and thus can operate under different paradigms than the studio system, which requires a major homerun to sustain the economics. Although the effects of the emergence of these filmmakers and audiences on the larger studio system are difficult to predict, they have already affected what people are watching, who is making movies, and the experience of cinema for many people.

Exhibition

The last cog in the cinema wheel has been exhibition. For many movies, the only time they take on a celluloid form is for the existing machinery of projection in the majority of theaters. Due to complications of existing distribution and exhibition deals and the current expense of high-quality digital projectors, theaters have been very slow to adopt digital projection. Digital projection can enable new economic models for theaters with a lowered cost of rental, providing them a larger number of exhibition options. The theater can cater more specifically to its community and time slots, thus changing the role of the theater in the community. At the same time, digital exhibition can leave the theater opening up potential of a wider exposure for a diversity of movies – art, independent, short, local, and even ideological.

International Adoption

A few countries like Ireland and Great Britain have government-sponsored programs to convert theaters to high-quality digital projection. In the developing world, many theaters are installing low-cost digital cinema, also known as "e-cinema" as opposed to the more expensive Digital Cinema Initiative (DCI) compliant "d-cinema" required by US studios. The lower quality e-cinema systems can cost as little as $7,500, whereas the d-cinema systems cost close to $100,000.[16] E-cinema provides a great opportunity for local and independent movies as Hollywood studio movies require the DCI compliant technology and therefore cannot play legally on these digital projectors. In many countries, the high cost of a film print compared to the low cost of a movie ticket in the rural areas has meant that, previously, it has not been cost effective to strike prints for rural markets. Digital prints and projectors allow for a wider distribution outside urban centers.

In some countries, exhibitors and the companies that partner with them to outfit the theaters share profits from cheap-to-produce and targeted, digitally shot advertisements.[17] Instead of the rental agreement based on box office, exhibitors and distributors can work out new relationships and income streams specifically directed

at the audience for a particular movie or in a particular theater. The improved targeting, which the flexibility of digital enables, can lead to innovative rental agreements and new income streams.

Alternative Programming

Smaller distribution labels are buying up the rights to re-releasing classic and independent films digitally. The problem for cinemas in showing classic movies has always been the difficulty in getting hold of film prints and the expense, but digital technologies enable the production of a "one-off" print with very little delivery cost. This changes the expense model as it enables theaters to keep the movie copy and show it whenever they like, sharing profits with the distributor using a different model than the traditional rentals.[18] An independent film can be targeted to exhibition outlets specific to the subject matter.

Similarly, digital projection allows a theater to focus on local programming. Even the programming of home movie nights has become a popular theater event. This is a tremendous shattering of what the experience of cinema has been in most places. Although there have always been cineclubs small groups of people who gather to watch a film together often with discussion, it remained difficult and rare to see an independent or avant-garde film outside the major cities. Many writers have bemoaned the death of cinema as digital technologies took movies out of the community cinemas and into the private home, yet digital exhibition opens the possibility for local theaters to return to a place of prominence as the cultural hub of communities, providing local programming and events not available anywhere else and geared specifically to their audiences and time slots.[19]

Microcinema, Ideological Exhibition

One potential for this type of technology would be an increase in the numbers of independent venues and their stock. As Jason Silverman of *Wired* writes of the potential for a wireless delivery "microcinema network," "You'll just need a computer, a projector, some chairs and a white wall. Sign on, select from what could become a nearly infinite menu of titles, pay your fee and you'll be in the movie business."[20] Although there is potential for wireless and downloadable delivery in the future, the exciting reality worldwide right now is DVD and cheap digital projectors for "microcinema networks." The mobility of digital movies has allowed exhibition in all sorts of formats for smaller and specified audiences.

In Asia there is a dearth of theaters, but small-scale "personal" video theaters have emerged. In Luang Prabang, Laos, I followed signs to a cinema only to find myself at a DVD rental store with individual small screening rooms. Similar, karaoke-style movie booths exist in other parts of Asia, even North Korea where they are called "video bang" or KTV joints.[21] In China the government has plans for 35,000 mobile digital movie theaters for rural areas and similarly independent entrepreneurs in India have started traveling digital exhibitions.[22]

In the United States, digital exhibition has opened up alternative exhibition networks, which have proven to be able to operate on a large scale. Much was made in 2004 of the success of Mel Gibson's *Passion of the Christ*and Michael Moore's political documentary *Fahrenheit 9/11*. Both exploited new grassroots networks and digital technologies for marketing and exhibition to great effect. A number of smaller political documentaries did well in 2004 as well. Some, like *Passion* and *Fahrenheit*, had theatrical releases, but others were distributed only online and on DVD by groups like MoveOn.org, who raised awareness through the Internet and encouraged local screenings in smaller venues and discussion groups, paralleling the religious distribution paradigm that has made great use of digital projection in churches as an alternative distribution system. Participating churches pay a fee based on congregation size and receive a DVD along with marketing materials like posters, handout cards, and Web resources to help promote the screenings locally.[23] Ideological movies have taken advantage of alternative, digital screening venues both in churches and home theater systems combined with electronic outreach to find their audiences to great effect.

Proliferating Festivals

New technology has enabled a DIY indie rock approach to exhibition with traveling shows reminiscent of *Cinema Paradiso* (Giuseppe Tornatore, 1988). Thus, much like in the case of distribution, filmmakers are finding their own audiences and bringing exhibition right to them. Again instead of the death of cinema, we see a revitalization of cinema culture as filmmakers and communities can develop direct relationships in new places through mobile exhibition technologies. Small film festivals have popped up on a number of rooftops and in parking lots around the country.

A number of film festivals have begun online. Competition movies are posted online and viewers can usually vote for their favorites and be part of the judging process. Some festivals enable filmmakers to sell their entries online. Some real-world festivals have screened their shorts online. Sundance has done this and also has had live streaming showings in the virtual world, Second Life. Second Life has its own film festivals as well. IFC Festival Direct brings festival movies directly to cable On Demand systems, even those that do not get traditional distribution. The excitement of the film festival is no longer exclusively for people who can afford the flight to and accommodation in Park City (home of the Sundance Film Festival) and have an inside source to tickets, but anyone with a broadband Internet connection can both appreciate the movies *and* be involved in supporting his or her favorite films. These festivals enable more people to experience new cinema. They cultivate cinephilia in places that were geographically, culturally, and economically off the beaten track for independent fare. Thus, there is a revitalization of cinema culture enabled by the mobility of digital exhibition. Sites like The Auteurs and UbuWeb premiere both new and classic movies online, curating themes like virtual art theaters. These sites have expanded the access of geographically dispersed cinema fans to independent, art, and avant-garde movies.

Conclusion

In covering so much ground, I hope to have given a taste of the myriad opportunities that are currently being exploited. At every level, digital technologies have created more collaborative environments in cinema production, distribution, and exhibition. In production we see a reduction in equipment costs for shooting, editing, and post-production and a reduction in the specialized knowledge needed to create a movie as increasingly software for high-quality production is developed for the consumer market. Movies can be created in a wide variety of forms and formats by global electronic collaborators or local cinema sports teams. Many of these technologies allow more interaction and flow between what were very separate divisions of moviemaking specialists and the simultaneity of action so that production even on the studio level becomes increasingly collaborative.

In distribution, online communities in conjunction with the digital characteristics of the DVD and downloadable movie have created new distribution pathways for more movies. In a situation of excess, filmmakers must find and at times create their own audiences. This collaboration requires more work on the part of both the filmmaker and the audience and it remains an open question if this work can be remunerated. Movies taking advantage of the characteristics of new media can satisfy different audiences in different forms at different times and for different price points. Piracy exploits the digital characteristics of movies and can find audiences previously left off the legitimate distribution map. Like the online networks, piracy accesses the communities that already exist but which have not been satisfied, matching new content with new audiences.

In the realm of exhibition, the inexpensive and readily available digital print can open up new economic models with distributors, which allow exhibitors to nurture new communities with diverse products. Instead of becoming peripheral, as has been predicted, the theater can, by accessing both local and specialized content, regain a place of prominence in the community. Movies can exhibit at smaller venues – churches, home theaters, and libraries – thus becoming available to geographically dispersed, but subject-targeted communities and encouraging grassroots activism. Festivals have demonstrated the excitement that people feel for specialized movies and increasingly these festivals can travel outside the established cinephilia communities. Digital movies are totally mobile and need not leave anyone out of the network.

With the elaboration of all these processes, this chapter demonstrates how the processes of cinema have changed at a number of levels and the potentials for new filmmakers, new communities, and new discursive spaces are opened up. As with all new media, the very flexibility and dispersion of the new cinema environment makes its existence less material and measurable and therefore perhaps less sustainable. It will remain to be seen if our options as audiences continue to expand and diversify. But we, as audiences, have had a taste of the potential for cinema to reenter our communities as it perhaps has not since it lost its prominence to television. As more people participate both as audiences and as filmmakers, and increasingly as both, the opportunities will continue to grow.

Notes

1. Geuens, J.-P. (2002) The Digital World Picture. *Film Quarterly*, 55(4), pp. 16–27.
2. Ibid.
3. One of the first full-length films shot on a cell phone was South African director Aryan Kaganof's *SMS Sugarman* (2007). www.smssugarman.com, accessed August 3, 2009.
4. www.machinima.com, accessed August 3, 2009.
5. Kirsner, S. (2006) Camera.Action.Edit. Now, Await Reviews. *The New York Times*, June 15, 2006.
6. Devereaux, M. (2005, November) The Final Cut Pro. *Wired*, 078.
7. Taub, E.A. (2003) Special (and Mundane) Effects of the Movies, on TV. *The New York Times*, May 12, 2003, C1, C10.
8. Argy, S. (2005) Digital Domain Animates Trent Reznor. *American Cinematographer* 86(10), pp. 78–79.
9. Prince, S. (2004) The Emergence of Filmic Artifacts: Cinema and Cinematography in the Digital Era. *Film Quarterly*, 57(3), pp. 24–33.
10. Paolo Cherchi Usai's 35-mm silent film *Passio* (2006) is a notable exception. He made only a few film copies and destroyed the negative. He writes, "In a strange way, that's my new term of engagement with the digital ideology, an oblique attempt to move beyond the notion of its 'dark age'." His attempts try to bring attention to the exhibition apparatus, thus *Passio*must play with a live orchestra. Cherchi Usai, P. (2006) The Demise of Digital (Print #1). *Film Quarterly*, 59(3), p. 3.
11. From producer Gretchen McGowan, Head of Production at Goldcrest Features in an email correspondence, June 21, 2009 – a release print is $0.30 per foot and on average is 9,800 feet for a cost of $2,850.
12. Dawtrey, A. (2004) Brits Get Soccer Kicks. *Variety Weekly*, November 29–December 5 2004.
13. Wright, L. (2006) Captured on Film: Can Dissident Filmmakers Effect Change in Syria? *The New Yorker*, May 16, 2006, pp. 60–69.
14. Payan, V. (2005) Once Upon a Time in Mexico: The Next Chapter in Cinema. *The Independent*, 28(6), pp. 44–47.
15. Ibid.
16. Cajueiro, M. (2007) Brazil Eager to Convert to Digital: Rain Network Leading the Charge. *Variety*.
17. Ibid.
18. Pendreigh, B. (2006) Park Circus Fins Niche in the Classic Movie Scene. In *Sunday Herald*. Generally, theaters rent movies from studios as a percentage of the box office, which varies over time. For example, in the first weekend, the studio receives the majority of the profit and as time goes on, the theater gets more of the percentage. This agreement is currently being renegotiated.
19. Most famous is Susan Sontag's piece *The Decay of Cinema*. Sontag, S. (1996) The Decay of Cinema. *The New York Times*, February 25, 1996.
20. Silverman, J. (2005) Feature Films without Wires. *Wired*.
21. Elley, D. (2006) N. Korean Festival Draws Int'l Crowd. *Variety*, September 25–October 1, 2006, p. 7.
22. Honglin, J. (2006) Slow Boat to China's Digital Future: Government Has Made an Initial Investment of $25 Million. *Variety*.
23. Walker, R. (2005) God Is in the Distribution: The Producers of an Apocalyptic Movie Series Avoid the Studio System – and Try to Build an Anti-Hollywood. *The New York Times Magazine*, November 13, 2005, p. 38.

Chapter 11
Thumb Wars: Body and Mind in Video Games

Liel Leibovitz

No human being is innocent, but there is a class of innocent human actions called Games (W.H. Auden)

Some people's first memory involves their parents. Others think back and recall beloved pets, happy outings, joyous occasions. Me, I remember my first Atari.

I received my first video game console – the Atari 2600, to be exact – in 1983, when I was 7 years old. As soon as my father plugged the wood-encased machine into the television set, I felt a strange sensation. There I was, in the same cavernous living room, on the same battered, blue couch, looking at the same clunky TV resting atop the same rickety wooden table, and yet there was one concrete difference: as soon as I grabbed the Atari's joystick in my hand, I could tell the images on the screen what to do.

To my impressionable mind, this was as close as one got to magic. I grasped the bulky plastic cube with the rubbery black stick protruding from its center and the shiny red button at its base as hard as I could. I jerked it around, pressed it, moved it from hand to hand. Sometimes, I would even ignore the game itself and just move the joystick around, pressing the button just to see the pixilated objects on the screen respond to my commands. Soon, I too had developed what was then fondly called "the Atari thumb," a patch of skin made callous by continuous pressing of buttons; the blister was a source of much pride, as if the virtual battles I was fighting on screen somehow manifested themselves in real life and registered themselves on my flesh. I had neither the intellectual capacity nor the inclination to think about the play experience in depth, but, even at that early age, I understood, immediately and instinctively, that video games offered a sensation unlike that offered by any other medium.

But just what was the nature of that sensation? And how exactly did it differ from similar sensations offered by other media? These are, of course, sizable subjects that require a canvas larger than the one offered here. But there are, perhaps, some observations that could be gleaned from asking the right questions about video games, or consulting with the right sources. Like Martin Heidegger.

L. Leibovitz (✉)
New York University, NY, NY, USA
e-mail: lleibovitz@gmail.com

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Video Games and German Philosophy

At first glance, the famous German philosopher may not seem like much of an authority on video games. But the central obsession at the core of Heidegger's work is the key, I believe, to understanding the video game playing experience. It is the idea of human subjectivity.

It is, of course, a concept that has kept philosophers occupied for centuries. René Descartes, most famously, summed Man elegantly with his *cogito ergo sum*; we think, the Frenchman suggested, and therefore we are, which means, to put it roughly, that we are not truly actors in the world but rather spectators, detached observers in whose minds the grand drama of human life unfurls. We watch, and then reconstruct the world as an image in our minds. In so doing, humans possess the transcendental freedom usually associated with God.[1] If television had a patron saint, it would have to be Descartes.

This kind of transcendental talk, however, made Heidegger mad. Man, he claimed, does not inhabit the World as water does a glass: While the glass can be emptied of the water without fundamentally affecting the nature of either, the same cannot be said of Man and the World; and Man, unlike the glass and the water both, is aware of his encounter with the world and does not merely coexist with it as one object beside another. Or, for that matter, as subject to object; to drive that point home, Heidegger gave a well-known example involving a hammer:

> Hammering does not simply have knowledge about the hammer's character as equipment, but it has appropriated this equipment in a way that could not possibly be more suitable. . .. The less we just stare at the hammer-Thing, and the more we seize hold of it and use it, the more primordial does our relationship to it become, and the more unveiledly is it encountered as that which it is – as equipment. The hammering itself uncovers the specific 'manipulability' of the hammer. The kind of Being which equipment possesses – in which it manifests itself in its own right – we call *readiness-to-hand*.[2]

It's a dense statement, but one that conveys a sentiment familiar to every gamer: it is not enough for one to observe a hammer – or, for that matter, someone else hammering – to grasp the hammerness of the hammer; for that, one must pick up a hammer and drive a nail through a wall. Only then is the hammerness of the hammer-thing fully experienced as such. Similarly, it is not enough for someone to observe a video game being played to grasp its true essence; for that, one must pick up a controller and play. This is precisely what I felt at seven, clutching the Atari joystick: for the first time, I wasn't just observing, but experiencing.

It's a radical idea, and it is not without its radical implications. When experience is placed at the center, everything changes. Even space: while Descartes understood space as most of us probably would, namely as a fixed grid with exact coordinates, Heidegger, as Stehen Mulhall explains, saw it in terms of its usefulness to us:

> [A human being] most fundamentally understands its spatial relations with objects as a matter of near and far, close and distant; and these in turn are understood in relation to its practical purposes. The spectacles on my nose are further away from me than the picture on the wall that I use them to examine, and the friend I see across the road is nearer to me than the pavement under my feet; my friend would not have been any closer to me if she had

> appeared at my side, and moving right up to the picture would in fact distance it from me. Closeness and distance in this sense are a matter of handiness and unhandiness; the spatial disposition of the manifold of objects populating my environment is determined by their serviceability for my current activities.[3]

There are, however, two sides to this idea. Just as we understand the objects surrounding us primarily in terms of their use-value – namely, understanding of a hammer not for some abstract "hammerness" but rather for its serviceability in driving nails into surfaces – we must also understand ourselves first and foremost as practitioners. And no practice, of course, can exist unless it can be practiced by many. One, to paraphrase Wittgenstein, cannot follow a rule privately; a rule is a rule precisely because it implies to all. Which leads Heidegger to the following, startling conclusion:

> The Self of everyday [human beings] is the they-self, which we distinguish from the authentic Self – that is, from the Self which has been taken hold of in its own way. As they-self, the particular [human being] has been dispersed into the 'they', and must first find itself.[4]

Heidegger, a member of the National Socialist Party, was no stranger to the consequences of particular human beings fading into faceless collectives. But his ideas, while politically terrifying, nonetheless suggest fascinating possibilities where media are involved. Heidegger, alas, never lived to see these potentialities: he was born 6 years before the Lumière Brothers held the first public screening of a motion picture, and considered cinema the chief medium of his time. He believed it had changed the world. The story of modernity, Heidegger insisted, was not that of interchangeable worldviews struggling for prominence, but rather of mankind's attempt to "conquer the world as image."[5] At the heart of this effort, he argued, lay the fundamental essence of technology: *Bestellbarkeit*, or the ability of being placed and displaced at will, on order, on demand. As man made cameras and created representations of himself and his surroundings, he could turn the world into a picture "whose ultimate function is to establish and confirm the centrality of man as the being capable of depiction."[6] The subject, in other words, becomes the reference point of things as such.

This formulation, written with cinema in mind, should not be foreign to any avid television watcher. Television watching, after all, is an experience that demands, that places at its heart, a subject, who, with the click of a button, commands the appearance of the images on screen. The distance between screen and sofa is, indeed, the critical distance between the Cartesian empirical universe and its re-creation in the subject's mind. As was repeatedly demonstrated by scores of researchers in both cultural and communications studies, such a distance creates ample space for interpretation and reinterpretations. Consider the following example, the renowned study by Elihu Katz and Tamar Liebes concerning divergent meanings assigned to a commonly viewed episode of the television series "Dallas." Sitting in a living room along with several couples, a researcher observed the conversation that unfolded before, during, and after the broadcast, noting that each participant, despite the communal experience of viewing, nonetheless interpreted the meaning of the

episode according to his or her own preexisting set of cultural, religious, and socioeconomic biases. As Katz and Liebes note:

> This group is of particular interest because it illustrates vividly how community members negotiate meanings by confronting the text with their own tradition and their own experience. The conversation suggests that the program serves viewers as a forum for discussion of personal, interpersonal and social issues such as justice; whether or not fathers have equal rights in their children; child-rearing problems; gender-role differences; attitudes towards adultery and divorce; the problem of cramped quarters; religious demands; and the harsh reality of prolonged war in Lebanon. Consider also the references to other texts – especially religious ones.[7]

The viewers in this case are subjects, capable of depiction at will, constructing their own world-picture. They would have been easily recognizable to Heidegger, who might claim that in television, even more than the cinema, they found a safe haven in which to fashion the world in their own image and understand it according to their own particularities.

Portrait of a Gamer

But it is the video game player, not the television watcher, who may be the truly Heideggerian creature. For the gamer is not a Cartesian subject; he does not observe, and therefore lacks the critical distance to establish his liberating world-picture. Instead, with his controller at hand, he acts.

To understand the nature of the gamer's actions, one must take another cue from Heidegger and experience, rather than merely observe, video game play. Throughout the course of a prolonged and detailed phenomenology, involving structured play of Nintendo's hit title "The Legend of Zelda: Twilight Princess," I've discerned a few elements that help typify the gaming experience. Taken together, they portray a medium radically different from its predecessors.

For one thing, there's the matter of the hands. It's our limbs, much more than our minds, that are at the center of game play. After a few hours of acquainting myself with the game's world and its set of controls, I noticed a sense of muscle memory setting in, and my body became freer to incorporate itself into the game play experience; as my manual dexterity increased so as to allow for seamless play, I now played primarily through my fingers.

Which, in turn, raises an interesting question, given that video games are still, like television, a visual medium. In a sense, they must always strive to strike a balance between catering to the eye and the hand. This is a constant tension, and it makes up much of the play experience; and yet, the better I became at performing the ballet of thumbs which was manipulating Link, the game's protagonist, the less adamant was my gaze upon the action unfurling on the screen. Of course, no video game player could ever close his or her eyes altogether and give in to sheer movement. Every game still greatly depends on visual, and to a lesser degree audible, clues that provide such information as the location of enemies, the geography of worlds, etc. But the more I played, the more peripheral vision sufficed to fulfill my visual needs.

I was now gleaning nothing but the most essential information from the screen, and then allowing my fingers to guide me through the interaction.

Quoting the basketball great Larry Bird, the philosopher Hubert Dreyfus shed light on a similar phenomenon: "[A lot of the] things I do on the court are just reactions to situations . . . A lot of times, I've passed the basketball and not realized I've passed it until a moment or so later."[8]

Author David Sudnow, in a now largely outdated study of the first generation of video game arcade machines, further elaborated on this shift from eye to hand. Devoting many hours to playing "Breakout," an early and simplistic video game in which the player manipulated a paddle across a screen, using it to bounce a ball and destroy layers of bricks situated toward the top of the screen, Sudnow, too, noticed the shift between the faculties as he became a better player. "At first it felt like my eyes told my fingers where to go," he wrote. "But in time I knew the smooth rotating hand motions were assisting the look in turn, eyes and fingers in a two-way partnership."[9] Later on in the account, he admitted that what at first consisted of gluing his eyes to the ball,[10] soon became largely a manual motion, and that, at his new stage of mastery, "peripheral vision sufficed."[11] Even later, he claimed that his eyes would rove across the screen, looking now not so much at the places where the ball was falling but rather at the places where the ball was likely to fall in the near future; with the ball being small, the paddle rather large, and the game consisting of only one screen, there were only so many distinct positions for the paddle to assume, and Sudnow found that, once his hands took over the mechanics of game play, his eyes were free to assess the possibilities. "The eyes," he added, "could plan."[12]

But while Sudnow's account fits well with the narrow game environment of "Breakout," in a more complex game, which incorporates many screens and a multitude of objects that require varying, differentiated, and interactive responses, the capacity of the eye to plan, and therefore to participate in the play process in a way that is anything but perfunctory, is greatly diminished. Manipulating Link across screens, my eyes had no incentive to wander across the game's terrain, surveying its outlines, and proposing possible courses for future action. Rather, with the play experience flowing and the thumbs and index fingers in control of Link, my eyes found a convenient spot at screen center from which they could collect, aggregate, and transmit nothing but the necessary data to the busy manual mechanism now in charge.

The State of Absorption

As soon as this flow was created, I became curious about its nature. While the primacy of the hands was clear to me, I wondered what, if anything, about the inherent architecture of the game enabled the flow to persist, or, in other words, what was it about the game that facilitated the state of absorption I had entered. Yet, in order to measure the flow, I had to interrupt it. Throughout the course of five 1-h-long play sessions, each occurring two days apart and taking place well after

I had achieved proficiency in playing that particular game, I requested an assistant to interrupt my play at agreed-upon times. The interruptions, five per session, occurred at intervals of roughly 20 min, and consisted of the assistant asking me to pause the game for a second so that he could ask me a simple question. I also instructed the assistant to observe my play closely and ensure that approximately half of his interruptions took place when Link was at an uneventful point in the game – running through a field, say, or commuting from one screen to another – while the other half were timed to coincide with highly interactive points in the narrative, such as major battle scenes or complicated puzzles. Once I resumed play, I would verbally comment on my difficulty in returning to the aforementioned state of absorption, and asked my assistant to verify these statements by observing my on-screen performance as well as my body language. This makeshift experiment was designed to test the assumption made by some phenomenologists – most notably Maurice Merleau-Ponty, Dreyfus, and Aron Gurwitsch – as well as Heidegger himself, regarding the non-representational nature of learning and experience, namely the claim that knowledge is produced not through deliberate contemplation but simply through repetitive practice. I coded my findings in Table 11.1, with Roman numerals chronicling the individual interruption in each session, E connoting an eventful point in the narrative, and NE connoting a non-eventful point. My own

Table 11.1 Interruption of play and its correlation to narrative and duration of play

Session	Interruption/nature of play	Difficulty at resuming play
1	• I/NE	Minimal
	• II/E	Minimal
	• III/E	Medium
	• IV/E	Medium
	• V/NE	Maximal
2	• I/E	Minimal
	• II/NE	Minimal
	• III/NE	Minimal
	• IV/E	Medium
	• V/E	Medium
3	• I/NE	Minimal
	• II/NE	Medium
	• III/NE	Medium
	• IV/E	Maximal
	• V/E	Maximal
4	• I/E	Minimal
	• II/NE	Minimal
	• III/NE	Medium
	• IV/NE	Medium
	• V/E	Medium
5	• I/NE	Minimal
	• II/NE	Medium
	• III/E	Medium
	• IV/E	Maximal
	• V/E	Maximal

responses regarding difficulty at resuming play were measured in three increments: minimal, medium, and maximal.

As Table 11.1 shows, the eventfulness of the game's narrative had little effect on the ease with which I immersed myself back in the game, while the duration of play prior to the interruption had a significant effect. The longer I played, and the more immersed I was in the game, the more disruptive the interruption. Interruptions during uneventful lulls occurring well into the session were, for the most part, considerably more disruptive than interruptions during eventful moments occurring relatively shortly after I'd begun playing. The game's eventfulness, its narrative, its plot, seemed to matter very little; the amount of time invested in play was the only meaningful variable. Playing video games, then, was less like watching a movie and more like participating in an entrancing dance: the more one did it, the harder it was to stop.

The Gamer Persona

Thus far, we've seen what the video game player does as he plays the game; we have yet, however, to ask a more troubling question, namely who the player is when he takes on another pixilated, digital persona. A cautious step in that direction was taken by education expert James Paul Gee; in his chapter titled "Learning and Identity: What Does it Mean to Be A Half-Elf?"[13] He described his experience playing a character named Bead Bead in a role-playing game called "Arcanum." The play experience, he claimed, immediately constructs three distinct yet intertwined identities, which he called the virtual, the real, and the projective. In the first case, he wrote, "the stress is on the virtual character Bead Bead acting in the virtual world of Arcanum (though I am 'playing/developing' her)."[14] The second, respectively, stressed "the real-world character James Paul Gee playing Arcanum as a game in real time (though Bead Bead is the tool through which I operate the game)."[15] Finally, the third identity, labeled projective to connote both Gee's projecting of his values and desires into the virtual character of Bead Bead and his perception of Bead Bead as "one's own project in the making,"[16] emphasized "the interface between – the interactions between – the real-world person and the virtual character."[17] As is suggested by the title of her article, "Who Am We?" Sherry Turkle suggested a similar approach, speaking of a "multiple but integrated identity."[18]

Yet the aforementioned studies, conducted mainly by cognitive scientists with limited long-term experience in game playing, assumed identification and the construction of identity to be a cognitive process, in which the individual identities of player and character are actively dismantled, combined, and reassembled. Such an approach, however, ignored the previously discussed and seminal element of video games, namely their physicality: by assuming a purely cognitive process, Turkle, Gee et al. disregarded fundamental elements of video game design, history (born of reflex-sharpening devices commissioned by the military), and hardware (with physical interaction between player and machine an area of growing innovation, most notably in Nintendo's Wii console). Above all, however, the cognitivists ignored the dominance of the digits. This observation isn't mine alone: a 2006 comprehensive

survey of 420 professional gamers, namely individuals who earn a living playing in video game tournaments, demonstrated that when requested in an open-ended question to name the most positive and enjoyable elements of game play, participants named "improve reflexes," a purely physical notion, as one of the seven most attractive characteristics of the play experience.[19]

Let us, for a moment, pause and revisit what we know of the video game player thus far. He is immersed in the game, intertwined with it, as we've learned from Heidegger, to a non-distinguishable degree, becoming not a discerning viewer but a practitioner whose skills and functions in the game make him or her interchangeable with any other player who may pick up the game's controller. For the gamer, game play is a primarily physical experience. He cares little about narrative, and becomes absorbed simply by playing for long, uninterrupted stretches. One thread ties these elements together, and posits the game player as a truly new breed of media consumer: crudely put, during the duration of game play, the video game player lacks subjectivity.

A subject, as we've previously seen, can only become such, given distance, perspective, remove. The video game player lacks these elements by definition. He exists in an odd state of selfhood, experiencing the game's world as a pure state of Being, that is to say, Being released from all of its compromising anxieties. He experiences death repetitively, and yet needs to do nothing more to revive his character than press a button. Unlike the television watcher, the gamer doesn't think, analyze, or respond, but rather act. He is free, then, in the sense that he has no mental or moral responsibility.

Ironically, in the confining boundaries of the game, meticulously planned and written in code by the game's designers and programmers, the player, in shedding his or her subjectivity, in interacting with the game's world with mind as well as body, is able to disrupt reality and liberate himself, if only for a short while, of its yokes.

The essential video game experience is this basic disruption of reality – inevitable once the critical distance from reality has been removed and the gamer has lost his ability to order the world in his mind. At that point, the player, just as long as he is playing, can be said to enjoy a condition of pure being, unconfined and free, possessing, at one and the same time, of all the naïve charm of childhood and of all the destructive potential of chaos.

The Gaming Experience vs. Other Media (or: Gaming as Social Media)

It is now, therefore, easier to see in crisper detail the potential differences between the video game experience and virtually any other experience involving any given medium. Other media, be they what they may, reinforce, in a sense, Goethe's old dictum: "From yourself you cannot flee." Reading a newspaper, listening to the radio, watching television, surfing the web – all those require an organizing subject

who thinks (about what he is reading, hearing, seeing) and therefore is (a reader, listener, viewer). The opposite is true in the case of video games. There, players flee from themselves into, to use Heidegger's helpful term, an other-self, into something that is them (a player) and not them (a pixilated avatar on the screen) at the same time. The reader, or the viewer, makes sense of the world and the medium; the player allows the medium to make sense of him, that is, to enfold and orchestrate him while allowing him to preserve an illusion of freedom. It should, therefore, not come as any surprise that console makers, from the medium's prehistory onward, strove to equip their machines with network capabilities, and that online gaming services such as Xbox Live are becoming so popular. While the following proposition might strike some as counterintuitive, video games are, as a medium, infinitely more "mass" than television, radio, or newspapers, as their constituents, the players, are no longer discerning individual subjects but rather a collection of largely interchangeable beings who, having abandoned their selfhood for the aforementioned hybrid with their on-screen avatar, and focusing purely on the functionality of play, can more easily connect with other beings who are in a similar state.

On the one side of the spectrum emanating from this realization concerning the ontic nature of video games lies a great promise. It is not difficult to see how players, at least while in the game's world, might find it significantly easier to communicate with others like themselves; once the doors to the closet of subjectivity have been blown open, the being that lurks inside is free to roam the world and communicate with likeminded (or, perhaps, likebodied) beings. A sliver of this promise, I believe, is already apparent in such virtual communities as Second Life, which, according to recent reports, is currently home to approximately 15 million users.[20] The name, the subject of much derision from some critics, is befitting: Having grown up playing video games, Second Life's users – a large number of whom, according to Linden Labs, the company behind the enterprise, are young adults – have no trouble conceiving of a virtual existence represented by an on-screen avatar as, quite literally, a second life.

And since the beings living their second lives on Second Life are not steely subjects but rather decontextualized non-subjects who are accustomed to their unique condition, they have no problem letting their porous selves melt into those of others and vice versa. On Second Life, there are no competing interpretations, opposing viewpoints; there are no interpretations and viewpoints at all, at least not to the degree that they are concrete or meaningful. That, I believe, is why several attempts to organize political groups in the virtual world have failed; not because its inhabitants are, in real life, uncaring about such issues (as some commentators suggested), but rather because such associations are beyond the reach of the self/avatar hybrid, requiring, as they do, the one thing such a hybrid lacks: subjectivity.

And while political associations falter, more modest social interactions, as well as artistic endeavors, bloom. Second Life is populated, as even the briefest of visits is likely to affirm, with game-players and jokesters, with singers and filmmakers and artists, all interacting not under the contextual confines of the real world but in the considerably freer world of the avatars. There, films, for example, can be created without cameras or budget and presented to viewers who require no tickets;

as the burst in the popularity and production of machinima – or machine animation, a genre of animation created out of the computer-generated imagery of video games – clearly demonstrates, Second Life users wish not for an extension of the real world into the virtual one but rather for a purer environment in which code can be infinitely reshaped into any imaginable thing, from a short film to a complex game. Working with code, the filmmakers of Second Life needn't create their own representations of reality, as would real-life filmmakers, but rather reimagine the existing code – in the case of machinima, that of video games – in a slightly different way. The same is true of any interaction in Second Life: As all the world's inhabitants are avatars, and all avatars are code, all the world's inhabitants are, almost literally, one (or, on a punning note, ones and zeros).

Herein, however, lie the other, more nefarious implications of this unique state of being. Devoid of their subjectivity, the same beings that can create community can also serve as mindless masses. This too, is already, I believe, largely evident; the sharp increase in cyberbullying[21] – acts of harassment and slander committed, often anonymously, on social networking sites such as MySpace and Facebook – is a testament not only to the ontic qualities of the new medium – namely, the anonymity that they afford potential evildoers – but also, and, perhaps, predominantly, to the aforementioned condition of decontextualized, non-subjective existence. Cyberbullying, then, should be seen not as a deviation from the rules governing the real world, but rather as a normative behavior, one practiced and learned during hours upon hours of playing video games: it is not impossible – indeed, very likely – that cyberbullies are not, as they are currently presented, calculating subjects utilizing new technologies maliciously, but rather children who behave online as they've always behaved in virtual environments, that is to say with no concrete sense of agency and, therefore, no responsibility.

Taken a step further, this same logic can be translated even further, into implications occurring in the real world. Many deft commentators have noticed that a growing number of soldiers, when asked about their experiences under fire, reply that they found combat to be very similar to a video game. That is not at all an overextended metaphor, but rather a fairly concrete description. Like video games, combat, too, is a kinetic, haptic experience, bringing together mind and body, rapidly unfolding and leaving little room and no time for a discerning, curious, and analytic subject. And while video games cause no casualties, they might go a long way toward dulling the horror of the real: In providing an experience close, in its essence, to combat, and yet one from which pain and its consequences are wholly absent, video games could be said, perhaps, to have an overall detrimental effect. This, of course, is a much larger charge than I intend to prove here; I present it now merely as a subject for potential future research. But, if even remotely accurate, such an effect is imminently more influential than the mere correlation between playing and aggression that has been repeatedly suggested – and repeatedly debunked[22] – by earlier generations of researchers, and fundamentally more serious than the harmful effects that parents and legislators attribute, erroneously, to violent content. The effect suggested here is graver as it proposes the possibility that elements of the amoral, consequence-, and responsibility-free environment that constitutes video

games might seep into the real world and shape players' subjectivities even outside the confines of the game, with likely disastrous consequences. Again, I cannot explore this issue any further here.

The Implications of Video Games on the Media Industry

These two dichotomies – the utopian and the dystopian – are, of course, but extremes; many other scenarios are possible. Yet, those wishing to understand the potential implications of video games – be they corporate executives, parents, or communications scholars – would do well to concentrate not on the games as texts or as machines – and, respectively, not on the players before or after they take the game controller into hand – but rather on that elusive moment in which an individual becomes a player and loses his subjectivity, and on the consequences that such a transformation entails. Only by learning to inquire after the distinctive properties of the medium, and divorcing it from the deceptive similarity with that other visual medium, television, can we understand the dramatic implications that lie ahead. Most children realize it the first time they take a joystick into their hands; it's time for the rest of us to catch up.

Notes

1. For an instructive discussion of this point, see Mulhall, S. (2005) *Routledge philosophy guide to heidegger* (2nd ed., pp. 39–40) London: Routledge.
2. Ibid. (p. 98).
3. Mulhall, *Routledge philosophy guide to heidegger* (p. 53).
4. Heidegger, *Being and time* (p. 167).
5. Ibid. (p. 134).
6. In Heidegger, "The Age of the World Picture," p. 132.
7. Katz, E., & Liebes, T. (2002) The export of meaning: Cross-cultural readings of dallas. In Brooker, W. (Ed.), *The audience studies reader* (p. 289). London: Routledge.
8. Quoted in Dreyfus (1996) The Current Relevance of Merleau-Ponty's Phenomenology of Embodiment. In *The Electronic Journal of Analytic Philosophy*, 4.
9. Sudnow, D. (1983) *Pilgrim in the microworld* (p. 40) New York: Warner Books.
10. Ibid. (p. 45).
11. Ibid. (p. 47).
12. Ibid. (p. 48).
13. Gee, J. P. (2004) *What video games have to teach us about learning and literacy* (pp. 51–73). Hampshire, UK: Palgrave Macmillan.
14. Ibid. (p. 54).
15. Ibid. (p. 55).
16. Ibid.
17. Ibid.
18. Turkle, S. (1996, January) Who Am We? *Wired* 4(1). http://www.wired.com/wired/archive/4.01/turkle.html (Accessed on June 28, 2006).
19. Pedersen, J. B. (2006, May 16) Are Professional Gamers Different? Survey on Online Gaming. *Game Research*. http://game-research.com/index.php/reports/are-professional-gamers-different-survey-on-online-gaming. (Accessed on January 5, 2007).

20. See "Linden Lab company profile," http://www.crunchbase.com/company/secondlife. (Accessed June 23, 2009).
21. For more on the phenomenon, and the reactions of educators, parents and legislators, see Chaker, A. M. (2007, January 24) Schools Act to Short-Circuit Spread of 'Cyberbullying'. *Wall Street Journal*.
22. For the definitive study on this controversial matter, see Sherry, J. L. (2001) The Effects of Violent Video Games on Aggression: A Meta-Analysis. *Human Communication Research*, 27, pp. 409–431.

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