

# CAPITALIZING ON DIGITAL ENTREPRENEURSHIP FOR LOW-INCOME RESIDENTS AND COMMUNITIES

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## I. INTRODUCTION

JoEllen lost her job as an entry-level secretary in a small rural community about six months ago. She is no longer eligible for unemployment benefits and has been receiving food stamps. George is the owner of a janitorial service, which is located in a low-income enclave in the city center in a metropolitan area, though he has clients in many parts of the city.<sup>+</sup> His business is still afloat, but struggling. If he doesn't increase his client base soon, his business will fail. The question is, can digital entrepreneurship<sup>1</sup> make a difference for JoEllen and

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<sup>+</sup> Jo Ellen and George are fictional characters, but represent the real life circumstances of many people in society today struggling to enter the economic mainstream.

<sup>1</sup> The word “entrepreneur” comes from the French word “*entreprendre*,” which means “to undertake.” The word has long been associated with one who not only undertakes a business venture but who also undertakes the risks of profit or loss associated with that venture. Given that etymology, a digital entrepreneur is a person who undertakes a business venture and the risks associated with that venture using the Internet as a vehicle to operate and communicate the busi-

George and allow them to reach greater prosperity and attain their part of the American dream?

The prospects for JoEllen and George to improve their economic outlook through digital entrepreneurship may appear dim given the current statistics on digital inequality in low-income communities. Various studies have concluded that Internet use is not, and has never been, equal. Although progress is occurring, recent studies have shown that a “digital divide” still persists where low-income communities lack access to computers and the Internet.<sup>2</sup> More precisely, research shows that living in a poor community is the single most significant factor in determining which side of the divide an adult will inhabit.

Living in a high-poverty area has an impact on technology access and use beyond an individual’s education, age, income, race, and ethnicity. In fact, race is no longer a significant factor in predicting technology access and use once we control for the median income or educational attainment of an area, although Latino ethnicity is still significant.<sup>3</sup>

That said, concentrated poverty, defined as 40% or more of the population living below the poverty line, exists in concert with racial segregation.<sup>4</sup>

Even so, the Internet has revolutionized entrepreneurship. Generally, it costs less to operate and manage a business online because an Internet presence eliminates traditional expenses such as brick-and-mortar overhead costs and human resource costs. Moreover, the use of the Internet in operating or simply advertising a business exponentially increases an owner’s market exposure. Entrepreneurs of all sorts, whether brick-and-mortar or entirely web-based, benefit from an online presence. It would seem, then, that the Internet would be the ideal tool to create opportunities for traditionally marginalized individuals and communities. What better chance to generate wealth, or at least a living wage, among the most disadvantaged in society?

This author contends that, despite the reality of the digital divide in the United States,<sup>5</sup> low-income individuals and communities can use information

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ness. THE NEW OXFORD AMERICAN DICTIONARY 565 (Erin McKean ed., Oxford University Press 2d ed. 2005) (1998).

<sup>2</sup> See KAREN MOSSBERGER ET AL., DIGITAL CITIZENSHIP: THE INTERNET, SOCIETY, AND PARTICIPATION 8 (Univ. of Massachusetts: MIT Press 2008). See generally Paul F. Cleary et al., *Closing the Digital Divide: Understanding Racial, Ethnic, Social Class, Gender, and Geographic Disparities in Internet Use Among School Age Children in the United States* 354–73 (Springer-Verlag 2005), available at <http://cis.ist.psu.edu/files/Closing%20the%20Digital%20Divide.pdf>.

<sup>3</sup> Karen Mossberger et al., *How Concentrated Poverty Matters for the “Digital Divide:” Community-Level Barriers to Information Technology Access and Use*, Apr. 20, 2006, [http://www.allacademic.com/meta/p\\_mla\\_apa\\_research\\_citation/1/3/6/9/1/pages136918/p136918-1.php](http://www.allacademic.com/meta/p_mla_apa_research_citation/1/3/6/9/1/pages136918/p136918-1.php) [hereinafter *How Concentrated Poverty Matters*].

<sup>4</sup> *Id.*

technology to create a new generation of digital entrepreneurs and bring low-income communities into the economic mainstream. The challenge, however, is to overcome the obstacles that low-income residents face, including: (a) access to hardware and software, (b) skills sufficient to take advantage of electronic media, (c) the perception that low-income individuals are not capable of competing as entrepreneurs, and (d) the perception that low-income communities are not significant markets.

This essay explores the potential of digital entrepreneurship to create economic opportunities for unemployed and underemployed individuals living in low-income communities and the potential to improve the condition of the communities as well. The essay reviews current statistics on the digital divide and examines the dimensions of digital inequality that block entire sectors of society from a high quality of use of information technology. It then looks at ways in which low-income communities and individuals can capitalize on digital entrepreneurship and concludes by proposing three strategies to engage low-income individuals and communities in digital entrepreneurship.

## II. THE DIGITAL DIVIDE

### A. *Statistics on Access and Use*

Some debate whether a digital divide still exists. Media outlets have reported that groups once considered at risk of isolation are now online “thanks to friends and family with computers and public libraries.”<sup>6</sup> Others assume that a digital divide exists and instead debate whether Internet access is a privilege or a right. One questioned:

Should the digital divide be viewed simply as a disparity in utilization of goods and services arising from income differences just as we might view disparities in purchases of other electronic goods, such as cameras, stereos, or televisions? Or, should the digital divide be viewed as a disparity in a good that has important enough externalities, such as education, healthcare, or job training, that it warrants redistributive policies.<sup>7</sup>

Some authors have extended this argument by stating that every American has the right to Internet access by virtue of being a citizen and that access to tele-

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<sup>5</sup> Although this essay concentrates on the United States, significant work is being done to address the acute digital divide, which exists between developed and less-developed countries.

<sup>6</sup> Amey Stone, *The Digital Divide That Wasn't*, BUS. WK. ONLINE, Aug. 20, 2003, available at 2003 WLNR 12389669,

[http://www.businessweek.com/technology/content/aug2003/tc20030819\\_4285\\_tc126.htm](http://www.businessweek.com/technology/content/aug2003/tc20030819_4285_tc126.htm).

<sup>7</sup> Robert W. Fairlie, *The Effects of Home Computers on School Enrollment*, Sept. 2, 2003, [http://cjtc.ucsc.edu/docs/r\\_schoolcomp6.pdf](http://cjtc.ucsc.edu/docs/r_schoolcomp6.pdf).

communication services is inherent in the right to freedom of expression.<sup>8</sup> However meritorious this debate, it extends beyond the scope of this essay. With a focus on current statistics concerning Internet access, it is clear that this is an area of constant progression, but despite notable advancements, a digital divide remains.

According to a 2008 study, a majority of the U.S. population uses the Internet or email.<sup>9</sup> In general, 73% of the population reports having used the Internet or email, with higher rates for urban users (74%) than rural users (63%).<sup>10</sup> Disparities also exist with regard to education, income, and race. High school graduates report usage at a higher rate than non-high school graduates (63% and 44%, respectively).<sup>11</sup> Americans with higher incomes report a higher usage rate than those at lower income levels (95% for those with incomes of \$75,000 or greater compared to 53% for those with income levels of \$30,000 or less).<sup>12</sup> Internet and email usage also follow racial lines, with 75% of whites reporting at least one-time usage, while African Americans reported usage at 59%, and Spanish-Dominant Hispanics reported usage at 32%.<sup>13</sup> Thus, groups at the low-use end of the spectrum include people of color and those in low-income rural and urban communities. The statistics on high-speed Internet access show even greater disparities. While 55% of the U.S. population surveyed in 2008 reported using a high-speed connection (e.g., DSL, cable, wireless)<sup>14</sup> at least once from home, those numbers included only 41% of blacks, 39% of high school graduates, 38% of rural residents, and 31% of those with an income less than \$30,000.<sup>15</sup> Of those surveyed, only 29% without a high school diploma reported using a high-speed connection at home at least once. Comparatively, 56% of whites, 78% of college graduates, 56% of urban residents, and

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<sup>8</sup> See Cleary et al., *supra* note 2, at 355–56.

<sup>9</sup> Susannah Fox & Jessica Vitak, *Degrees of Access (May 2008 Data)*, PEW INTERNET & AM. LIFE PROJECT 1, Jul. 9, 2008, [http://www.pewinternet.org/Presentations/2008/Degrees-of-Access-\(May-2008-data\).aspx](http://www.pewinternet.org/Presentations/2008/Degrees-of-Access-(May-2008-data).aspx). Some have criticized such studies as vague and over-inclusive, contending that because even one time on the Internet or email constitutes “use,” a better barometer would be *daily* use of the Internet or email. See, e.g., MOSSBERGER et al., *supra* note 2, at 10–15, 106–07, 112, 114.

<sup>10</sup> Fox & Vitak, *supra* note 9, at 1.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> John Horrigan, *Home Broadband Adoption Increases Sharply in 2009 with Big Jumps Among Seniors, Low-Income Households, and Rural Residents Even Though Prices Have Risen Since Last Year*, PEW INTERNET & AM. LIFE PROJECT, June 17, 2009, <http://www.pewinternet.org/Press-Releases/2009/Home-broadband-adoption-increases-sharply-in-2009.aspx>. While 2009 data is not available for all categories, “[a]n April 2009 survey by the Pew Research Center’s Internet & American Life Project shows 63% of adult Americans now have broadband Internet connections at home, a 15% increase from a year earlier.” *Id.*

<sup>15</sup> Fox & Vitak, *supra* note 9, at 3.

82% of people with an income greater than \$75,000 reported using a high-speed connection at home.<sup>16</sup>

Given those statistics, it is not surprising that broadband deployment is a high priority at both national and state levels. At the federal level, expectations are high that the Obama Administration will help reduce the digital divide through its national broadband policy.<sup>17</sup> To that end, on February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act of 2009.<sup>18</sup> Under that Act, Congress reserved more than \$7 billion for the construction of broadband infrastructure<sup>19</sup> so that “all people of the United States [will] have access to broadband capability.”<sup>20</sup>

Broadband deployment is also a priority for many states with large rural populations. For example, the governor and legislature of West Virginia have articulated a goal “to make every municipality, community, and rural area . . . border to border, accessible to internet communications . . . .”<sup>21</sup> Officials of West Virginia recognize that “some areas of the state, mostly rural, remain unserved” and that lack of access “specifically disadvantages the elderly and low-income households . . . .”<sup>22</sup>

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<sup>16</sup> *Id.* at 1. The survey also shows that Americans over 64 years old have low broadband access at home (19%) and those living with a disability or chronic condition have about 50% access, compared to 75% access for adults with no disability or chronic illness. Once online, people with chronic illnesses or disabilities tend to use the Internet to gather health information at a rate comparable to other users. *Id.*

<sup>17</sup> See, e.g., LENNARD G. KRUGER & ANGELE A. GILROY, CONGRESSIONAL RESEARCH SERV., BROADBAND INTERNET ACCESS AND THE DIGITAL DIVIDE: FEDERAL ASSISTANCE PROGRAMS 2 (2009), available at [http://assets.opencrs.com/rpts/RL30719\\_20090319.pdf](http://assets.opencrs.com/rpts/RL30719_20090319.pdf).

<sup>18</sup> Pub. L. No. 111-5, 123 Stat. 115 (2009). It is interesting to note that the report by the Congressional Research Service stated that a key issue in the development of the policy was “how to strike a balance between providing federal assistance for unserved and underserved areas where the private sector may not be providing acceptable levels of broadband service, while at the same time minimizing any deleterious effects that government intervention in the marketplace may have on competition and private sector investment.” KRUGER & GILROY, *supra* note 17, at 24.

<sup>19</sup> KRUGER & GILROY, *supra* note 17, at 2.

<sup>20</sup> FED. COMM’NS COMM’N, PROGRAM-SPECIFIC RECOVERY ACT PLAN FOR THE FCC’S EFFORTS ON THE BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM 1, <http://www.fcc.gov/recovery/FCC-Broadband-Recovery-Act-Program-Plan-051509.pdf> (last visited Oct. 21, 2009). The Federal Communications Commission will implement the Broadband Technology Opportunities Program in consultation with the National Telecommunications and Information Administration, the Department of Commerce, and the Rural Utilities Service of the Department of Agriculture.

<sup>21</sup> W. VA. CODE § 31-15C-1 (2008).

<sup>22</sup> *Id.*

## B. *Access v. Quality of Use*

Studies show that at least 90% of youths ages five to seventeen use computers and 59% use the Internet.<sup>23</sup> Given the fact that computer use among all Americans is increasing, despite disparities based on income, education, race, age, disability and other factors, it may be easy to conclude that the problem of the digital divide has been solved. But, such a conclusion oversimplifies the problem. It does not take into consideration that the *quality* of online use may be a more accurate barometer for evaluating the digital divide than mere access.

### 1. Challenges Faced by Adults

An access-only analysis does not adequately describe the challenges faced by adults in low-income communities for several reasons.<sup>24</sup> First, it presumes that if a person can afford to own a computer, or if they are simply given one, they can also operate and maintain it. Persons with the necessary hardware, software, and connectivity — if they lack basic skills to utilize the technology — will be unable to take full advantage of their web access. “[A]ccess to telecommunications services is only one aspect of access to this technology.”<sup>25</sup> In order to appreciate the “total cost of ownership” (TCO), one must consider direct costs, such as the cost of the computer hardware and software, the Internet connection, the provision of an Internet service provider, hardware and software upgrades, maintenance, technical support, formal and informal training, and indirect costs, including peer support, file and data management, and downtime.<sup>26</sup> Experts have suggested that over time, the costs of “training, maintaining equipment, upgrading and configuration” constitute the primary expenditures in utilizing a computer, with the TCO rising to three or four times the cost of the hardware alone.<sup>27</sup>

It is no wonder that many low-income individuals cannot afford to own a computer, and even fewer can afford to maintain one. Without the ability to

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<sup>23</sup> RedOrbit, *90 Percent of Kids Use Computers*, REDORBIT, Oct. 29, 2003, [http://www.redorbit.com/news/general/18542/90\\_percent\\_of\\_kids\\_use\\_computers/](http://www.redorbit.com/news/general/18542/90_percent_of_kids_use_computers/). The source of the figures is a report from the U.S. Department of Education on computer and Internet use by children and adolescents in 2001. A second report from the agency, based on 2002 data, shows 99% of public schools have Internet access, up from 35% in 1996. *Id.*

<sup>24</sup> See Paul DiMaggio & Eszter Hargittai, *From the 'Digital Divide' to 'Digital Inequality': Studying Internet Use as Penetration Increases* 1–23 (Princeton Univ. Ctr. for Arts and Cultural Policy Studies, Working Paper No. 15, 2001), available at <http://www.princeton.edu/~artspol/workpap/WP15%20-%20DiMaggio%2BHargittai.pdf>; see also Blanca Gordo, *Overcoming Digital Deprivation*, 1 *IT & SOC'Y*, 166–80 (Summer 2003), <http://www.stanford.edu/group/siqss/itandsociety/v01i05/v01i05a08.pdf>.

<sup>25</sup> Cleary et al., *supra* note 2, at 358.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

afford the expertise and training needed to use the technology, access to a computer and the Internet becomes inconsequential. Moreover, studies that focused on children found that, even with access to a computer in the home, the presence of someone in the home with the expertise to assist the child was “among the most important determinants” of whether a child would “make maximum use of the technology for educational purposes.”<sup>28</sup>

Second, an access only strategy does not consider the limitations on the use of public or non-personally owned computers. For many low-income residents, the solution to computer access is public access.<sup>29</sup> Not surprisingly, residents living in the poorest communities rely on public access computers the most to go online.<sup>30</sup> One reason is because access to a computer and the Internet from a public school or library is less costly; most do not charge a fee or charge a minimal fee for use.<sup>31</sup> Additionally, some public access centers provide technical assistance at no cost.<sup>32</sup> The trade-off is the lack of autonomous use, which can lead to fewer benefits to the user. Still, the use of public access computers as a foundational aspect of low-income communities is encouraging in that it “reflects effort and motivation to go online despite a lack of home access.”<sup>33</sup> Conversely, the need to rely on public access computers leads to longer wait times and less frequent use, which generally results in lower skill levels and a much lower level of information literacy.<sup>34</sup> Moreover, public libraries struggle to meet the demand. Eighty-five percent of libraries have insufficient workstations and other resources to handle the traffic at certain times of the day even though the libraries may have high levels of connectivity and bandwidth.<sup>35</sup>

Third, an access only focus does not consider the need for adequate education and training in a way that promotes economic development in a way that can move a person out of poverty. “The Internet is a reading-intensive medium that requires the ability to search for, understand, evaluate, and apply information.”<sup>36</sup> Without appropriate training even individuals with relatively high levels of education have challenges in navigating the web and achieving infor-

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<sup>28</sup> *Id.* at 358, 363.

<sup>29</sup> Social networks have started to play a significant role for access in low-income communities as well. See *How Concentrated Poverty Matters*, *supra* note 3. See also DiMaggio & Hargittai, *supra* note 24, at 9–10.

<sup>30</sup> Thirty percent of library patrons surveyed stated that they had no other Internet access, and 37% of patrons in high-poverty areas reported that they had no other Internet access. *How Concentrated Poverty Matters*, *supra* note 3.

<sup>31</sup> Cleary et al., *supra* note 2, at 358. A recent study showed that nearly ninety-nine percent of public libraries now provide Internet access at no cost, leading library visits to double over the past decade. See *How Concentrated Poverty Matters*, *supra* note 3.

<sup>32</sup> Cleary, et al., *supra* note 2, at 358.

<sup>33</sup> *How Concentrated Poverty Matters*, *supra* note 3, at 2.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

mation literacy. For those with low educational attainment, both formal training and ongoing support are imperative in order to cross the divide and gain Internet competency.

And, fourth, an access only perspective ignores the need for integration of technology in low-income communities in a way that increases social and political capital.<sup>37</sup> Digital inequality is an important public policy issue because the Internet connects people to critical resources such as health providers, government agencies, and nonprofit organizations that provide valuable information.<sup>38</sup> “As residents of poor communities are more likely to depend upon public services and to suffer from health problems, the need to find information online may be higher still in these communities.”<sup>39</sup>

Higher levels of Internet use also promote political participation and civic engagement.<sup>40</sup> Those with access and adequate skill sets use the Internet as a news source and as a resource for gathering information in order to make informed decisions, engage in dialogue, or participate in movements for social and legal reform.<sup>41</sup> Those who cannot use the Internet frequently or effectively “bear higher information costs . . . and are further disadvantaged in the labor market. Beyond these individual costs are implications for local economic development, and the human capital available to areas to attract businesses across many industries that increasingly rely upon the use of information technology.”<sup>42</sup>

Despite the fact that low-income residents are more likely to have lower rates of access and skill, they also appreciate the importance of technology. “African-Americans, and to a lesser extent, Latinos, are even more likely than similarly-situated whites to express positive attitudes toward information technology; particularly about its importance for economic opportunity. African-Americans are also among those who are most likely to search for a job online or to take an online class . . . .”<sup>43</sup> The especially positive attitudes . . . suggest that residents of poor communities do not have fundamentally different views of technology than other Americans, and that technology inequalities are not based on apathy.”<sup>44</sup>

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<sup>37</sup> See DiMaggio & Hargittai, *supra* note 24, at 11–12.

<sup>38</sup> *Id.* See also *How Concentrated Poverty Matters*, *supra* note 3.

<sup>39</sup> *How Concentrated Poverty Matters*, *supra* note 3.

<sup>40</sup> Aaron Smith et al., *The Internet and Civic Engagement*, PEW INTERNET & AM. LIFE PROJECT, Sept. 1, 2009, <http://www.pewinternet.org/Reports/2009/15--The-Internet-and-Civic-Engagement.aspx> (Despite increased participation among all Internet users, those with high levels of education and income still constitute the majority of Internet users for the purpose of civic engagement.).

<sup>41</sup> See DiMaggio & Hargittai, *supra* note 24, at 12.

<sup>42</sup> *How Concentrated Poverty Matters*, *supra* note 3, at 4.

<sup>43</sup> *Id.* at 3 (“controlling for education, income, and other factors”).

<sup>44</sup> *Id.* at 5.



## 2. Challenges Faced by Youth

Although access among adults is crucial, experts recognize the need to expose people to technology at a young age.<sup>45</sup> “[U]nless all students are sufficiently exposed to the Internet today, those without exposure will be at a serious disadvantage in the job market of the future.”<sup>46</sup> Efforts to promote access to youth have resulted in a concerted action on the national and state levels to connect schools and public libraries to the Internet through the E-Rate program.<sup>47</sup> That program, created by the passage of the Telecommunications Act of 1996, established funds to allow schools and libraries to connect to the Internet.<sup>48</sup> As a result of the program, nearly all schools in the United States have Internet access,<sup>49</sup> though eligible costs for schools and libraries include only wiring, phone lines, and Internet access, but not computers, staff training, or support staff.<sup>50</sup>

Scholars view this advance in access as an important starting point but stress that the *method of delivering* such crucial access remains an unresolved “key issue.”<sup>51</sup> Many experts acknowledge that the wiring of schools and libraries is insufficient to address the need for technology access in education and especially given the gaps in technology training of teachers and school administrators.<sup>52</sup> Thus, while access may be improving, inadequate training resources continue to handicap the ability of low-income students to effectively utilize the Internet and other web-based applications.

### III. LOW-INCOME INDIVIDUALS AND COMMUNITIES CAN CAPITALIZE ON DIGITAL ENTREPRENEURSHIP

#### A. Boost Effective Access to Technology

As this essay has argued, an “access only” response to the digital divide will not by itself correct the digital disparity in our country. Nonetheless, increasing access is an essential component of any strategy to reduce the digital divide, especially when paired with ongoing training. Community Technology Centers (CTCs) provide a physical place for low-income residents in rural and

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<sup>45</sup> Cleary et al., *supra* note 2, at 357.

<sup>46</sup> *Id.* at 357.

<sup>47</sup> See *How Concentrated Poverty Matters*, *supra* note 3, at 6.

<sup>48</sup> See *E-Rate Program — Discounted Telecommunications Services*, <http://www.ed.gov/about/offices/list/oij/nonpublic/erate.html> (last visited Sept. 17, 2009).

<sup>49</sup> “Ninety-nine percent of the poorest schools (those with 75 percent or more of their students eligible for free or reduced-price lunches) have Internet access, and 100 percent of other schools have Internet connections.” *How Concentrated Poverty Matters*, *supra* note 3.

<sup>50</sup> *How Concentrated Poverty Matters*, *supra* note 3.

<sup>51</sup> See generally *id.*

<sup>52</sup> See *id.*

urban areas to access computers and receive training. Leaders in workforce development regard CTCs as a vital part of bridging the digital divide, but the technology center model is not new. The Urban League, one of the nation's most venerable civil rights organizations, created its first such center in Los Angeles in 1968.<sup>53</sup> Since then, workforce centers administered by the U.S. Department of Labor and funded by the Workforce Investment Act of 1998 have sprung up in rural communities and most major municipalities across the country and offer access to computers and a range of business services. In 2007, there were 1637 such comprehensive "one stop career centers" across the country.<sup>54</sup> In one of those centers, JoEllen could receive the computer and Internet skills training needed to move her out of the cycle of poverty and into economic mobility.

Other governmental and non-profit organizations have also established places where those without on-line access at home can go to connect to the web. In Los Angeles, the City of Compton and the Los Angeles Metropolitan Transit Authority joined together to establish Blue Line TeleVillage, described as "public transit to the information superhighway."<sup>55</sup> The project operated for one year in 1996-97 and included the following services: a computer center; a video conferencing center; a telework center that provided fax machines and other business services; and a community meeting room for conferences.<sup>56</sup> The idea was to situate the center next to a public transit hub in Compton so that residents could access a telecommunications facility within less than a mile from their homes.<sup>57</sup> The City of Compton continued to operate the facility after the demonstration period concluded.

While CTCs afford valuable opportunities to connect those off-line at home to the web, it remains necessary to increase personal ownership of computers to enable people to truly capitalize on the opportunities in our digital economy. Private companies such as Dell Computer, Microsoft, and IBM have donated hardware and software to people in low-income communities to help increase autonomous computer usage. In addition, the Gates Foundation invests significant funds in grants and donations to support this effort.<sup>58</sup> Moreover,

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<sup>53</sup> Gary Chapman, *Reaching Out to Bring Low-Income Blacks Across the 'Digital Divide,'* L.A. TIMES, Apr. 12, 1999, available at <http://articles.latimes.com/1999/apr/12/business/fi-26569?pg=2>.

<sup>54</sup> U.S. GEN. ACCOUNTING OFFICE, WORKFORCE INVESTMENT ACT: ADDITIONAL ACTIONS WOULD FURTHER IMPROVE THE WORKFORCE SYSTEM 6 (2007) (statement of Sigurd R. Nilsen, Director, Education, Workforce, and Income Security Issues).

<sup>55</sup> Walter Seimbab, *Public Transit for the Information Highway*, [http://www.comtechreview.org/summer-fall-1999/public\\_transit.htm](http://www.comtechreview.org/summer-fall-1999/public_transit.htm) (last visited Sept. 16, 2009).

<sup>56</sup> WALTER SEIMBAB, THE SEIMBAB CORP., BLUE LINE TELEVILLAGE DEMONSTRATION PROJECT EXECUTIVE SUMMARY 7-8 (1998), <http://www.siembab.com/docs/bluelineexecsumm.pdf>.

<sup>57</sup> Chapman, *supra* note 53.

<sup>58</sup> GatesFoundation.org, Topics: Libraries, <http://gatesfoundation.org/topics/Pages/libraries.aspx#> (last visited Oct. 4, 2009).

laptop donation programs continue to proliferate with initiatives in New York City,<sup>59</sup> New Jersey,<sup>60</sup> Kansas City,<sup>61</sup> and elsewhere.

### B. *Build a Ladder for Digital Entrepreneurship*

In the opening scenario, George, a small business owner, needs to increase his client base in order to survive. George has an excellent reputation among his clients but has not had the time or expertise to market his business. A project such as the Neighborhood Development Center (NDC), which currently operates technology resource centers in the St. Paul-Minneapolis area, could give George the infusion his business needs. The NDC was founded on the belief that “digital inclusion for low-income entrepreneurs represents empowerment at the most basic level.”<sup>62</sup> The NDC’s Business Resource Centers offer entrepreneurs access to computers and, through one-on-one mentoring, helps them to establish a website and to integrate business software, web-based marketing, and print-based marketing materials into their business.

Or, George could receive one-on-one online mentoring from MicroMentor, a free service that connects struggling business owners with business mentors across the country through “creative use of technology.”<sup>63</sup> With its focus on underserved entrepreneurs, including entrepreneurs in rural and low-income communities, entrepreneurs with disabilities, women, and people of color, MicroMentor seeks to help not only individual entrepreneurs, but also to “collectively foster sustainable economic development in disadvantaged communities across the nation.”<sup>64</sup>

### C. *Nurture Youth Toward Digital Entrepreneurship*

Whatever the state of the digital divide today in the United States, there is always hope for narrowing this technological opportunity gap through the next generation. Youth today across virtually all segments of society are far more oriented to the digital world, be it through the use of cell phones, computer games, and other common consumer goods ranging from cameras to cars, which are increasingly computerized. But because of the challenges of access, quality

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<sup>59</sup> Elizabeth Green, *Low-Price Laptops Tested at City School*, N.Y. SUN, Sept. 30, 2008, <http://www.nysun.com/new-york/low-price-laptops-tested-at-city-schools/86861>.

<sup>60</sup> *South Jersey Industries to Donate Laptops to TeamChildren*, REUTERS, Aug. 10, 2009, <http://www.reuters.com/article/pressRelease/idUS52952+11-Aug-2009+BW20090811>.

<sup>61</sup> *Kansas School District Provides Free Laptops* (NPR radio broadcast Nov. 23, 2007), <http://www.npr.org/templates/story/story.php?storyId=16572460>.

<sup>62</sup> Neighborhood Development Center, *One-on-one Business Consulting for NDC Graduates*, <http://www.ndc-mn.org/services/training/consulting.html> (last visited Oct. 5, 2009).

<sup>63</sup> MicroMentor.org, *Mission and Overview*, <https://www.micromentor.org/img/pub/docs/micromentor-overview.pdf> (last visited Oct. 5, 2009).

<sup>64</sup> *Id.*

of use, and education in many low-income communities and households, more needs to be done to support disadvantaged youth if they are to realize opportunities through digital entrepreneurship. Programs around the nation are increasingly focusing on nurturing youth to become this next generation of entrepreneurs. One such initiative is the Digital Connectors Program which was launched by One Economy in 2001.<sup>65</sup> Operating in more than twenty rural and urban locations, the program provides select youth with additional technology training. Once trained the youth dedicate at least fifteen hours a week to training others in their communities and working on technology projects. This peer-to-peer initiative is helping thousands of youth to build digital skills, improve their communities through increased connectivity and identify technology-based career opportunities.

#### IV. CONCLUSION

Imagine this: JoEllen, with the help of a training program and some on-going mentoring, has set up “Jo's On-line Secretarial Services” in which she provides computer services to clients across the United States and Canada. George, meanwhile, has doubled the client base for his janitorial company as a result of traffic coming through his new website and his on-line marketing campaign. Two decades ago these stories would have been a dream for those caught on the wrong side of the digital divide. But increasingly those at the margins of our economy and society are seeing digital entrepreneurship as a means of improving their livelihoods.

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<sup>65</sup> Karla Ballard, *Digital Connectors*, <http://www.one-economy.com/ourwork/youthinitiatives> (last visited Oct. 5, 2009).