Is the Serpent Eating Its Tail?
The Digital Divide and African Americans

Jacqueline Horton

The Internet is getting larger every day. Computers, through the Internet, are becoming a significant part of our everyday lives. More and more companies and organizations are using the Net to inform, educate, and entertain. As we travel the Information Highway, a growing number of the phases of our lives—identification, money, security—are being handled electronically.

The Digital Divide is alive and well in America. What this means is the technology haves and the have-nots are continually growing further apart. Due to the pace of change in the field of computer technology, this divide widens faster in less time. Playing catch-up becomes an increasingly more difficult game to endure, with the government, public, and private sectors trying to invent ways to level the playing field. However, according to the U.S. Commerce Department's National Telecommunications and Information Administration's (NTIA, 1999) paper "Falling Through the Net III: Defining the Digital Divide," many of those who are left behind (Blacks, Hispanics, Native Americans, those with education below the high school level, single parent families, those with income less than $25,000/year) are trying to catch up themselves by accessing computers in community centers and libraries. Since parties on one end of the Digital Divide are using computers to get themselves to the other end, why aren't more online?

The purpose of this study is to look at racial overtones to Internet access. It is assumed that it is important to have both computer and Internet access to compete in both school and work. By looking at how the Web is being used, ways can be suggested to make computer access easier and more convenient for African Americans, thereby increasing their interest in computer technology and information.

What follows is a discussion on content and the Internet. While cost is the dominant reason for discontinuance of online service, lack of interest ("don't want it") is the number one reason for not having Internet access at home (NTIA, 1999). If individuals can't perceive the importance of an object or how it could affect their lives, they will not go out of their way to try to learn to use it, or excel at its application.

History of the Internet

Technology can indeed act as prosthetic extension of human powers and communities. (Brook & Boal, 1995, p. vii)

Welcome to the Information Age. The Information Age began when people turned their minds from using machines to manufacture goods to using machines to process information. Productivity in the Information Age is not due to more workers or longer assembly lines but to informed teams and smarter modes of work (Carnoy, Castells, Cohen, & Cardoso, 1993).

Because the Information Age is relatively new and has spawned a tremendous rise in, particularly, scientific information, I suggest that the Information Age began in 1968 with the formation of the ARPANET (Advanced Research Projects Agency - net), the Internet's predecessor (Zakon, 1993-1999), developed by the U.S. Department of Defense. The development of the ARPANET necessitated the creation of packet switching technology and the different but compatible platforms from which it would need to run consistently and reliably, important concepts on which today's Internet is based.

ARPANET and e-mail were first demonstrated publicly in 1972 (Zakon, 1993-1999). The Domain Name System (i.e., SFSU.edu) was introduced in 1984 (Zakon, 1993-1999). In 1991, the World Wide Web was introduced, and the NSFNET backbone was upgraded to T3 (44.736 mbps) and passed 10 billion packets per month (Zakon, 1993-1999). Ten billion packets at 44.736 mbps is a lot of information moving very fast.

A Brief History of the Effects of Technology

In any case, for millions across the globe, there is no private phone, fax, or TV, let alone a computer or an automobile. *And there never will be*. This is not a question of progress or modernity delayed. (Brook & Boal, 1995, p. 11)

Obviously everyone is not keeping up with this increased flow of information. In 1994 the NTIA reported that while 27.1% of Whites had computers in their homes, only 10.3% of Blacks and 12.3% of Hispanics owned computers (NTIA, 1999). In 1998, four years later, the number of households with computers doubled for everyone; but in comparison with Whites, Blacks and Hispanics were even less likely to have household access to computers (46.6%, 23.2%, and 25.2%, respectively; NTIA, 1999). In fact, "Whites have more access to computers in the home than Blacks or Hispanics do from any location" (NTIA, 1999, p. xv). In 2000, 36% of Blacks had access to the Internet, in comparison to 50% of Whites who had access. While the difference between the two groups is getting smaller, it does not appear as if everyone will arrive in this Information Age at the same time (Spooner & Rainie, 2000).

Is this Digital Divide an anomaly, an unlikely case of an egalitarian product that exacerbates class struggles? Or is the Internet simply the product that affects us today, a system whose consequences are even more dramatic due to this 21st century globalization that we are experiencing? Several writers have noted that African Americans have routinely gotten the short end of the technology stick with computers and that the Internet is at the end of a long line of "firewalls" built to keep Blacks out.

One of the first major technological inventions to adversely affect African Americans was Eli Whitney's cotton gin. Whitney's gin allowed cotton to become an easy and cheap commodity.

Because more slaves were needed to aid in this new growing industry (Walton, 1999), there was a huge jump in the slave trade. The year 1865 saw the end of the Civil War and the beginning of the Reconstruction. African Americans were free technically, but being penniless and landless in an agrarian society, could not be economically or even physically emancipated. Most Blacks were uneducated after experiencing 200 years of slavery. What was the use of freedom without education? Not much. It would be akin to being given a boat with no oars. Blacks needed other avenues for growth. Slowly but surely they made gains in areas other than farming, where they had previously had the most experience.

After the Civil War, Blacks began the migration to the North. The Industrial Revolution spurred the need for many more industrial workers, and Blacks were allowed to fill the void—some in semi-skilled jobs but most in unskilled, domestic, and janitorial jobs in both the North and the South (Marshall, 1967). Automation in the late 19th century to early 20th century increased mechanization, which allowed more Blacks to be employed in jobs that previously required training and experience (Harris, 1982). Technology at this point helped Blacks in the workforce. The migration of Blacks to the North helped make up for the staunched immigrant labor pool during World War I.

The National Recovery Act of 1933 was an attack on urban poverty. This act shortened the workweek and instituted minimum wages for occupations. But instead of offering Blacks and Whites the same wage for the same work, employers classified the jobs differently, which allowed professions that were heavily worked by Blacks to be classified at a lower level or to be exempt from classification altogether (Marshall, 1967).

By the early 1940s African Americans, despite setbacks and opposition, had doubled their numbers as skilled craftsmen (Harris, 1982). The increase in the diversification of jobs continued at this time leading to a general increase in the number of African Americans employed. Unfortunately, 80% of the Black male working population still worked in jobs considered unskilled (Harris, 1982).

World War II saw further increases in the Northern migration and employment of Blacks. The number of Blacks employed in semi-skilled jobs grew, mainly because of the monies pumped

into the war effort and the drafting of White workers into the armed forces, which depleted the growing workforce (Marshall, 1967). Even so, Blacks were not given adequate chances in training programs and new jobs.

> Negroes have faced a more serious unemployment problem than white workers throughout the postwar; the jobless rate for Negro workers has remained about twice that of white men and women since the early 1950s. The ratio persists at each level of educational attainment, with the differential even greater among workers with more schooling than among those with a minimal level of education. (Harris, 1982, p. 123)

In the 1960s job opportunities did not improve much for the Black male. Black gains in the 1950s were in semi-skilled jobs. However, when automation replaced semi-skilled workers in the 1960s, their employment declined to the level achieved in 1948 (Harris, 1982). Mechanical cotton pickers were used increasingly, which caused further unemployment among Blacks still living on Southern farms (Harris, 1982). Blacks were able to make gains in securing professional employment with the federal government, however. Even so, in 1961 72% of the lower ranked jobs (grades GS 1-4) were held by Blacks, while 35% of all employees were employed in those levels.

Technology increased in the 1970s and 1980s, and the economy shifted from manufacturing to low-paying and service-oriented jobs (Harris, 1982). The accompanying decline in the numbers of low-skilled manufacturing jobs did not help the standard of living for Blacks. "The socioeconomic status of Blacks was as depressed in 1980 as it had been in 1969" (Harris, 1982, p. 179).

And now in the 21st century, we have computers and the Information Age. How prepared and how well positioned is the average African American to move on the Information Highway?

The Digital Divide

> More than 100 million people around the world, most of whom had never heard of the Internet four years ago, now use it to do research, send e-mail to friends, make requests for bids to suppliers, and shop for cars and books. (U.S. Department of Commerce, 1998, p. 4)

While the Internet is thought to be an equalizer, it has never been thought of as a level playing field. Black entrepreneurs make the play, gaining footholds (Muhammad, 1999). Most of the Black Internet/computer users are between 24 and 48 years old and make more than $40,000 (Hoffman & Novak, 1999). Though the numbers appear more egalitarian for Whites, they are still linked strongly to household income and education. The higher the income and education, the greater is the chance that a person will own or use a computer.

In the United States, the person who doesn't own a computer is more likely to be a person of color with little income and education. He or she will more than likely be either single or a single parent and live in the inner city or a rural area. If there were no Digital Divide, so accurate a picture of the have-not world could not be painted. But study after study shows the above to be the case.

You can't have the Digital Divide without the Digital, but is the Internet at fault? Remember that the Internet was not made for everyone to use but developed by the Department of Defense. Perhaps it has problems scaling up for general use. While technology can be seen as morally neutral, it cannot be assumed that the uses to which it is put are equally sanguine.

These uses seem to be either of no use or of no interest to most people. This creates an information disconnect, an information divide. This information divide is what is fueling the Digital Divide.

> But the flight into cyberspace is motivated by some of the same fears and longings as the flight to the suburbs: it is another "white flight." (Brook & Boal, 1995, p.ix)

If the Internet is truly blind ("No one knows if you are a dog on the Internet" [Steiner, 1993, p. 61]), why isn't everyone on it equally? There are so many variables (education, income, age) to the information have-nots when you look at African Americans that it is hard to get a clear picture of what is happening and why, and what to then do about it. Let's look at the education variable for example. While this article does not focus on the effect of education on the Digital Divide, it should be noted that it mirrors the Educational Divide as it pertains to

Blacks who are, once again, on the wrong side of the line. It is no secret that Blacks and other minorities do not receive the best educations, particularly if they attend an urban school (Rist, 2000; Temple, 1998). It is the same forces at work in the Digital Divide as in the Educational Divide. Large class sizes and crumbling institutions, which characterize the urban public school to which many minority and poor students are sent, are but the physical harbingers of the differential yet lasting treatment afforded to people of color (Temple, 1998). All of these factors work together. How else do you explain the inability of Black high school dropouts to be employed at the same rate as White high school dropouts (Marshall, 1967)? There are many facets to the Black economy, and education is one of them; so is knowledge and manipulation of things digital. The idea here is to focus the issue of the Digital Divide on race in hopes that it will focus attention on all race-related items such as education and income and that the digital tide will aid in floating all such boats for African Americans.

Focusing on employment, do African Americans have jobs that do not require a computer and so are never exposed to one? Do they not go grocery shopping or use an ATM or go to the library? The sad fact is that if you are Black, you are more likely to live in an inner city, drop out of school, and earn a low income (Bolt & Crawford, 2000; Harris, 1982). So is the Digital Divide racial or is it education / income based? These items are so closely intertwined for African Americans that you cannot say either way. What we can do is take a look at what African Americans do when they are online. Perhaps this will shed some light as to why they are not online in greater numbers.

African Americans use the Net for online classes and job hunting (Hoffman & Novak, 1999; NTIA, 1999). African Americans shop online just like everyone else, but they do not search for product information as much as others (Hoffman & Novak, 1999).

So now we have a better idea, though not complete by any means, of what Blacks do online. It sounds like they know how to put the computer to good use, so why aren't they online more? Three suggestions: exposure, cost, and content.

Exposure

In 1999, Tom Joyner and Tavi Smiley threatened to sue CompUSA to get the retail giant to place ads with African American-oriented media (Associated Press, 1999; Wickham, 1999). Digital technology is not so abundant in the inner city as elsewhere. Schools are considered wired when they have one computer hooked up to the Internet; schools in wealthier areas have more computers hooked up to the Internet per student than those in poorer neighborhoods (Bolt & Crawford, 2000; Goslee, 1998).

Cost

While computers are coming down in price, it is the webTV versions that are readily available for under $500. Otherwise, a quick perusal of newspaper ads shows most computers to be still at the $1,000 mark (monitor not included). Computers are also a lump sum purchase, which is a large amount of money to pay all at once for an item with questionable usage and value. Then there are the monthly ISP fees to add to the expense.

Content

While there are hundreds of thousands of Web sites on the Net, there are only a few hundred of special interest to African Americans (Bolt & Crawford, 2000; Hoffman & Novak, 1999). But do you have to have Black-specific content in order to get African Americans online? Aren't they cat lovers and stock buyers and music aficionados as well? Perhaps what African Americans need in order to get on the Net is a "killer app" (a software program that drives up sales of computers)—e-mail isn't it and mp3 isn't it. What will it take to get African Americans to see that the digital life is useful for them?

Again, the three possible reasons for African American involvement on the wrong side of the Divide are exposure, cost, and content. Content will be further explored next.

Content and City.net

Despite the strong demand for labor, many workers are failing to realize the benefits of California's economic boom. (Yelin, 2000, p. 1)

There are many ways to bypass the cost issue. The U.S. government is doing its part in the reduction of the cost of computer equipment and hookups to the Internet. An E-rate

(NTIA, 1999) has been implemented that ensures discounted connection rates for schools and libraries, thus enabling more public schools to get wired. In addition, President Clinton's "Call to Action for American Education" allowed for all public schools and libraries in the U.S. to be wired for technology by the year 2000 (Novak & Hoffman, 1998). The other half of Clinton's "Call to Action" is to connect every U.S. home by 2007 (Novak & Hoffman, 1998).

Between the E-rate and the "Call to Action," most of our nation's children have access to computers. Free PCs given out by Internet service providers and subsidized PCs given out by employers presumably take care of any other cost concerns on the part of nonwired African Americans everywhere (Thierer, 2000).

What is more, computer prices are dropping. Some color TVs cost more than computers, and yet people still buy them (Thierer, 2000). Computers and other Internet technology will get steadily cheaper and cheaper until the issue of cost simply fades away.

Clinton's "Call to Action" will have every public school child exposed to the Internet. They will go home and spread the "tech-virus" to their siblings and other family members they come in contact with. Also, adults without access to children are working in places that are getting wired, exposing more adults to the technological wonders.

As more people buy computers, computer makers and retailers will have to consider seriously the untapped market of the unwired: the low-income, rural or inner-city dwelling minority. The unwired are ripe for saturated exposure through advertising.

What is more, government entities will increasingly put more information on the Internet. Therefore, people who require up-to-date knowledge of benefits, such as disability or Social Security, will find this information being put online more often in the future (U.S. Internet Council & International Technology and Trade Associates [USIC & ITTA], 2000). People will be forced to look to the Web for information that has a direct impact on their lives. In time, the exposure for African Americans will increase, slower than their ability to gain access, but it will increase all the same.

Content is the final piece of the puzzle. Content is what will make people take their first steps onto the Internet and will make them stay online once they try it. Content is what is going to prepare America for the new "digital work-force" as described by the U.S. Department of Commerce. Increased interest will come from more significant content. Enlarged interest will reduce fear and allow Black people to take ownership of things digital (U.S. Department of Commerce, 1998).

But what content is needed to lure African Americans across the Digital Divide? As with any design problem, the best way to find out why the customer is not buying the product is to listen to the customer talk about the product. So one must either ask users directly or observe them during use (or nonuse as the case may be). This article does not contain results of interviews with African Americans nor does its author claim to have looked over the shoulders of African Americans while they used a computer or passed a computer store; that would be grist for a whole other article. However, from what has been read and researched about the Digital Divide and African American computer use, or lack thereof, I have come up with what might be an answer to the content question.

Access and exposure are good, but those two conditions do not make one computer literate. In *Newsweek* magazine, Alter (1999) stated that, in addition to having access to the Internet, people must use their creativity and initiative to get the most out of the computer. Being superficially introduced to the Internet or insufficiently exposed to software will not be enough to make one computer literate. The Digital Divide is not just about access; it is about what people do with a computer once they have one.

In *Digital Divide: Computers and Our Children's Lives* (Bolt & Crawford, 2000), B. Keith Fulton, director of Technology Programs and Policy with the National Urban League said, "In the Information Age, it is critically important to master the three basics: reading, writing and arithmetic…but also to have information literacy: the ability to access, interpret, and respond to information" (p. 114). Once again, access is important; but in our future and the future of the world, we cannot afford to leave anyone behind. Everyone should become acquainted with this information literacy. People should be unafraid to approach

technology and should have a general idea as to what can be done with it.

New studies suggest much the same thing—content is the way to get people online. The Digital Divide Network (2000), quoting the recent Stanford University (2000) study and National Public Radio (1999) study, stated that the Internet technology industry is building networks for users as consumers but not for people who want to make content themselves. The Children's Partnership's March 2000 report on online content suggested that people, in particular those with low incomes, would prefer to have local information on the Web. Items people would like to see more frequently are employment, educational opportunities, and business development prospects. The importance of producing content was also brought up by the Digital Divide Network (Lazarus & Mora, 2000; Twist, 2000). Even the U.S. Internet Council's (USIC & ITTA, 2000) "State of the Internet 2000" paper discussed the growth of "virtual communities" (p. 22). These virtual communities have local information and have grown from simple chat rooms to Web portals with news, weather, e-mail, and the like.

So even content is not a simple matter of just giving it away. People want information that is useful to them. If people don't want to go on the Internet, it is because the information is not useful and because it is hard to find and navigate. But if people make their own content, then it is as interesting and as easy to navigate as they make it (Goslee, 1998; Lenhart, 2000; National Public Radio, 1999).

My idea to closing the Digital Divide for African Americans is City.net, a portal where the residents create and edit the Web site. For example: San Francisco, California, has several different neighborhoods. Each neighborhood has its own character, its own main street, its own cultural flavor. Each neighborhood would have a Web site where each resident would have a login, e-mail if necessary, and access to the citywide portal. After being given computers, hookups, software, and training provided by a tech-savvy nonprofit, the neighborhood would have a technical town hall meeting where the design of the neighborhood's Web site would be created and decided upon. So, as an example: Chris Johnson, resident of Bayview would have an e-mail address of cjohnson@bayview.sf.net. This e-mail would allow access to Bayview's

site as well as any sf.net neighborhood's site. Chris also would be able, as a resident of bayview.sf.net, to add information to the neighborhood's site. Job availability, health risks, education opportunities in the near vicinity could all be posted on the appropriate neighborhood page. Chris could query neighbors about what classes or information they would be interested in and then they could arrange to have a class or speaker come and give a talk on that subject at the neighborhood center. The Web sites would be picture (graphic) heavy in order to make them easy to navigate and understand. The neighborhood could then have pages translated or even written in languages other than English based on the needs of the neighborhood.

How would people without much computer literacy (or whom may even be illiterate) be able to post things on City.net? Once format is developed, pages could be formatted so that adding information should be a matter of point-and-clicking or typing the information in. Important citywide announcements could then be broadcast to all residents. Federal and state information could also be given out in this way. But everyone must be involved or the City.net will not represent all of its people.

The City.net has been tested in other locales. It was documented in the Children's Partnership's *On-Line Content* (Lazarus & Mora, 2000) paper. Brooklynx, in New York, and Chicago's www.northwest.com are two examples of online community resources that base their content on the values and input of their neighborhoods (Anderson, Bikson, Law, & Mitchell, 1999; Lazarus & Mora, 2000; Schön, Sanyal, & Mitchell, 1999). While these virtual communities are like the City.net introduced above, the scale is smaller and the participation of all citizens is not as inclusive. That said, these online community resources have the capability of increasing interest in the Internet and other digital technologies for those who have been previously disenfranchised. City.net and like portals could be the "killer app" the Internet is waiting for.

In conclusion, one can hope that the Digital Divide will disappear as a result of the decrease in prices for computers and the increase in alternate methods of accessing the Internet. But content is the last key to the puzzle. Content will draw those not previously interested into the

fray. City.net, a portal that would combine home computer ownership with software training in order to have residents build a neighborhood's personalized site, is my idea to increase the African American presence on the Web.

Conclusion

The Gartner Report on the Digital Divide (Smolenski, 2000) posited a three-stage Digital Divide in America: Stage One is lack of computer access; Stage Two is lack of experience with technology, which limits the use of important information and sites away from disadvantaged Americans; and Stage Three is lack of broadband access to the Internet. Throughout this article I have suggested three stages as well. The first stage is lack of computer access. The second stage of the Digital Divide is lack of access to the Internet (the first and second stages are sometimes addressed concurrently), and the third stage is lack of expertise. Expertise is the equivalent to Gartner's second stage of experience. However, expertise for this article not only includes experience with the Web and the Net, but with all digital things. The further development of information literacy is the reason that closing the Digital Divide is so important. The Digital Divide is not an issue simply because people do not have access to computers or the Internet; it is an issue because this lack of access breeds an unfamiliarity with the digital technology and information revolution that is so pervasive and necessary here at the turn of the century and beyond.

For African Americans the effects of this third stage of the Digital Divide is real. Blacks are less likely to have a computer in the home (NTIA, 1999). While they may be getting wired in record numbers, they are more likely to be new to computers and the Net, and therefore forever behind the experience curve (Spooner & Rainie, 2000). A whole generation will be too old for the wiring of the schools and too young to have been in the first wave of computer use. These people don't disappear. They move through their lives just a little bit behind everyone else. African Americans need a program that will jump start them and propel them quickly to the level of, if not beyond, their White and Asian counterparts. African Americans do not have time to wait for computers to get cheaper or schools to be wired or Net content to realize their worth as consumers. A program such as City.net, which would provide for training, access, and content production in a concrete package, driven by private industry and managed by nonprofits and the citizens themselves, would go a long way towards dismantling the Digital Divide.

Ms. Jacqueline Horton is an educational materials and textbook clerk at a middle school in Oakland, CA. She is a member of the Beta Beta Chapter of Epsilon Pi Tau.

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