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BOOK REVIEW

Looking Beyond the Digital Divide

Digital Nation: Toward an Inclusive Information Society, Anthony G. Wilhelm, Cambridge, Mass., MIT Press, 2004, 184 pages.

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In the dawn of the information age, technological literacy and access are no longer optional, but are essential. As more routine tasks such as applying for jobs, obtaining general information, and banking and shopping move into cyberspace, those without access are finding themselves marginalized, on the outside looking in. The "Digital Divide" refers to the increasingly disparate access to, knowledge of, and use of technology in this country that is a function of race or ethnic group, physical disability, income, education, gender, household composition, age, and location. Simply stated, the Digital Divide is the gap between those who can effectively use communication and information tools such as the Internet and those who cannot. Without question, technological literacy has taken its seat at the table with the three R's[1] as an essential skill for successfully navigating society in the twenty-first century. The remaining question is: Will *all* citizens benefit from the information society, or only a select few?

Anthony G. Wilhelm's *Digital Nation: Toward an Inclusive Information Society* goes beyond simply identifying the existence of the Digital Divide. He candidly illustrates the challenges marginalized sectors

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1. The three R's are reading, writing and arithmatic. ANTHONY G. WILHEM, DIGITAL NATION: TOWARD AN INCLUSIVE SOCIETY 18 (2004).

of society are experiencing in a rapidly changing information age and proposes solutions for society to address technological literacy and access issues as it works to keep pace with emerging technologies. In a society where there is a clear gap separating the information-haves from the information-have-nots, Wilhelm poses the possibility of harnessing the immense potential of information and communication technologies giving rise to a true Digital Nation—one that is both inclusive and productive. In an information-driven society, a nation's success depends on the ability of its citizens to navigate information technology proficiently. *Digital Nation* provides an ambitious, yet achievable roadmap by which the United States can ensure that every citizen is equipped with the essential skills to navigate society as we move further into the information age.

In Chapter two, entitled "*Everybody Should know the Basics, Like How to Use a Computer*," the author explains how the basics must be supplemented with a set of cognitive and technical skills that lead to broader participation in a technology-reliant global society. Wilhelm highlights that schools are not adequately training teachers and are not adjusting the curriculum to meet the growing demands of advancing technologies; adult education centers have been "standoffish" with technology; and government officials have taken a "sluggish" approach to equipping citizens with the skills and information needed to access internet-based government services.[2] Wilhelm also identifies the types of skills and competencies required for basic technological fluency and highlights that there is no prevailing standard for what constitutes fluency. According to the author, the National Research Council (NRC) offers the broadest approach used to identify the types of skills required for fluency, encompassing three skill sets: proficiency in using communications tools, understanding the underpinnings of these tools, and the ability to evaluate the opportunities and limitations of these devices.[3] The author deftly uses hypothetical examples juxtaposed between actual examples of best practices in the United States and other countries to illustrate his point that the ability to access and use information technology is no longer merely optional; technical fluency is becoming a required skill as governments and businesses move more of their information services exclusively online.

Another dimension of the Digital Nation agenda involves benchmarking strides in literacy development and technology access. *Digital Nation* explores the progress other nations are making in advancing technology and digital literacy to the masses. Costa Rica, for example, has deployed fiber optic technologies and networking facilities throughout the

2. *Id.* at 19.
3. *Id.* at 22.

nation in a plan that is fully integrated into its human development, economic, and environmental plans.[4] Wilhelm argues that timetables for reaching universal diffusion of communication services are critical to the development of a Digital Nation. Noting the disparities in the United States across racial and socioeconomic lines, the author challenges the suggestion by national policymakers that the problem of the Digital Divide is more illusory than real,[5] warning that the wait and see approach of the current administration may further exacerbate the divide, creating even greater challenges in the future.[6]

The author notes that U.S. policy has progressed, citing a new national education policy articulated in 2001, which states that every eighth-grader must be technology literate regardless of race or socioeconomic background. Wilhelm, however, suggests that this policy is more fluff than substance, given the dramatic reductions in public and private funding in the last few years.[7] He argues that a Digital Nation mandate must remain a part of the national policymaking agenda despite the vagaries of the economic cycles. What is clear is that a one step forward and two steps back approach will not move this nation affirmatively toward eradicating the Digital Divide. The author poses that a central goal with quantifiable measurable steps toward its achievement is required if the government intends to meet its public policy objectives of technological literacy.

In chapter three, entitled "*Faustian Bargain for the Digital Age*," the author distinguishes private business' use of technology for greater efficiency and profit maximization from the manner in which government and learning institutions may apply the technology. The author notes that a business is free to implement technology because it can pick and choose its customers and shed employees to accommodate economic cycles. By contrast, the government can ill-afford to apply efficiency maximizing technology that will result in inequitable outcomes. Because government and learning institutions are legally obligated to serve everyone without discrimination, neither may implement totally digital transactions unless everyone is online. In essence, the law demands that equity trump efficiency, leaving the government in a catch-22 situation regarding its desire to minimize costs and maximize convenience and efficiency. The author recognizes that the benefits of a Digital Nation need to account for gains in efficiency and productivity, but that externalities and possible

4. *Id.* at 32.
5. *Id.* at 35.
6. *Id.* at 36.
7. *Id.* at 33-36.

unintended consequences must be included in the analysis as well.[8]

Digital Nation also addresses the immense potential of information and communications technologies to improve health and healthcare. Technology can be used to contain costs, enhance quality, and extend healthcare access to underserved communities. Wilhelm defines "e-health" as a catchall for a variety of healthcare applications ranging from telemedicine and information services to the collection and distribution of data such as medical records. Wilhelm extols the benefits of e-health, noting that real-time diagnoses and treatment can often make the difference between life and death for those who live in communities where medical and technical specialists are in short supply. The author does not fully address the various legal issues wedged between implementing these cost-saving technologies, but suggests that to reap the benefits of these emerging technologies, the healthcare industry will have to become more flexible.[9] The author does note that substantial changes in professional training, licensing, and financial, legal and professional codes that define acceptable practices will have to be amended as well. To fully implement an e-health agenda, it appears that the existing healthcare system would require a complete overhaul. Although full scale implementation seems outside the realm of possibility in the near future, *Digital Nation* provides promising examples of ways in which healthcare providers are presently using cutting edge technologies to improve healthcare and manage costs. Wilhelm cautions that despite the promising potentialities of e-health to extend healthcare to the uninsured and underserved, it will not supplant the need to build medical facilities in rural and underserved communities, attract specialists and other healthcare professionals, and devise strategies to provide insurance to all citizens.

Chapter four, entitled "*The New Frontier to Civil Rights*," includes a broad discussion of judicial remedies that may address digital equity and the obligation of public education for all citizens, without discrimination. Wilhelm pulls no punches in this chapter, explaining why he believes national leadership is lagging in setting forth its vision for what it means to be a full participant in a Digital Nation. He suggests that this vision may be articulated through a bill of rights that reflects the power of technology to educate, empower and inspire. Wilhelm forcefully asserts that in this nation's largest urban areas, many of the schools are so substandard that a radical overhaul is needed to provide students with an adequate education.[10] However, the author cautions that the current policy, which

8. *Id.* at 57.
9. *Id.* at 48-53.
10. *Id.* at 61-62.

focuses on hardware solutions (providing computer systems and related hardware to schools without providing the necessary training for teachers and students), furthers the inefficient use of resources. In short, Wilhelm suggests that more technology is not the answer. Leaders seeking to improve the blighted conditions in schools should evaluate alternatives to traditional modes of education, particularly how to best use technology to enhance the learning experience and improve performance, especially the performance of special-needs students.[11] The author provides several examples of school districts making positive changes by exercising fiscal responsibility, innovation and effective use of technology, but recognizes that the hands of many school administrations and local leaders are tied by limited resources.

Digital Nation also addresses issues surrounding internet voting, particularly the March 11, 2000 Democratic Primary election in Arizona, which spurned the first ever binding online vote in the United States. Arizona's online voting procedure prompted a complaint alleging that internet voting would maximize the white electoral participation at the expense of ethnic and racial minorities. The crux of the argument was, given the disparities in computer access and internet use in Arizona, African Americans and Hispanics would have less opportunity to exercise their franchise rights than other members of the electorate.[12] Despite the fact that many consider Arizona's 2001 Primary election a success according to data showing that overall electoral participation increased, the example illustrates the conflicts that emerge as a consequence of implementing technology under circumstances where stark disparities in access and technical fluency exist.

The author also confronts the government's use of technology to provide services online, noting that in some instances the intended recipients do not have access and are foreclosed from receiving needed services and information. Because a significant block of this nation's population (112 million) are not online, and because the government presents the majority of its online information in English, a significant portion of the population (25 million) cannot take advantage of the information because English is not their primary language.[13] In addition, 90 million people are low-literate and 53 million have some level of

11. *Id.* at 64.

12. In this case, Internet voters were given three days during the week of the primary to cast their vote online; paper ballot voters were required to vote on primary day or via mail-in ballot. *See generally id.* at 67-72.

13. *Id.* at 73.

disability.[14] When the government presents the information at a twelfth-grade level, millions of residents are marginalized from the benefits they are entitled to receive under the law.[15] Given these numbers, the author makes a compelling argument that the full force of the law should be invoked to resist the full transition of government services and information exclusively to the internet before all residents have the opportunity to obtain the technology and the know-how to use it. A true Digital Nation, the author argues, could demand no less than equal opportunity for all citizens to participate in a digital society.[16]

The next chapter further explores the idea that simply having the technology does not necessarily mean that it is being used effectively and efficiently. *Digital Nation* examines the benefits of investment in widespread infrastructure and literacy skill development, concluding that if decision-makers were to commit to comprehensive and long term policies that include equity, human development, and privacy control issues, then the technology benefits would be far-reaching. The author argues that progress toward a Digital Nation has been undermined by policymakers who have cut funding for infrastructure and training. While recognizing the realities of the recent economic downturn and the war on terror, the author does not accept that these events justify the funding cuts. Citing funding cuts initiated by the U.S. Department of Education as examples, Wilhelm criticizes the Bush administration for implementing policies that thwarted the progress of many programs designed to help bridge the gap in technological access and literacy.[17] Arguing that government retrenchment serves as a precursor to widespread corporate retrenchment, the author explores areas where corporations have either diminished or entirely eliminated the financial support of programs created to eradicate the divide, including the reduced funding from major philanthropic institutions such as the Bill and Melinda Gates Foundation.

Digital Nation also touches on the impact of the Telecommunications Act of 1996, describing it as a "linchpin" of Digital Nation policy making. The author examines e-rate, the mandate of universal service funding for schools and libraries, but notes that e-rate primarily provides infrastructure—not training. Wilhelm argues that professional development in the form of technological training must accompany infrastructure investment, creating a better balance between infrastructure and training. He cites as an example the recent proliferation of community technology

14. *Id.*
15. *Id.*
16. *Id.* at 74.
17. *Id.* at 80-83.

centers, where funding is appropriately matched to the needs of the center rather than allocated primarily to hardware. The author does not suggest that the federal government should bear all responsibility for optimizing the telecommunications network. Rather, he calls for a collective effort from business, government and philanthropic institutions to provide sustainable and long-term solutions.[18]

Digital Nation addresses the fact that negative externalities in poor communities create a disincentive for business investment in the short term. The author proposes that the government facilitate new investment in hard-to-serve communities. Recognizing that these policies would require taxpayer support and political will, he bolsters his proposal with survey data showing that a majority of Americans support the use of public funds to expand public access and training to underserved communities.[19] Another question, however, is whether taxpayers would support tax increases to implement a Digital Nation agenda. Given that funding for this agenda will have to come from somewhere, citizens will likely have to shoulder their fair share of the costs. Indeed, the author's Digital Nation agenda is ambitious, but with so much at stake in this global economy, one wonders whether this nation can afford to ignore these challenging questions.

The final two chapters discuss the challenges faced by other industrial countries to meet the technical education needs of its disadvantaged populations and examine the younger generation's role in creating a Digital Nation. After describing his cross-country comparison of Germany, Finland, and the United States, the author discusses the four broad policy implications stemming from his analysis of these countries' national information, communications technologies and education policymaking. According to Wilhelm, the four policy implications are: (1) private and public leadership is essential, (2) comprehensive and holistic approaches to technology are key, (3) dependable and equitable funding is essential to a national initiative, and (4) human development through training is the catalyst for increased productivity for civic and economic inclusion.[20] These policy implications are echoed throughout this book and set the tone for what is required to eradicate the Digital Divide and create a Digital Nation.

Wilhelm describes and distinguishes the generation of youth born since 1982, dubbed as the "Millennials."[21] Described as the "can do"[22]

18. *Id.* at 87, 92, 132-33.
19. *Id.* at 93.
20. *Id.* at 109-110.
21. *Id.* at 112.

generation, the author recognizes the potential of Millennials to effectively use the power of the Internet to cultivate a more tolerant and inclusive society, citing a youth Internet publication that provided a platform on their website for young Palestinian refugees to speak about their daily lives. During the most recent presidential election, Millennials logged onto websites such as rockthevote.com in record numbers sharing perspectives, debating the issues, and urging their fellow citizens to vote.[23] Despite the author's concern that digital technology geared primarily toward entertainment will continue to prevail over other types of applications that could have a more positive impact on society, this is an example where members of the entertainment industry teamed up with technology to bring pressing issues to the younger generation. The author also addresses the potential of the Internet to negatively impact the younger generation by providing a forum for youth to develop and spread racist ideologies, xenophobia and intolerance. Recognizing that the Internet is only a tool, and that that society is the great determinant for how this powerful tool will be used, the author remains optimistic that cyberspace can be used positively to bring society closer to an inclusive global community that honors justice and diversity.

Digital Nation provides a comprehensive overview of issues that will need to be addressed as technology advances and governments and businesses mover greater amounts of information and services online. This book challenges readers to step into the shoes of the less fortunate and envision interacting in a digital world where only those who have access and are technologically literate are positioned to succeed. Whether the United States moves further into the information age either collectively as a nation or in inequitable groups depends upon whether its citizens are technologically fluent and are afforded access. *Digital Nation* does not offer all of the answers, nor does it purport to, but it definitely provides a starting point by which leaders and decision-makers can begin the dialogue to build a policy that will lead this nation beyond the status quo. By looking beyond the Digital Divide and providing solutions, *Digital Nation*, reminds us of the old adage that states: "a chain is only as strong as its weakest link." If the United States intends to remain a world power in the global information age, then even the weakest link must be strong.

22. *Id.* at 113.

23. *See* http://www.rockthevote.com/success.php (last visited Apr. 2, 2005).