

Chapter 14

Public Television's Digital Future

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Key words: public television, digital television, public broadcasting, HDTV, multicasting, PBS, CPB, public interest, public service broadcasting, education, instructional television, digital conversion, digital television, digital technology, DTV, high definition television, data broadcasting, strategic planning, television

Abstract: This paper discusses the requirement for going digital and the promise of digital television. It highlights the funding pressures and programming challenges facing public television and explains how the digital conversion is exacerbating these difficulties. This paper focuses on how digital technology itself, more than any other challenge, presents a real threat to public television. It concludes that, in order for public television to tackle these and other issues, it must hearken back to some of the basic principles upon which it was founded.

1. INTRODUCTION

“Television’s role must be boldly stated and richly served. It might be called an expression of human destiny. It might be used to inspire and delight mankind, or to fulfill the mandate to know ourselves and the environment and the genius of our existence. It might stimulate self-criticism, dissatisfaction, curiosity and self-appreciation. It might set out to do all these things...by stimulating Americans of all ages to cross thresholds they have never dared to cross; to realize that they are better than they thought; that their minds and bodies, their lives and their universe are not wasting assets, but are sources of exhilaration. In

fulfilling such a role, [public] television must be satisfied with nothing short of first-rate thoughts, boundless energy, professional competence and the thrill of the chase.”

-- *Robert Saudek*¹

These words, written in 1966 by one of Public Television’s founders, aptly sum up the role that television – in particular Public Television² – could play in the digital world. As broadcasters face the enormous challenges thrust upon them by the transition from analog to digital broadcasting, the need to continually re-examine the potential impact of television becomes even more essential. For Public Television, the new digital technology provides an unprecedented opportunity to further define its vision and catapult its mission to an even higher realm.

Since its statutory birth in the era of the Great Society, Public Television has been facing a series of challenges, primarily in the areas of funding and programming. While many would agree that Public Television has had a fairly impressive record of dealing with these issues, the system is now facing perhaps the single most important challenge of all – the digital transition. Unlike prior challenges, including serious threats to “zero out” Public Television’s annual federal appropriations, digital television or DTV carries with it not only the potential for a major setback (or for some stations even the threat of failure), but, more importantly, enormous opportunities to expand its services both quantitatively and qualitatively. The digital transition is therefore not just an engineering issue, the replacement of old analog with new digital equipment. Nor, can Public Television simply carry on its business as usual, occasionally fending off threats to eliminate its funding or reacting to harsh, and sometimes unfair, criticisms of its programming content. At stake is nothing less than the future of Public Television.

To a large extent, Public Television does, of course, understand and appreciate the full import of the digital transition. That is why it was the first broadcaster to publicly articulate and pursue a strategy to deal with the conversion to digital television, positioning itself well ahead of its commercial counterparts. As noted by Joel Brinkley, for example, “while the nation’s commercial television networks ponder, equivocate and complain as they confront the impending transition to digital broadcasting, the Public Broadcasting System is plunging forward with a clearly articulated plan and obvious enthusiasm.”³

However, it cannot blindly blaze its way into the digital future without re-examining and reformulating some of the basic principles upon which it was founded. Digital television, with its enormous flexibility and almost limitless potential, can and should be used to fulfill the ambitious, though sometimes contradictory, vision of Public Television's founders.

While efforts are already underway within Public Television, changes will be needed in three important areas. First, a trust fund must be established to ensure that Public Television's funding remains adequate, permanent, and secure. Second, additional spectrum capacity, perhaps in the form of a second channel, is needed to promote and encourage the development of and experimentation with innovative programming. Third, Public Television must establish a neutral forum to study large policy issues, develop practical solutions to systemic problems, and coordinate station efforts to experiment with innovative ideas.

2. THE REQUIRED TRANSITION TO DIGITAL TELEVISION

On April 21, 1997, the Federal Communications Commission (FCC) issued its *Fifth Report and Order*, requiring that all television stations, both commercial and noncommercial, make the transition to digital television.⁴ All 1600 or so television stations across the country will have no choice but to go digital,⁵ and the penalty of failing to do so is the loss of the station's eligibility for a digital frequency.⁶

Under an aggressive timetable adopted by the FCC, commercial stations in the top 10 markets must begin broadcasting digitally by May 1, 1999, and those in markets 11 to 30 must do so by November 1, 1999.⁷ According to the FCC, building digital television facilities in the top 10 and 30 markets will cover 30 and 53 percent of the U.S. television households, respectively. All other commercial stations must have a digital signal on the air by May 1, 2002.⁸ Noncommercial stations, irrespective of the size of their markets, have until May 1, 2003 to begin digital broadcasting.⁹

In addition, the FCC established a target date of 2006 for the cessation of analog broadcasting.¹⁰ In other words, every broadcaster, both commercial and noncommercial, must turn off their analog transmission by this target end-date.¹¹ In setting such an aggressive termination date for the transition, the FCC wrote:

One of our overarching goals in this proceeding is the rapid establishment of successful digital broadcast services that will attract

viewers from analog to DTV technology, so that the analog spectrum can be recovered. Accomplishment of this goal requires that the NTSC service be shut down at the end of the transition period and that spectrum be surrendered to the Commission.¹²

In setting the ambitious timetable, the FCC gave Public Television stations the maximum amount of time to make the transition to digital television, or six years.¹³ The FCC wrote:

There is strong support in the record for giving noncommercial stations greater leeway in the construction of DTV facilities.[N]oncommercial stations need and warrant special relief to assist them in the transition. [While] there are some noncommercial stations at the forefront of DTV...we are convinced by the record that noncommercial stations, as a group, may have more difficulty with the transition to DTV than commercial stations."¹⁴

Although it was not fully articulated in the FCC's *Fifth Report and Order*, the record before the FCC did clearly demonstrate that Public Television faces unique funding problems in making the transition to digital. Unlike its commercial counterparts, which have access to the capital markets, public television stations must raise money using a traditional and inefficient system of federal, state, and local funding, corporate sponsorships, foundation grants, and individual giving. But before we discuss these and other challenges in detail, let us examine how digital television promises to offer Public Television immense opportunities to enhance its mission.

3. THE PROMISE OF DIGITAL TELEVISION

The transition from analog to digital television will give broadcasters tremendous flexibility to transmit programs in a rich variety of ways. Indeed, any type of information that can be digitized can be sent over the air. This includes a combination of video, audio, text, and data – all of which can be delivered as part of a dynamic mix of programming material in a wide range of formats. The flexibility of this technology makes digital television well suited for Public Television. The three key features of digital television – high definition television or HDTV, multicasting, and data transmission – will present many opportunities for Public Television to further its educational and public service mission.

With its crystal clear pictures, wide aspect ratio, and CD-quality, surround sound, HDTV would enhance the educational and cultural content

of many of Public Television's most well known genres: music and performing arts; drama and theatre; science and nature; and travel and exploration. For example, the greater clarity of HDTV could exhibit microscopic details of plants, insects, and distant universes in ways that are not possible with today's analog television. Likewise, the digital audio system could better reproduce the sublime beauty of symphonic pieces and operatic arias.

Not all public television programs should or need to be broadcast in high definition. When programs are not being broadcast in high definition, digital television would allow each station to transmit not just one, but four or more standard definition programs at the same time. This capability to "multicast" more than one program holds enormous promises for Public Television. Unlike its commercial counterparts, Public Television's business does not depend chiefly on the size of the audience watching a particular program. Like a public library or a museum, public television stations are more interested in serving diverse niche audiences – offering something for everyone. With multicasting, Public Television could multiply its educational content, enhance its diversity of services, and better serve audiences whose needs and interests are unserved or underserved at present by commercial and public media.

Whether Public Television is transmitting HDTV or multicasting standard definition programs, digital technology allows text or data to be broadcast over the air. Using left over or "opportunistic" bandwidth, broadcasting stations would be able to use the airwaves to deliver information directly to a computer or a television receiver. This could be done at extremely high speeds, much more quickly than today's fastest modems. For example, a station could easily transmit all the information on a floppy disk in one second.

The ability to transmit computer data or information over the air provides a powerful tool for Public Television to expand its educational mission. For example, a public television station could deliver written materials that are related to its video programming. Or, it could transmit course-related materials, such as teacher and student guides, as part of its instructional programming. But even more compelling, digital television would make it possible to transmit selected content from the Internet or the World Wide Web over the airwaves, without the need for a telephone line or an access provider. This might, over time, blur the line between the Internet and over-the-air broadcast television. More important, Public Television could provide universal access to educational content on the Web thus helping to connect every classroom and library to the Internet.

With the advent of digital television, technology would finally catch up to the richness of Public Television's enormous content capabilities and could be used to enhance it.

4. THE CHALLENGE OF DIGITAL TELEVISION

Behind the opportunities afforded by digital television are many challenges that Public Television will need to meet. This section will focus on the two most important challenges: funding and programming. While Public Television has had to grapple with these issues for many years, the advent of digital television makes these already problematic issues all the more difficult to confront.

4.1 Funding Difficulties

Since its creation, Public Television has faced enormous financial difficulties. Because of the importance of federal appropriations in the mix of revenues, funding for Public Television has been subject to the uncertainties of the political process. For example, in 1972, President Richard Nixon vetoed Congress's appropriations bill, which had authorized increased funding for Public Television for fiscal years 1973 and 1974, even though the bill had passed both houses of Congress by a wide margin. Nixon was wholly convinced that Public Television had an "obvious liberal bias" in programming that was unduly critical of his administration.¹⁵ Not too long ago, Speaker of the House Newt Gingrich, asserting that Public Television was run by liberal elitists, pledged to "zero out" CPB's annual federal appropriations. Around the same time, Senator Larry Pressler (R-South Dakota) threatened to "privatize" Public Television. Echoing the sentiment of Senator Bob Dole (R-Kansas), Pressler believed that Public Television should become more entrepreneurial and end its reliance on public funding. Pressler cited the "billion dollars" that Barney, a popular Public Television children's program with numerous product "spin-offs," had allegedly made that year – an allegation, while exaggerated, nevertheless gained much unwanted publicity and became known as "Barney-gate." Recently, House Budget Chairman John Kasich (R-Ohio) sought also to eliminate federal funding for Public Television. Although Public Television managed to survive each of these crises, funding pressures will likely persist so long as it continues to rely on the federal appropriations process for a portion of its revenues.

In order to help alleviate some of these financial pressures, Public Television is seeking to gain more financial independence. Perhaps in direct

response to Barney-gate, Public Television has sought to become more entrepreneurial through strategic alliances with outside entities and merchandising, such as the sale of home videos. In his speech at the 1998 PBS Annual Meeting, PBS's President and Chief Executive Officer, Ervin Duggan, reported to the member stations that PBS was able to earn approximately \$24 million in revenues for fiscal year 1998 (as compared to approximately \$17 million in fiscal year 1997). These revenues, Duggan proudly told the membership, have resulted in a substantial return on the member stations' "investment" in PBS's national programming under the "station equity model" unveiled several years earlier. In addition, Duggan announced that the new "PBS Sponsorship Group" – a cooperative group of several local producing stations formed in 1997 – brought in approximately \$26 million in corporate underwriting.

These and other financial successes, which deserve the accolade of Public Television supporters, have resulted in a political and ideological backlash, however. "They look at programming with an eye toward how much money it's going to make them instead of serving the noncommercial audience," cries Gigi Sohn of the Media Access Project.¹⁶ Congressman W.J. "Billy" Tauzin (R-Louisiana.) has repeatedly criticized Public Television for being too commercialized. In the past, for example, only the name of the corporate sponsor was mentioned in the underwriting credits. Subsequently, the inclusion of the sponsor's logo, and, in some cases, its tag line, became acceptable. Recently, some stations have experimented further by including pictures and videos of the sponsor's products. What the FCC has allowed under the umbrella of "enhanced underwriting" is nothing more than commercials, plain and simple, many critics charge. Said Congressman Tauzin, "In recent years, the line that separates public from commercial broadcasters has become increasingly fuzzy. Commercial TV stations are being forced to accept more and more public service obligations, and public TV stations are relying more and more on public contributions, which resemble paid commercials."¹⁷

Caught between congressional pressure to become more financially independent on the one hand and the traditionalist desire to remain noncommercial on the other, Public Television's actions (perhaps understandably so) can seem confusing and somewhat schizophrenic. Admits Duggan candidly, "I have difficulty deciding which set of coaches to listen to."¹⁸

Funding pressures on Public Television, and the resultant tension between financial independence and maintaining its noncommercial status, will only increase with the advent of digital television. Based on a study conducted in 1997, Public Television will need at least \$1.7 billion just to

meet the FCC's requirement to broadcast digitally. This figure does not include the increased costs associated with program acquisition and production in a digital environment, such as capturing programs in HDTV, increasing the number of standard definition programs needed to fill the extra channel capacity, and integrating data with video programming to enrich its educational content.

In September 1997, Public Television petitioned the Office of Management and Budget for the federal government to underwrite \$771 million or approximately 45% of the \$1.7 billion conversion costs over a three year period,¹⁹ but the Clinton Administration included in its budget recommendation to Congress only \$450 million over a five year period.²⁰ As of this writing, Congressman Tauzin introduced legislation that would give Public Television \$475 million over a five year period.²¹

Whatever the final amount that is appropriated by Congress (assuming some amount is approved), public television stations will need to raise the vast majority of the digital conversion costs through other means. This means that Public Television will be under even more pressure to be more entrepreneurial or creative in its fundraising for digital television.²² For example, in order to finance the additional services made possible by multicasting, as well to help pay for the cost of making the transition to digital technology, "PBS and its member stations are considering ways to generate some revenue from part of their digital spectrum."²³

How far Public Television can go in using the digital spectrum for revenue-generating purposes – and what the actual revenue potential of that spectrum will prove to be – will be subject to much debate. While some advocates believe that Public Television should be allowed to engage in revenue generation, others, such as the Media Access Project, object to Public Television's money making activities. This issue may be resolved in two separate, but related developments. First, sensing that Public Television may further stray from its pure noncommercial roots, Congressman Tauzin's Public Television reform bill proposes to study, among other things, how the goals of Public Television can be carried out by "enhancing the noncommercial mission of public television and radio."²⁴ Separately, the FCC will hold a special rule making proceeding to consider whether and to what extent Public Television may engage in "ancillary and supplementary uses" of the digital spectrum that generate revenue without jeopardizing its noncommercial status.

4.2 Programming Challenges

Consistent with its mission of education and public service, Public Television has sought to distinguish itself from its commercial counterparts

by providing high quality, noncommercial programming to enrich the lives of all Americans. Its wide array of award winning programs cover a diverse range of topics in science, nature, arts, humanities, drama, politics, and economics, to name a few. Every year, Public Television garners an impressive record of programming awards – from George Foster Peabody Awards to Daytime Emmys for its children's programming. In short, Public Television seeks to educate the mind, touch the heart, and nurture the spirit.

But more than just over-the-air programming, PBS and its member stations have been harnessing the forces of new technologies to better serve the public interest. From closed captioning for the deaf and hearing-impaired to descriptive video services for the blind and visually-impaired, Public Television has provided technological leadership to ensure that every American has access to its educational content. Every day, Public Television delivers lifelong learning to urban and rural communities across the country. These lifelong learning opportunities include preschool "ready-to-learn" services, K-12 content, high school and community college degree programs, and teacher professional development. And, with the recent explosion of the Internet, Public Television's national and local online services have provided a rich array of Web content to enhance the quality of its video programming.

While there is much cause for celebrating Public Television's successes, Public Television's programming is no longer unique. Once almost the exclusive province of Public Television, programs devoted to education and public service are also being provided by its commercial counterparts on cable television. Cable channels, such as Arts & Entertainment (A&E), Discovery, and The Learning Channel, which also program to niche audiences, compete directly against Public Television by offering similar program genres.

These competing channels, known somewhat egocentrically in Public Television as "cable look-alike channels," appear to be gaining audience preferences.²⁵ For example, in the first quarter of 1994 (1Q '94), the combined Nielsen prime time ratings for A&E, Discovery, and The Learning Channel totaled 1.5, as compared to 2.3 for PBS.²⁶ However, by the first quarter of 1998 (1Q '98), these three cable channels garnered a combined Nielsen rating of 2.4, while PBS's rating dropped to 2.0.²⁷ With the recent addition of new cable channels, such as Bravo, Food, Home and Garden (HGTV), and the History Channel, the comparison in the first quarter of 1998 is 3.1 for cable and 2.0 for PBS.²⁸ A similar story holds true during the daytime viewing hours for children's programming from 1Q '94 to 1Q '98, as Nickelodeon's rating increased from 0.6 to 1.3, while PBS's ratings

slipped from 1.2 to 1.1.²⁹ As author James Ledbetter put it, “cable’s growth has robbed Public Television of one of its most powerful rationales.”³⁰

Even the supposed noncommercial nature of Public Television is being threatened with the launch of Noggin. A new educational cable channel for children co-sponsored by Children’s Television Workshop (CTW) and Nickelodeon, Noggin promises to be commercial-free.³¹ Noggin will compete head-to-head with Public Television’s niche market of providing noncommercial, educational programming for children – arguably its last remaining hallmark. As Robert G. Ottenhoff, PBS’s Executive Vice President and Chief Operating Officer, readily admits, “PBS and our member stations can no longer differentiate ourselves by the uniqueness of the program genres we offer.”³²

The proliferation of alternative channels of distribution has resulted in the ever-increasing defection of producers.³³ For many years, PBS consistently required that producers agree to an exclusivity provision that prohibits the exhibition of PBS programs on any other distribution medium. However, some of the larger program suppliers are now balking at the exclusivity provision. For example, Public Television’s longstanding stronghold over British dramas, documentaries, and comedies (whose appropriateness for Public Television may be subject to debate) may be undermined by the partnership between the BBC television network and The Discovery Channel to launch BBC America. Further, although CTW is still committed to providing first-run episodes of *Sesame Street* to PBS (at least for the immediate future), the rights to the entire CTW library, including 3,000 hours of past *Sesame Street* episodes, have already been sold to Nickelodeon as part of the launch of Noggin.³⁴

According to Ottenhoff, PBS is finding it more and more difficult to maintain its exclusivity requirement primarily because of financial reasons. PBS has far more control over programs that it funds in whole or in part. PBS has far less leverage over programs that are fully underwritten by third parties, such as *This Old House*. Similarly, high-end productions for which Public Television pays only a fraction of the original production costs, are especially vulnerable to migration to cable channels and other distribution outlets. Finally, increasing federal and regulatory pressures on commercial broadcasters to provide public interest programming, such as the three-hour children’s programming rule, create competition for PBS-type programs.³⁵

The rising abundance of competitive channels of distribution and the resultant defection of program suppliers will likely get worse with the advent of digital television. As discussed above, the requirement to convert to digital television will put an even greater strain on Public Television’s already meager financial resources, making it more likely that new digital programming will be fully funded by third parties. Additionally, HDTV

programs are generally high-end, costly productions. This will especially be true in the early years if marketplace demand for HDTV programs develops more quickly than current projections; the supply of available programs will be scarce, the availability of HDTV production and post-editing facilities limited, and the pool of HDTV producers small. In order for Public Television to have a full evening schedule of HDTV programming, additional funding will be needed from outside sources, making it more likely that Public Television's HDTV programs will migrate elsewhere.

Additionally, with multicasting – the ability to send four or more standard definition programs at the same time – over-the-air broadcasting is poised to become a multichannel universe, resulting in a greater emphasis on niche programming and the larger growth of “look-alike” channels. With more alternative outlets, the problem of producer defection will be exacerbated, particularly if such outlets are controlled by commercial organizations with deep pockets.

Finally, the demand for public interest programming will likely increase in the digital world. In 1997, Vice President Al Gore appointed a blue-ribbon commission, the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters (Gore Committee), to consider the public service obligations of broadcasters in the digital age.³⁶ In particular, Vice President Gore asked the committee to consider what the broadcasters' obligations should be in such areas as children's programming, free air time for political candidates, public service announcements, closed captioning, and video description. It is reasonable to expect that any recommendations by the Gore Committee will likely increase the demand for public interest programming, thereby intensifying the competition for PBS-like programming.

In short, the transition to digital television will likely increase the challenge to Public Television's more traditional programming fare.³⁷ But, there is an even greater threat, one that will challenge Public Television on less traditional grounds: the digital technology itself.

5. THE THREAT OF THE DIGITAL REVOLUTION ITSELF

Perhaps the greatest challenge posed by digital television is the digital revolution itself. This rather obvious fact is sometimes overlooked as a threat, because of the many benefits digital technology offers over-the-air broadcasting. For example, unlike today's analog system, the digital signal is not subject to degradation (e.g., ghosts or snowy effects) as it travels over

the air from the television station to the home. Moreover, digital television is accelerating the inevitable convergence of broadcast television and personal computing. Personal computers already have tuner cards that allow the reception of over-the-air broadcasts. Likewise, in order to handle all of the information that will be transmitted over the air digitally, receivers will become “smart” television sets. The emergence of these new devices – be they called PC-TVs, TV-PCs, or some other term – will, as discussed above, give rise to new opportunities for broadcasters to transmit over the airwaves a richer and more dynamic mix of video, audio, text, and data than is possible today.

Digitization, however, also presents a major threat to broadcasters. Specifically, the digital revolution is allowing the cannibalization of new markets by existing competitors and the sudden rise of new players. Indeed, as the FCC noted quite correctly in its *Fifth Report and Order*, unless digital broadcasting television is rolled out expeditiously, “other digital services may achieve levels of penetration that could preclude the success of over-the-air, digital television.”³⁸ The Internet and direct satellite services (DSS) are already digital. As broadcasters are grappling with the transition to digital television, cable systems around the country are also converting to digital technology, which promises to offer higher picture quality, greater number of channels, and Internet access via cable modems.³⁹ And, telephone companies have been trying to deploy digital subscriber lines for a relatively long time.

As the world of telecommunications continues to go digital, the advantages offered by digital television for over-the-air broadcasting may begin to dissipate. For example, not too long ago, broadcaster’s ability to deliver high definition television was seen as a way to “leapfrog” the competition. By offering HDTV programs in wide-screen, crystal clear pictures and CD-quality, AC-3 surround sound, broadcasters could surpass the higher picture and sound quality offered by DSS today. However with some cable channels, such as HBO and The Discovery Channel, and DSS providers, such as DirecTV, pledging also to provide HDTV programs, the added advantages of digital television’s greater picture clarity are beginning to fade.

Similarly, by using WebTV as a model and integrating World Wide Web content with video programs, broadcasters could provide a far more enriching and entertaining viewing experience than today’s analog television. But cable systems have a technological advantage over broadcasters in high-speed and two-way communications, and an increasing number of systems will be offering high-speed digital cable modem services that combine the delivery of voice, data, and text with traditional cable television programming. In response to cable’s intrusion into what had been

traditionally their province, local phone companies are planning to offer a package of video and data services via “variable digital subscriber lines,” or VDSL. For example, one telephone company has announced plans to provide approximately 120 television channels, 40 music channels, and Internet access for rates “comparable to monthly cable fees.”⁴⁰ With other players seeking to combine video programs with Internet access, it may not be too long before over-the-air broadcast will need to play catch-up with these other delivery media.

Even the Internet itself is threatening to become a direct competitor of the broadcasting medium for the delivery of broadcast quality video pictures. We have already witnessed how the recent explosion of the Internet has already empowered ordinary individuals with the capability of disseminating information throughout the world. All one needs these days is a PC and some Web authoring software, and one can instantly become a “publisher.” With the rapid development of audio and video streaming over the Internet, virtually anyone can become a radio or television “broadcaster.” And, unlike traditional over-the-air broadcasting, sending audio or video programs over the Internet is not limited by physical or political boundaries.

In their book, *Unleashing the Killer Application: Digital Strategies for Market Dominance*, authors Larry Downes and Chunka Mui argue quite persuasively that three principles explain why the digital revolution has become such a disruptive force.⁴¹ First, under the often cited Moore's Law – named after the cofounder of Intel, Gordon Moore – processing power will continue to become faster, cheaper, and smaller. Second, the lesser known “Metcalf's Law” – attributed to Robert Metcalfe, founder of 3Com Corporation – restates the rather obvious principle that the more people who use an application, participate in a network, or utilize a technical standard, the more valuable it becomes. This in turn will increase the likelihood that such applications, networks, or standards will continue to be used and adopted by new users, creating new communities of interests. Third, the combination of these two forces in turn gives rise to the “Law of Disruption,” which states that the rapid development and deployment of “killer applications,” once a critical mass is reached, will create massive disruptions in social, political, and economic systems.

Digitization spurs on already potent trends toward rapid deregulation of industries and globalization of markets, creating a powerful trio of new forces that overpower the traditional competitive threats that a generation of senior executives, managers, and strategists have been trained to follow.... Killer apps are examples of the Law of Disruption in action, a use of technology whose novelty turns the tables on some previously

stable understanding of how things work or work best. In business, killer apps undermine customer relationships, distribution networks, competitive behavior, and economies of size and scale. Killer apps create global competitors where only local players previously mattered. They give customers, suppliers, and new entrants power, upsetting the careful cultivation of competitive advantages that were themselves based on technology, technology that is now suddenly obsolete.⁴²

Furthermore, Downes and Mui observe that the digital revolution is lowering traditional barriers to entry and allowing new players to enter the marketplace, further disrupting the established order. The new digital technology has allowed information to flow so freely that transaction costs in the marketplace have been reduced dramatically. As transaction costs approach zero and the economy becomes almost frictionless, traditional “bricks and mortar” organizations are “blown to bits,” giving way to digital, virtual organizations. Using digital technology, these virtual organizations have no need to raise capital for permanent office structures or full-time employees – fixed assets that traditionally require large start-up capital.

The foregoing observations have important implications for Public Television. While Public Television may have many weaknesses and challenges, its strengths are also considerable. In their book *Down the Tube: An Inside Account of the Failure of American Television*, WNET president Bill Baker and professor George Dessart list Public Television’s strengths to include the demographic breadth of its audience, the extensive reach of its signal, its impressive roster of loyal subscribers, and its close ties to the community.⁴³ For example, over eighty percent of all television households, representing a true cross-section of America, watch Public Television in any given month. The proliferation of alternative channels and cable look-alikes notwithstanding, Public Television has garnered an impressive volume of dedicated users, and, under Metcalfe’s Law, attained a high level of value and loyalty. Despite Baker’s and Dessart’s accurate characterization of Public Television’s origins as an “unfunded afterthought,”⁴⁴ Public Television has, over many years of toil, become an institution with a deeply-rooted infrastructure and an intricate web of supporters within the established order.

Suppose, however, that the digital revolution were to sufficiently lower the barriers of entry to allow new entrants to replicate Public Television’s audience diversity, signal coverage, subscriber loyalty, and community ties. And, suppose further that such new players required little or no “fixed assets,” needed only a small amount of start-up capital, operated as a virtual organization, and could act nimbly in response to (and even lead) the lightning speed mutations and changing permutations that are occurring in

the digital world every day. Finally, suppose such players could easily adapt itself to any type digital delivery medium. While this may appear to be an extreme case for the moment, such an organization, if it did exist, could quickly threaten to replace Public Television as a distributor of educational and public interest programming in the digital world.

One needs only to study the breathtakingly rapid rise of *Amazon.com* to realize the plausibility of the foregoing scenario. In just three years, *Amazon.com* has achieved an impressive level of name recognition and brand loyalty and has forever changed the landscape of the book retailing business. As one article that appeared on the front page of *The Washington Post* observed: "Since Amazon is virtual, it doesn't have many of the fixed costs for real estate and employees that real-world bookstores do. It also takes advantage of its medium to allow its customers to post their own book reviews online – which costs nothing, yet bonds its readers into a community."⁴⁵ What would happen to Public Television as an institution if the equivalent of an *Amazon.com* were to invade public service broadcasting?

6. POSITIONING PUBLIC TELEVISION FOR THE DIGITAL FUTURE

As Public Television seeks to fulfill the FCC's requirement to go digital and realize the promise of digital television, it must confront some of the major funding, programming, and digital challenges discussed above. How can Public Television obtain sufficient funds for the digital age while maintaining its noncommercial character? Will Public Television be able to sustain the quality of its programming in a world of escalating production costs, increasing distribution channels, and migrating program suppliers? What changes will need to be instituted in order to minimize the threat that the digital revolution could make Public Television irrelevant or insignificant?

To help answer these and other thorny questions, Public Television needs to hearken back to some of the basic principles upon which it was founded. In 1967, the Carnegie Commission on Educational Television, known generally as the "First Carnegie Commission," issued a seminal report,⁴⁶ which ultimately led to the establishment of the current system of public television stations. When the First Carnegie Commission was convened, there were already a number of educational television stations owned and operated by nonprofit entities all across the United States. What the First Carnegie Commission concluded was that "a well-financed and well-

directed educational television system, substantially larger and far more pervasive and effective than that which now exists in the United States, must be brought into being if the full needs of the American public are to be served."⁴⁷ While the report contained a number of recommendations, this paper will focus on three key principles that seem to be most germane to the digital transition issues discussed.

First, the founders of Public Television envisioned a national system of public television stations that is financially independent and free from any governmental involvement or control. Second, they sought to create a forum that allowed for artistic freedom and diversity in programming, particularly in the areas of local programming and production. Third, implicit in their call for independence and freedom, the founders challenged the public television system to continually search for and experiment with innovative ways to serve the public interest. In the words of the First Carnegie Commission:

If we were to sum up our proposal with all the brevity at our command, we would say that what we recommend is freedom. We seek freedom from the constraints, however necessary in their context, of commercial television. We seek for educational television freedom from the pressures of inadequate funds. We seek for the artist, the technician, the journalist, the scholar, and the public servant freedom to create, freedom to innovate, freedom to be heard in this most far-reaching medium. We seek for the citizen freedom to view, to see programs that the present system, by its incompleteness, denies him.⁴⁸

In order to help bring these principles into greater focus and better position Public Television for the digital era, this paper recommends the following actions:

1. Establish a trust fund to ensure that Public Television's funding remains adequate, permanent, and secure.
2. Allow Public Television to retain a second channel to provide additional outlets for enhanced services to the local communities.
3. Create a neutral forum to promote and encourage the incubation of innovative ideas, such as a think tank to conduct in-depth studies of major policy issues affecting Public Television, coordinate project teams, and encourage station innovation at the national, regional, and local levels.

6.1 Establishing a Trust Fund

In recommending the establishment of Public Television, the founders envisioned a system that is financially independent, adequate, and secure. For the Commission, such independence meant not only providing Public Television with a permanent source of funding, but also establishing a mechanism to ensure that it is free from governmental control and involvement. The First Carnegie Commission saw, quite perceptively, the critical importance of addressing the manner in which federal funds flow into and are disbursed throughout the system. It therefore made two separate but related recommendations. Only one of those recommendations was ultimately adopted by Congress, however.

First, the Commission suggested that Congress establish a federally chartered, nonprofit, nongovernmental organization to receive and disburse governmental and private funds to the public television stations. Such an organization, which subsequently became known as the Corporation for Public Broadcasting (CPB), would act as the buffer between the various sources of Public Television's funding (particularly the federal government), and the local stations, which would be responsible for the editorial content and integrity of Public Television's programming.⁴⁹

Second, closely tied to the notion of a disbursing agency was the establishment of a trust fund. The First Carnegie Commission recognized that the federal appropriations process was "not consonant with the degree of independence essential to Public Television."⁵⁰ In words that now seem prescient, the Commission underscored the rationale behind the importance of a trust fund.

We wish to repeat our reasons for invoking this mechanism. The combination of a private, nongovernmental corporate structure and a federally financed trust fund permits the Corporation to be free of governmental procedural and administrative regulations that are incompatible with its purposes, and to avoid the overseeing of its day-to-day operations that would be a natural consequence of annual budgeting and appropriations procedures. The Corporation and the trust fund are jointly essential to the insulation of Public Television from the dangers of political control.⁵¹

Not wanting to give up control over its own creation, Congress did not adopt the First Carnegie Commission's second proposal. Since then, Public Television has repeatedly tried to resurrect the notion of a trust fund. For example, during the funding crisis with Newt Gringrich, Public Television published a white paper recommending a three-part plan that included the

establishment of a trust fund “to put public broadcasting on the road to self-sufficiency.”⁵² The plan proposed reducing federal appropriations in direct proportion to any income produced by the trust fund. Recently, CPB, PBS, and APTS submitted a joint position paper requesting that the Gore Commission recommend that “Congress establish and adequately capitalize a permanent trust fund for digital educational programming and services provided by public broadcasting.”⁵³

The idea of a trust fund has gained acceptance and support from parties outside of Public Television. For example, Gigi Sohn, a member of the Gore Commission and the Executive Director of the Media Access Project (MAP), has proposed the creation of a “special endowment” to fund noncommercial telecommunications entities, noncommercial producers, and public broadcasters.⁵⁴ As of this writing, it appears that the Gore Commission will likely recommend that public broadcasting be the beneficiary of a trust fund.⁵⁵ And, as part of the effort to reform Public Television, Congressman Tauzin has proposed the further study of a trust fund as a way to replace federal appropriations for Public Television.

The more interesting, but politically difficult issue is how the trust fund will be capitalized. The First Carnegie Commission had recommended that a 2% to 5% manufacturer’s excise tax be levied on all television sets,⁵⁶ but, along with the trust fund concept, this recommendation was not accepted by Congress. The need to find sources of capital to fund the trust fund is all the more critical with the impending transition to digital television. Public Television has suggested that at least \$5 billion in principal will be needed for the digital conversion and “to provide the seed money for public broadcasters’ new digital programs and services.”⁵⁷ Potential sources of revenue could include the following:

- Proceeds from the auction of spectrum returned at the end of the digital transition;
- Compensation from commercial broadcasters opting to pay Public Television to fulfill part of their public interest obligations;
- Fees assessed upon revenues derived from commercial broadcasters’ ancillary and supplementary digital services;
- Transfer fees levied on the sale of commercial broadcast licenses;
- Proceeds from the sale or lease of noncommercial vacant allotments that are currently reserved or to be reinstated at the end of the digital transition; and
- Private contributions, including those stimulated by proposed changes in tax incentives, such as a special charitable contribution credit, as opposed to a deduction.⁵⁸

Recognizing that these potential revenue sources may not be sufficient to capitalize the trust fund, MAP has also suggested an annual fee be levied on

commercial broadcasters. Specifically, MAP proposed that, in return for the ability to opt out of their public interest obligations, commercial broadcasters be required to pay 1% of their gross yearly revenues into the Public Broadcasting trust fund. MAP further recommended that an additional 1% of the sales price of all broadcast stations also be used to for public broadcasting's endowment. Based on 1996 gross revenues and station sales cited by MAP, such a proposal would yield approximately \$880 million per annum.⁵⁹

While the proposal to impose a conditional fee on commercial broadcasters is a step in the right direction, some may argue that singling out commercial broadcasters would be inequitable. Certainly, under the MAP proposal, commercial broadcasters could avoid the imposition of such a fee by fulfilling any additional public interest obligations. Nevertheless, given the fact that the line between broadcasting and other delivery media is becoming increasingly blurred, as discussed above, commercial broadcasters could legitimately question why such a fee should not also be imposed on other providers, such as cable, DSS, telephony, etc. In other words, if the digital revolution is allowing new players to compete directly with over-the-air broadcasting, and in some cases directly with public broadcasting, why not spread the Public Television funding costs to these other competitors as well?

One possibility is to impose a fee on the mergers and acquisitions that have been taking place in the telecommunications industry at a dizzying pace. In the vast majority of cases, consolidation in the industry is not only allowing new entrants into the market, but also creating shareholder wealth and value. For example, the recently approved merger of MCI and WorldCom alone is valued at more than \$37 billion, while AT&T announced plans to acquire TCI for \$31.8 billion.⁶⁰ Imposing, say, a 1% fee on these mergers and acquisitions would do little to discourage them from going forward, as such a fee would quickly be absorbed into the cost of doing business.

6.2 Retaining A Second Channel

The founders of Public Television sought to create a comprehensive system of noncommercial stations that "in its totality will become a new and fundamental institution in American culture."⁶¹ The First Carnegie Commission believed that Public Television held the promise of enriching the lives of the American public in all its diversity through the medium of television. In the Commission's words:

The utilization of a great technology for great purposes, the appeal to excellence in the service of diversity – these finally became the concepts that gave shape to the work of the Commission. In the deepest sense, these are the objectives of our recommendations.⁶²

First of all, the First Carnegie Commission recognized what is now an obvious proposition: that television can be both a source of entertainment and an instrument of education. The founders insightfully saw the power of combining these two seemingly polar opposites into one medium. As the First Carnegie Commission stated in its 1967 report:

All television, commercial television included, provides news, entertainment, and instruction; all television teaches about places, people, animals, politics, crime, science. Yet the differences are clear. *Commercial television* seeks to capture large audiences; it relies mainly upon the desire to relax and to be entertained. *Instructional television* lies at the opposite end of the scale; it calls upon the instinct to work, build, learn, and improve, and asks the viewer to take on responsibilities in return for a later reward. *Public television* to which the Commission has devoted its major attention, includes all that is of human interest and importance which is not at the moment appropriate or available for support by advertising, and which is not arranged for formal instruction.⁶³

More important, this new hybrid institution “should be a mirror of the American style”⁶⁴ and “help us see America whole, in all its diversity.”⁶⁵

America is geographically diverse, ethnically diverse, widely diverse in its interests. American society has been proud to be open and pluralistic, repeatedly enriched by the tides of immigration and the flow of social thought. Our varying regions, our varying religious and national and racial groups, our varying needs and social and intellectual interests are the fabric of the American tradition.⁶⁶

Yet, like the pluralistic republic that it was designed to serve, Public Television’s broad and ambitious mandate in many respects can seem confusing and somewhat contradictory. For example, public television stations “should be individually responsive to the needs of the local communities and collectively strong enough to meet the needs of a national audience.”⁶⁷ Public Television “should serve more fully both the mass audience and the many separate audiences that constitute in their aggregate our American society.”⁶⁸ Its programming should “increase our understanding of the world, of other nations and cultures, of the whole commonwealth of man,”⁶⁹ while at the same time “deepen a sense of community in local life.”⁷⁰ Its public affairs programs should “call upon the intellectual resources of the nation to give perspective and depth to interpretation of news,”⁷¹ while providing “a voice for groups in the community that may otherwise be unheard.”⁷² And, its cultural fare “should

remind us of our heritage and enliven our traditions,"⁷³ while allowing room for experimentation and "the means to be daring, to break away from narrow convention, to be human and earthy."⁷⁴

To a certain extent, such a broad and at times contradictory mandate may be at the root of some of the system's political struggles and internal conflicts, particularly between the local stations and the national organizations. One of the biggest areas of potential disagreement is in operations. Under no uncertain terms, the First Carnegie Commission stated that "[t]he local stations must be the bedrock upon which Public Television is erected, and the instruments to which all its activities are referred."⁷⁵ Public Television "is dependent for its well-being upon an identification with the community it serves. It must look for leadership to those who are leaders in the community."⁷⁶ Yet, in proposing what is now the Corporation for Public Broadcasting, the First Carnegie Commission said that "[t]he Corporation should become, upon appointment of its board of directors and recruitment of its staff, the center of leadership for Public Television."⁷⁷ The Corporation must strike a delicate balance between "serv[ing] to weld Public Television into a seamless whole in all those aspects of its operation where it must be looked upon as a national institution, while yet leaving to the local stations their own individual autonomies in respect to their operations."⁷⁸

One possible way to help resolve some of these conflicting objectives is to provide Public Television with additional channel capacity. Compared to the myriad programming possibilities and the breadth of its mission, there simply are not enough hours in the day to serve all of Public Television's constituencies. Although digital television, as discussed, will allow Public Television to multicast four or more programs simultaneously, Public Television will need far more channel capacity to fully realize the original vision of its founders. Although by no means a panacea, providing additional capacity could go a long way to help resolve some of the issues related to its uncertain and conflicting mandate.

Accordingly, Public Television should be allowed to retain its second channel after the transition to digital television. Currently, every television station has one 6 megahertz channel in which to broadcast its analog signal. Under the FCC's digital conversion plan, each station is being lent a second channel and is required to transmit both an analog and a digital signal during the transition period. The rationale for this scheme is to ensure a smooth and orderly transition to digital television without causing more than 250 million analog television sets to become obsolete overnight. At the end of the transition, which as discussed above is currently targeted for year 2006, the broadcasting stations will be required to return one of the two channels to the FCC for auction. Once the transition to digital television is complete,

each broadcaster will end up with precisely what it began with: a single 6 megahertz channel.

The concept of allowing Public Television to retain its second channel was first discussed at the January 1998 meeting of the Gore Committee.⁷⁹ Subsequently, two of the Gore Committee's members submitted formal proposals advocating the retention of a second channel by noncommercial stations. While there were some differences between the two proposals, both recognized that Public Television's retention of a second channel will further the Gore Committee's goal of increasing public services.

As noted in the proposal submitted by Robert W. Dechard of the A.H. Belo Corporation, allowing Public Television to retain a second channel will likely enhance educational services, through either traditional instructional television or interactive educational content.⁸⁰ Likewise, the proposal submitted by Gigi Sohn of the Media Access Project noted that a second channel for Public Television could provide greater access to the airwaves for local educational, civic, cultural, and governmental organizations.⁸¹ For example, as libraries, museums, and other cultural institutions are digitizing their content, Public Television could make available its second digital channel to help deliver such content over its vast network of noncommercial stations. With a second channel, Public Television could therefore explore a broad range of alliances with schools, libraries, museums, cultural institutions, governmental entities, minority organizations, and other nonprofit organizations.

Public Television has publicly supported the notion of retaining a second channel so long as it is adequately funded.⁸² Examples of the types of public services that Public Television said it could provide with a second channel include the following:

- working with local schools, colleges, universities, and other educational institutions to engage in an even broader range of educational services;
- partnering with libraries, museums, and other cultural institutions to expand distribution of digital information to local communities;
- providing greater access to telecommunications services for the unserved and underserved populations who, because of economic, geographic, physical, cultural or language barriers, have been left behind by the commercial marketplace;
- providing more free air time for national and local political candidates and parties;
- working with state and local governments to provide greater access to local civic affairs; and
- providing opportunities for independent program producers to expand their offerings.

In short, allowing Public Television to retain its second channel after the digital transition will help realize the founders' wonderfully ambitious vision of a medium created to serve a pluralistic society. Without cutting back on its national programming, Public Television could provide greater local access to its channels and become what former PBS President Larry Grossman has called "democracy's great electronic forum."⁸³

6.3 Providing a Neutral Forum

The First Carnegie Commission recognized, even back in 1967, that the broadcasting industry and the world of communication are in a constant state of flux. It understood that changes will take place rapidly, not only technologically, but also politically, socially, economically, and artistically. In words of profound insight, almost as if it had presaged the digital revolution, the Commission prognosticated:

Public Television, like the entire communications industry of which it is a part, exists within the context of rapid change. It is part of a complex which includes far more than the transmission of sound and pictures. The technology upon which it is based is growing and altering, and it makes more visible each day the intimate relationships that link television as a vehicle of information and entertainment with libraries, archives, data processing and data transmission, the interplay of intellectual and artistic endeavors, social development, and social change. The historians of the future may look back upon these latter decades of the twentieth century as the years of a profound revolution in the art and the uses of communication. Television, and Public Television as one of its components, both affect and are affected by that revolution.⁸⁴

In order to effectively respond to, and even lead, the swiftly changing developments in the industry, the founders of Public Television envisioned an institution that is "vital and dynamic."⁸⁵ Accordingly, several of the First Carnegie Commission's recommendations were devoted to allowing room for Public Television to be innovative and creative and to experiment with new and untried ways to improve its service and programming to the community. For example, it had recommended the establishment of one or more laboratories specifically designed for the improvement of programming and program production,⁸⁶ identified the need for technical experimentation to improve television technology,⁸⁷ and encouraged the recruitment of specialized personnel "to contribute their own inventiveness to the general welfare of Public Television."⁸⁸ Putting it in the words of the modern day Ms. Frizzle on *The Magic School Bus*, a children's show made

successful by PBS, Public Television was designed to “take chances, make mistakes, and get messy.”

While Public Television has had a fairly impressive record of displaying leadership in programming and technology, it often has difficulty responding quickly to change. This is not surprising, because Public Television comprises of about 350 stations, which are operated autonomously by approximately 175 licensees, each independently serving its own constituencies and local communities. Indeed, even large corporations and conglomerates with a central decision making authority often have trouble managing change. Compounding Public Television’s difficulty is the lack of a central forum to frame, debate, and resolve large policy issues, develop practical solutions to systemic problems, and coordinate efforts to experiment with innovative ideas. As David Liroff, Vice President and Chief Technology Officer for WGBH in Boston, so aptly put it, “a major problem for Public Television these days is that the average time between decisions is longer than the average time between surprises.”⁸⁹

What Public Television needs are therefore three separate, but related initiatives to remain vital and dynamic:

- A well-funded, independent “think tank” or policy institute to create a neutral forum to conduct in-depth studies of major policy issues that affect the entire public broadcasting system;
- Project teams, coordinated under the auspices of the think tank or policy institute, to develop practical solutions for the system as a whole; and
- Action laboratories, spearheaded by station groups, to foster greater station planning and innovation to develop new service and business models at the state, regional, or local level.

6.3.1 A Public Television Policy Institute

Public Television has from time to time engaged in initiatives, both internally and externally, to consider major policy issues concerning its future, but these efforts have achieved varying levels of success. For example, a second commission was convened by the Carnegie Corporation in 1977 to review the status and progress of Public Television since its establishment a decade or so earlier. The “landmark” report of the Carnegie Commission on the Future of Public Broadcasting (Second Carnegie Commission) began with a stinging criticism of the failures of Public Television, finding that its “financial, organizational, and creative structure [to be] fundamentally flawed.”⁹⁰ Yet, many of its detailed recommendations have been largely ignored or forgotten.

Other proposals to reshape the future of Public Television have included the following, which by no means is an exhaustive list: The Task Force on

the Long Range Financing of Public Television (1973); the Station Program Finance Plan (1972); The Grand Alliance (early 1980s); PTV 1-2-3 Multiple Program Services Plan (1979); Public Television Task Force on Funding (late 1980s); The Broadcasters Nonprofit Satellite Corporation (late 1960s); Commission on Instructional Technology (1970); The Program Services Endowment (1979); Temporary Commission on Alternative Financing for Public Telecommunications (1981); the Boston Consulting Group Recommendations (1991); and "Quality Time? – The Report of the Twentieth Century Fund Task Force on Public Television."⁹¹

While many of these efforts have been useful and noteworthy, their effectiveness in instituting actual change or reform to the system has been at best mixed. In 1993, a conference was convened involving several Public Television managers, licensee trustees, foundation executives, and other leading thinkers within and outside of public broadcasting to consider these prior approaches to strategic and long-range planning. The participants concluded that "internal and external planning and policy research for public broadcasting [have] made some useful contributions over the years. But such efforts by themselves have remained incomplete, ad hoc, organizationally constrained and too often ineffectual in the implementation of worthy ideas."⁹² The conference participants observed:

Many *external* initiatives have lacked the system knowledge and organized follow-through necessary to develop sound proposals and to see them through to a successful conclusion; many *internal* initiatives for change advanced by public broadcasting's own organizations have suffered from the lack of a forum for deliberate, objective, system-wide consideration of new ideas, independent of the perceived self-interest of the sponsoring organization.⁹³

What Public Television needs, therefore, is a well-funded, independent, and permanent "think tank" or policy institute to help frame, debate, and study issues of major importance that affect the entire public broadcasting system. While there are a number of different ways to structure such a policy institute, it should have at a minimum a core staff, a permanent endowment, and independence from any other Public Television organization. Such an institute should perform at least the following functions:

- Encourage some of the best thinkers, both within and outside of Public Television, to exchange ideas about the future of the enterprise;
- Engage in short, medium, and long term strategic planning for the system as a whole;

- Help facilitate the process by which major policy issues affecting the entire system, such as Public Television structure, organization, and governance, can be fully aired and debated;
- Publish articles in a periodic journal devoted to Public Television issues; and
- Develop an institutional memory of and serve as a permanent repository for important archival materials on the history of Public Television.

The idea of a Public Television think tank is not new. James Fellows, President of the Central Educational Network, has for many years advocated the idea of a policy institute for public broadcasting. Mr. Fellows has quite correctly observed that “over 30-plus years we had developed no sustained, systematic, independent, informed and effective capacity for considering options and expanding the roles of public broadcasting.”⁹⁴ He has therefore challenged the system to make a “continuing, consistent, professional commitment of the resources required for effective policy research and development in public communications.”⁹⁵

As a result, Mr. Fellows has been instrumental in establishing the Hartford Gunn Institute, named after the first President of PBS and one of Public Television’s most respected visionaries, to be “a center for policy research and development in public broadcasting and telecommunications.”⁹⁶ The stated objectives of the Gunn Institute include articulating “the public policy mandate for broadcasting and telecommunications in the public interest,”⁹⁷ devising “new financing strategies,”⁹⁸ and exploiting the “evolving and changing technology base for consumers, producers and distributors.”⁹⁹ Mr. Fellows has hastened to point out that such an institute should not be viewed as adding a superstructure to what WNET’s Bill Baker calls “an array of power centers”¹⁰⁰ within Public Television; nor should the need for such an independent organization be construed as a complaint about the stewardship of CPB, PBS, or any of the other existing national organizations.¹⁰¹ Instead, it is an explicit recognition that these national organizations have many other important responsibilities, which they fulfill competently, but that institutionally no one organization can possibly divorce itself from the *perception* of a vested self-interest on any given issue.¹⁰²

Although the Gunn Institute or its equivalent unfortunately has not received the funding to become fully operational, the notion of some type of fully-funded think tank or policy institute should be part and parcel of any plan to help position Public Television for the digital future. Thus, rather than relying on the work of blue-ribbon panels, however useful their contributions might be, Public Television should have a permanent, neutral forum to study issues affecting its own future.

6.3.2 Coordinated, Action-Oriented Project Teams

In their book, *In Search of Excellence*, authors Thomas Peters and Robert Waterman, Jr. found that one of the hallmarks of a well-run company is the ability to attain “organizational fluidity” through a vast network of informal, open communications and the judicious use of well-coordinated, action-oriented project teams.¹⁰³ These attributes are all the more important with the advent of digital television. The new digital technology is no longer just a matter for the engineers to solve. Instead, it cuts across virtually every aspect of Public Television’s business – from, as we have seen, fundraising and programming to branding and viewer loyalty. It would be a mistake for any company, particularly Public Television, to allow digital issues to be driven by engineering considerations, just as it would be equally an error to ignore technical parameters.

To foster greater organizational fluidity, a DTV team was established within PBS to allow senior and middle management from the various disciplines to communicate with one another about all aspects of the digital transition. Led by the Chief Operating Officer through PBS’s Digital Television Strategic Planning Office, issues pertaining to digital television were being addressed using a multidisciplinary approach. No one department was able to drive any particular issue, and all views were considered. It was through this DTV team approach that PBS was able to devise a “clearly articulated plan”¹⁰⁴ to serve the needs of its member stations in the transition to digital technology.

Such a coordinated, cross-departmental approach should be replicated at the station level. While virtually every station, of course, has staff meetings, only a handful have instituted a policy of addressing digital issues on a systematic and multidisciplinary basis. Such an effort should be spearheaded by a digital strategic planner who reports directly to the station or general manager and who does not fall under any one department. In some of the smaller stations with more limited staff and resources, the digital strategic planner can be the station manager. The point is that no one department should be perceived to be determining the digital agenda.

In addition to the DTV team approach, Public Television has made use of special committees or task forces to consider specific aspects of the digital transition. This is referred to as “chunking” by the authors of *In Search of Excellence*, a means of “breaking things up to facilitate organizational fluidity and to encourage action.”¹⁰⁵ While committees and subcommittees are generally associated with hopeless bureaucracies, their success or effectiveness depends largely on how they are used.

In 1995, for example, the PBS Board of Directors, at the urging of PBS President Ervin Duggan, formed the New Technologies Working Group “to identify new ventures, innovative services, and opportunities to better serve the American public utilizing new and emerging technologies.”¹⁰⁶ This was followed by the formation of the PBS Education Task Force to study and recommend new ways in which Public Television could better serve the pre-K-12 education marketplace using digital television. Recently, the Digital Broadcasting Strategic Planning Steering Committee (“Digital Steering Committee”) was convened to determine “how Public Television can position itself as a public service provider in the digital age,”¹⁰⁷ and to make the case for federal funding for the digital transition. Notably, the Digital Steering Committee held its first meeting on February 14, 1997 at the Corporation of Public Broadcasting in the conference room named after the chairman of the First Carnegie Commission, James Killian.

Several attributes have contributed to the success of these task forces or committees. First, each of the groups was designed appropriately to strike a balance between remaining “small and nimble” and ensuring adequate national and, more importantly, local station representation. For example, participants in the Digital Steering Committee included representatives from the four national organizations (APTS, CPB, NPR, and PBS), various station groups (Community Station Resource Group, Digital Broadcast Alliance, and New Technologies Working Group), and two general managers from smaller stations. Second, each task force included or had access to experts from various disciplines, such as education, programming, and engineering. Finally, each committee had before it well defined, manageable issues to address and specific tasks to accomplish. In the case of the Digital Steering Committee, for example, there was an urgent need to file with the Office of Management and Budget a written submission documenting how much Public Television’s digital conversion will cost and why the Clinton Administration should include funding for Public Television’s transition in the budget proposals to Congress.

While these committees have been quite successful, effective coordination between and among these groups has been lacking. While some overlap is almost inevitable, it appears sometimes that different task forces are tackling the same issues. The Digital Steering Committee tried to “steer” the efforts between and among the various committees and task forces, but it was difficult to play the role of a “super coordinator” without a permanent mandate to do so. It would therefore be advisable to allow such a coordination function to be performed by a neutral entity, such as the Public Television policy institute discussed above. The institute could, for example, help frame the issues to be studied, assemble the right mix of people to study the issues, including outside experts, provide administrative

support, and become the clearinghouse of information for the rest of the public broadcasting system.

6.3.3 Local Station Planning and Innovation

Establishing a Public Television policy institute and coordinating action-oriented project teams may be sensible ways to address major policy issues that affect the entire system. But what about matters that affect the stations at the state, regional, or local levels? How do stations take a national agenda and customize it for use in their local communities. After all, it is the local station that is the bedrock upon which Public Television was founded.

To illustrate, the national strategic planning initiative spearheaded by the Digital Steering Committee resulted in a systemwide strategic vision for digital television. This strategy called for the innovative use of digital technology to provide new and better services in four areas:

- Early childhood services, offering a full complement of programs and services to foster school readiness
- Technology integration into K-12 education, integrating video-based programs with online and broadcast data
- Work force education/training, delivering a broad array of professional development courses and teleconferences to further lifelong learning; and
- Digital service accessibility, developing innovative ways to serve the unserved and underserved segments of the population whose needs are not being met by the commercial marketplace

But this so-called “extended services strategy” is necessarily broad and generic. To be meaningful, each of the services will need to be particularized to meet the specific needs of the state, region, or local community served by the local public television station. In other words, each local station must do its own strategic planning and create a more customized vision of the types of services that it will deliver to its local community. Such local strategic planning initiatives should not be viewed as competing with the national effort; rather they would complement and reinforce the systemwide vision for digital television.

To facilitate station planning efforts, Public Television should develop one or more service or business models for use by local stations. Digital strategy, argue authors Downes and Mui in *Unleashing the Killer App*, requires the development of not only technical prototypes, but also new business and organizational models. As an initial step, models could be developed for the different licensee types, which fall into four general categories: (1) community stations, which are licensed to nonprofit organizations to serve its local community or metropolitan area; (2) state

networks, which are usually licensed to a state agency to serve an entire state; (3) university licensees, which are affiliated with a college or university primarily to serve as an extension of the school's educational function, such as instructional programming, distance learning, and continuing education, and (4) municipal stations, those licensed to local educational or municipal authorities primarily to serve elementary and secondary education. As the planning process continues, Public Television may develop innovative models that include partnerships between and among different licensee types or require the formation of non-traditional or even virtual organizations.

In addition to strategic planning, stations should be encouraged to engage in experimentation and innovation. As stated by the First Carnegie Commission:

Public Television can encourage innovation, experimentation, and improvement in programming by incentives built into the Corporation's grants to stations and production centers. Special incentives should be used to spur development of innovative ideas and forms for new and neglected areas of programming. In addition to the usual grants made for financing program production, incentives should be supplied to give particular encouragement to innovation in program content and method, opening up fields and techniques not ordinarily dealt with.¹⁰⁸

To further spark innovation, Public Television should create what authors Downes and Mui call a "protected space."¹⁰⁹ "The risk of failing adequately to protect the space within which the prototypes are developing is to continually try to force the future into the paradigms of the present."¹¹⁰ Such protected space could include, for example, a "skunk works" team operating independently. The use of skunk works was found by the authors of *In Search of Excellence* to be an attribute of truly innovative companies. "Many of these companies were proud of their 'skunk works,' bands of eight or ten zealots off in a corner, often outproducing product development groups that numbered in the hundreds."¹¹¹

Applying this concept to Public Television, a group of stations could form a skunk works team and experiment with new services and businesses using the new digital technology. The mix of these stations could cut across geographic lines, licensee types, or any other traditional category. Indeed, given the virtual nature of the digital technology, it would be far more preferable to experiment with different types of collaborative ventures between and among stations that traditionally have not partnered together. New products and services could then be test marketed in one or more geographic regions or virtual communities, and if proved successful, could

serve as additional models for other public television stations or station groups.

7. CONCLUSION – A “MODERN EXPERIMENT”

The digital revolution is one of the greatest challenges facing Public Television since its creation over thirty years ago. At the same time, the new digital technology can unlock some of the possibilities that its founders envisioned for this ambitious enterprise. To do so requires financial independence, increased spectrum capacity, and protected space for greater creativity and innovation. In short, it is about supporting Public Television, with all of its strengths and weakness, and allowing it to fulfil its potential.

Public Television is capable of becoming the clearest expression of American diversity, and of excellence within diversity. Wisely supported, as we conclude it must be, it will respect the old and the new alike, neither lunging at the present nor worshipping the past. It will seek vitality in established forms and in modern experiment. Its attitude will be neither fearful nor vulgar. It will be, in short, a civilized voice in a civilized community.¹¹²

Acknowledgements:

The author wishes to thank the following people for reviewing this paper and providing their insightful and invaluable comments: James Fellows, Central Educational Network; David Liroff, WGBH; Marilyn Mohrman-Gillis, Association of America's Public Television Stations; Professor Seth Neugroschl, Columbia University; and Jack Willis, George Soros Foundation. The author further acknowledges with much gratitude and admiration the many individuals in Public Television with whom he has become acquainted. Many of the ideas contained in this paper can be attributed to their accumulated wisdom and dedicated hard work over the years.

¹ Robert Saudek, "The Role of ETV and Its Relation to Programs," Memorandum on some thoughts expressed at breakfast on June 15, 1966 with Messrs. Land, Weeks and White, N.D.

² Throughout this article, the author will use the generic term "Public Television" to refer to the entire system of noncommercial stations and the organizations that service them. Any references to particular organizations, such as the Corporation for Public Broadcasting (CPB) or Public Broadcasting Service (PBS) will be specifically identified.

³ Joel Brinkley, "PBS Makes Digital Plans," *New York Times* 20 October 1997. For example, some of Public Television's digital "firsts" include: first broadcaster in North America to develop an all digital technical plant and satellite delivery system (PBS); first television station to provide a high definition test signal (WMVT, Milwaukee); and first station in the United States to produce high definition programming (KCTS, Seattle).

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- ⁴ *Fifth Report and Order*. In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, MM Docket No. 87-268, 12 FCC Rcd 12809 (1997).
- ⁵ Some would question whether broadcasters are really compelled to convert to digital television given the fact that broadcasters had originally petitioned the FCC to develop high definition television as a means to protect spectrum. See, e.g., Joel Brinkley, *Defining Vision: The Battle for the Future of Television* (New York: Harcourt Brace & Co., 1997): 3-31.
- ⁶ *Fifth Report and Order* ¶ 61.
- ⁷ Approximately twenty-four stations voluntarily committed to begin digital broadcasting by November 1998. *Fifth Report and Order* ¶ 76, n. 164.
- ⁸ The FCC gave several justifications for its decision to adopt an aggressive timetable. First, digital broadcast television stands a risk of failing unless it is rolled out quickly. Second, a rapid construction period will promote DTV's competitive strength internationally, as well as domestically. Third, an aggressive construction schedule helps to offset possible disincentives that any individual broadcaster may have to begin digital transmission quickly, as well as the possible absence of market forces that might themselves ensure rapid construction. Fourth, a rapid build-out works to ensure that recovery of broadcast spectrum occurs as quickly as possible. *Fifth Report and Order* ¶¶ 80-83.
- ⁹ *Fifth Report and Order* ¶ 93.
- ¹⁰ *Fifth Report and Order* ¶ 99.
- ¹¹ Notwithstanding the delay in finalizing the digital channel allotments, the FCC recently affirmed this rollout schedule. *Memorandum Opinion and Order on Reconsideration of the Fifth Report and Order*. In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, MM Docket No. 87-268, 13 FCC Rcd 6860 (1998) ¶ 59.
- ¹² *Fifth Report and Order* ¶ 97. The need to recover valuable spectrum is driven not only by the FCC but also by Congress itself. After the release of the *Fifth Report and Order*, Congress enacted the Balanced Budget Act of 1997, specifically stating that analog broadcast licenses may not be renewed beyond December 31, 2006. 47 U.S.C. § 336(c). However, in so codifying the spectrum recovery date, Congress created an exception that could conceivably extend the digital transition period well beyond 2006. Specifically, Congress stated that an extension of the target end-date may be granted to a station if the FCC finds, among other things, that 15 percent or more of the television households in the station's market do not have a digital receiver or set-top box that can receive the station's digital signal. 47 U.S.C. § 309(j)(14)(B).
- ¹³ Nevertheless, some public television stations in the major markets have already decided to begin digital broadcast earlier in order to remain competitive with their commercial counterparts.
- ¹⁴ *Fifth Report and Order* ¶ 93.
- ¹⁵ See, e.g., James Ledbetter, *Made Possible By...The Death of Public Broadcasting in the United States* (London: Verso 1997) 75-88; Laurence Jarvik, *PBS: Behind the Screen* (Rocklin: Prima 1997) 23-30; James Day, *The Vanishing Vision: The Inside Story of Public Television* (Berkeley: University of California Press 1995) 212-230.
- ¹⁶ Quoted in Christopher Stern, "PBS Tries to Keep Eggs in Nest: Pubcasters Courts Corps. To Cut Defections," *Variety* June 1998.
- ¹⁷ Quoted in Dan Egbert, "Tauzin Wants PBS Funded By Private Sector," *State News* 18 June 1998.

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- ¹⁸ Quoted in Stern. "PBS Tries to Keep Eggs in Nest: Pubcasters Courts Corps. To Cut Defections."
- ¹⁹ See, e.g., Paul Farhi. "Public TV's Distress Call: Stations Seek \$771 Million From Congress for Digital Update, *The Washington Post* 16 October 1997.
- ²⁰ See, e.g., Brooks Boliek. "Clinton Pledge: \$450 Million to PBS for Move to Digital, *The Hollywood Reporter* 3 February 1998.
- ²¹ *A Bill to Establish the Commission for the Future of Public Broadcasting and Authorize Appropriations for the Corporation for Public Broadcasting, and for Other Purposes*, H.R. 4067, 105th Cong., 2d Sess. (1988).
- ²² Additionally, because of the likely shortage of funding, the system will need to confront the politically sensitive and potentially explosive issue of overlapping stations – areas where there are several public television stations operated by separate licensees.
- ²³ Statement by Robert G. Ottenhoff, *PBS Press Release* 8 August 1997.
- ²⁴ *A Bill to Establish the Commission for the Future of Public Broadcasting* § 103(a)(5).
- ²⁵ See, e.g., Eli Noam, "Public Interest Programming by American Commercial Television," *Public Television in America* (forthcoming): 145.
- ²⁶ Nielsen Homevideo Index, Cable Activity Report (1Q94 & 1Q98).
- ²⁷ Nielsen Homevideo Index, Cable Activity Report (1Q94 & 1Q98).
- ²⁸ Nielsen Homevideo Index, Cable Activity Report (1Q94 & 1Q98).
- ²⁹ Nielsen Homevideo Index, Cable Activity Report (1Q94 & 1Q98).
- ³⁰ Ledbetter 14.
- ³¹ Associated Press. "Nickelodeon, Children's TV to Launch Noggin," *U.S.A. Today* 29 April 1998.
- ³² Robert G. Ottenhoff. "Programs Do Migrate: The Question is How We Respond," *Current* 8 June 1998.
- ³³ See, e.g., Stern. "PBS Tries to Keep Eggs in Nest: Pubcasters Courts Corps. To Cut Defections."
- ³⁴ In order to stem the tide of these defections, PBS is proposing to establish PBS-branded distribution outlets. Such proposals are controversial, as many member stations justifiably fear that a PBS channel would bypass them, compete for viewers, and possibly make them less relevant to the local viewers. After much debate, the member stations voted in 1997 to approve the distribution of a PBS national feed through direct satellite service. Other PBS distribution channels, including a PBS cable channel, are being considered. See, e.g., Ottenhoff. "Programs Do Migrate: The Question is How We Respond."
- ³⁵ Ottenhoff. "Programs Do Migrate: The Question is How We Respond."
- ³⁶ In his opening address to the Advisory Committee, the Vice President correctly noted that the flexibility and extensibility of the new digital technology are so limitless that digital broadcasting is likened to the Wild West. "If we don't map out some of that terrain for public purposes, if we don't carve out meaningful public space on our newest public airwaves, we could lose that opportunity for good." *Transcript of the Meeting of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters* 22 October 1997: 14-15.
- ³⁷ Because of space limitations, this paper cannot fully address another major challenge related to Public Television's programming, made even more complex by the digital transition: cable "must-carry." Currently, approximately 70% of American households subscribe to cable and view their local television stations over their cable channels. By law, a cable operator "must carry" a certain number of local broadcast stations on its

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- system. The United States Supreme Court has upheld the constitutionality of the must-carry rules, but its application to digital television is unresolved. As of this writing, the FCC issued a notice of proposed rulemaking seeking public comment on how must-carry applies during and after the digital transition. Resolution of the must-carry issues will have serious implications on the viewing of Public Television's programming in the digital world. *Notice of Proposed Rulemaking*. In the Matter of Carriage the Transmissions of Digital Television Broadcast Stations. CS Docket No. 98-120 (1998).
- ³⁸ *Fifth Report and Order* 36.
- ³⁹ See, e.g., Price Colman, "TCI Banks on Digital Boxes," *Broadcasting & Cable* 30 March 1998.
- ⁴⁰ Stephanie N. Mehta, "U.S. West Is Set to Offer TV Programming and Internet Access Over Phone Lines," *The Wall Street Journal* 20 April 1998.
- ⁴¹ Larry Downes and Chunka Mui, *Unleashing the Killer App: Digital Strategies for Market Dominance* (Boston: Harvard Business School Press 1998).
- ⁴² Downes and Mui 8.
- ⁴³ William F. Baker and George Dessart, *Down the Tube: An Inside Account of the Failure of American Television* (New York: BasicBooks 1998) 234-43.
- ⁴⁴ Baker and Dessart 214.
- ⁴⁵ David Streitfeld, "Booking the Future: Does Amazon.com Show That Publishing Clicks on the Internet?," *The Washington Post* 10 July 1998.
- ⁴⁶ Carnegie Commission on Education Television, *Public Television: A Program for Action* (New York: Bantam Books 1967).
- ⁴⁷ *Public Television: A Program for Action* 3.
- ⁴⁸ *Public Television: A Program for Action* 98-99.
- ⁴⁹ Some critics, however, have come to question the political independence of CPB. See, e.g., Ledbetter 9-14.
- ⁵⁰ *Public Television: A Program for Action* 69.
- ⁵¹ *Public Television: A Program for Action* 69.
- ⁵² America's Public Television Stations, National Public Radio, Public Broadcasting Service, and Public Radio International, "The Road to Self Sufficiency: Public Broadcasting Meets Congressional Challenge," 2 May 1995.
- ⁵³ Corporation for Public Broadcasting, Public Broadcasting Service, and America's Public Television Stations, "Recommendations to the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters: Strengthening Public Television for the Digital Age," 8 June 1998: 5.
- ⁵⁴ Media Access Project, "A Proposal for Public Interest Obligations of Digital TV Broadcasters," 7 April 1998.
- ⁵⁵ Paige Albiniak, "\$5 Billion Windfall for Public Broadcasting? Gore Commission Recommends Creation of Trust Fund," *Broadcasting & Cable* 15 June 1998.
- ⁵⁶ *Public Television: A Program for Action* 68-73. It is interesting to note that one member of the Commission, Joseph H. McConnell, did not concur with this recommendation. Instead, Mr. McConnell proposed the imposition of a franchise tax on commercial television stations, which "are licensed to use the airways in the 'public interest' and therefore "should at least share in the cost of Public Television." *Public Television: A Program for Action* 72, footnote.
- ⁵⁷ Corporation for Public Broadcasting, et al., "Recommendations to the Advisory Committee" 5.

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- ⁵⁸ Corporation for Public Broadcasting, et al., "Recommendations to the Advisory Committee" 5-6.
- ⁵⁹ Media Access Project 10.
- ⁶⁰ Seth Schiesel, "With Cable Deal, AT&T Makes Move to Regain Empire," *New York Times* 25 June 1998.
- ⁶¹ *Public Television: A Program for Action* 4.
- ⁶² *Public Television: A Program for Action* 14.
- ⁶³ *Public Television: A Program for Action* 1.
- ⁶⁴ *Public Television: A Program for Action* 92.
- ⁶⁵ *Public Television: A Program for Action* 92.
- ⁶⁶ *Public Television: A Program for Action* 14.
- ⁶⁷ *Public Television: A Program for Action* 4-5.
- ⁶⁸ *Public Television: A Program for Action* 14.
- ⁶⁹ *Public Television: A Program for Action* 93.
- ⁷⁰ *Public Television: A Program for Action* 92.
- ⁷¹ *Public Television: A Program for Action* 95.
- ⁷² *Public Television: A Program for Action* 92.
- ⁷³ *Public Television: A Program for Action* 92.
- ⁷⁴ *Public Television: A Program for Action* 94.
- ⁷⁵ *Public Television: A Program for Action* 36.
- ⁷⁶ *Public Television: A Program for Action* 34.
- ⁷⁷ *Public Television: A Program for Action* 40.
- ⁷⁸ *Public Television: A Program for Action* 36.
- ⁷⁹ *Transcript of the Meeting of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters* 16 January 1998: 194-213.
- ⁸⁰ The Belo Group, "Broadcasting in the Public Interest: A Proposal for Expanded Educational Programming in the Digital Age," 31 March 1998.
- ⁸¹ Media Access Project 3-4.
- ⁸² Corporation for Public Broadcasting, et al., "Recommendations to the Advisory Committee" 6.
- ⁸³ Lawrence K. Grossman, *The Electronic Republic* (New York: Viking Penguin 1995) 211. Additionally, promoting greater diversity and localism in Public Television's public interest programming would further bolster its legal position that the "must-carry" requirements should extend to not only the existing analog channel, but also the digital signal. In rejecting the cable operators' legal challenge that the analog must-carry rules imposed an unconstitutional burden on their First Amendment rights, the United States Supreme Court held that must-carry furthers several "important" governmental interests, including: "(1) preserving the benefits of free, over-the-air local broadcast television; (2) promoting the widespread dissemination of information from a multiplicity of sources; and (3) promoting fair competition in the market for television programming." *Turner Broadcasting v. FCC*, 117 S.Ct. 1174 (1997). Thus, to ensure that Public Television's public interest programming will be viewed by 70% or more of the American households that subscribe to cable, strong must-carry rules and enforcement procedures must be in place both during and after the transition to digital television.
- ⁸⁴ *Public Television: A Program for Action* 41.
- ⁸⁵ *Public Television: A Program for Action* 41.
- ⁸⁶ *Public Television: A Program for Action* 59-60.

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- ⁸⁷ *Public Television: A Program for Action* 61-65.
- ⁸⁸ *Public Television: A Program for Action* 66-67.
- ⁸⁹ David Liroff, "Let's Get Digital." PBS Annual Meeting, Miami, Florida, 15 June 1998.
- ⁹⁰ Carnegie Commission on the Future of Public Broadcasting, *A Public Trust: The Landmark Report of the Carnegie Commission on the Future of Public Broadcasting* (New York: Bantam Book 1979) 11.
- ⁹¹ "The Opportunity Analysis." The Hartford Gunn Institute Inaugural Convocation (1993).
- ⁹² Quoted in James Fellows and Michael Hobbs, "When Your Field Lacks a Capacity for Strategic Planning, You May End Up Wishing: If Only....," *Current Thinking* 14 August 1995) 15.
- ⁹³ Fellows and Hobbs 15.
- ⁹⁴ Fellows and Hobbs 15.
- ⁹⁵ Fellows and Hobbs 15.
- ⁹⁶ The Hartford Gunn Institute, "An Agenda for Developing Public Broadcasting's Second Generation: A Strategy for Leadership." August 1994.
- ⁹⁷ The Hartford Gunn Institute 10.
- ⁹⁸ The Hartford Gunn Institute 12.
- ⁹⁹ The Hartford Gunn Institute 14.
- ¹⁰⁰ Baker and Dessart 256.
- ¹⁰¹ Fellows and Hobbs 15.
- ¹⁰² Fellows and Hobbs 15.
- ¹⁰³ Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence: Lessons from America's Best-Run Companies* (New York: Harper & Row 1982).
- ¹⁰⁴ Brinkley, "PBS Makes Digital Plans."
- ¹⁰⁵ Peters and Waterman 126.
- ¹⁰⁶ Digital Broadcasting Strategic Planning Steering Committee, *Going Digital From Zero to One: A Report to Public Broadcasters from the Digital Broadcasting Strategic Planning Steering Committee*. November 1997: 3.
- ¹⁰⁷ Digital Broadcasting Strategic Planning Steering Committee 4.
- ¹⁰⁸ *Public Television: A Program for Action* 97.
- ¹⁰⁹ Downes and Mui 204.
- ¹¹⁰ Downes and Mui 205.
- ¹¹¹ Peters & Waterman 201.
- ¹¹² *Public Television: A Program for Action* 18.