

The Causes and Trends of the Digital Divide

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The digital divide has been defined by some as a term used to describe the discrepancy between people who have the access and resources to use new information and communication tools (such as the Internet) and people who don't have it. The term also describes the discrepancy between those who have the skills, knowledge and abilities to use the technologies and those who do not. There is a large body of literature on the digital divide and its causes and trends. This review is a critical study of some of these papers. The papers reveal several causes for the existence of the digital divide. This review concentrates on the social, economical, and gender aspects of the divide. It exposes some of the key debates in this field. It finds that these papers do not stick to any particular theories or models but prefer to use case studies to understand the phenomenon instead. The review concludes by stating that this area is a socially relevant topic even today and could definitely benefit from continued research.

Introduction

The advent of the Internet can be seen as one of the most significant advances of the twentieth century. This 'network of networks' was touted to be the means of communication and information retrieval. Despite the fact that the initial response to the Internet fell short of expectations, a marked rise could be seen in its adoption and use in the nineties (DiMaggio et al., 2001). The new computing and communication technologies were expected to overcome geographical and social barriers (Graham, 2002); the Internet would create a smaller, more close-knit global community. The high adoption rate of the Internet (unprecedented in any other mass communication technology) seemed to suggest that it was well on its way to do the same.

"According to Castells, we live in an historic period of transformation, where a new societal system is emerging. The two key features of this new order are informationalism and globalism." (Wilenius, 1998).

The Internet soon permeated into day-to-day life to such an extent that people started considering the lack of Internet access to be a 'disruptive event' (Hoffman et al., 2004). However, this permeation and the obvious advantages it offered has now become a major bone of contention amongst many.

A surge of concern was expressed over the rising problem of this new technology being available to only one part of society, namely the people in the high-income bracket. In the early 80s, Schreiber (1984) spoke about how society had got divided into the information "haves" and "have-nots" with the advent of computers and the Internet. He expressed anxiety over the fact that the blacks in America were being left behind in the computer race as they could not afford the new technologies. This was about the time when the term 'digital divide' came into existence.

For this review, I have studied seventeen academic papers published since the turn of the century on the phenomenon of the digital divide. I have tried to chart out the various reasons pointed out by academics for the existence of the divide. This review tries to study the emergence of this phenomenon and the trends it has followed over the years by seeing how the debate in this field had developed.

Does it actually exist?

Initially, the 'divide' referred to the gap that was forming between the richer and the poorer sections of society. However, soon people were talking about the digital divide as a 'complex and dynamic phenomenon'. While some denied the existence of a digital divide, others claimed that it would disappear on its own (Dijk & Hacker, 2003). Sassi (2005) believes that the spread of the Internet will follow the S-curve; so, while initial adoption may increase social gaps, these gaps will close eventually. Others also expressed that when 'saturation' sets in among higher categories, the lower categories would soon catch up in adoption of the Internet (Dijk & Hacker, 2003). While some hope that these societal gaps will evaporate eventually, yet others show that even though saturation in terms of diffusion of information goods such as radio and television occurs rather rapidly, the same is not true for information systems such as telephone and cable (Schement, 1999 referred in DiMaggio, 2001).

Understanding the causes of the Digital Divide

Several reasons have been cited as causes of the digital divide. The 'digital divide' now implies

"inequalities in access to the Internet, extent of use, knowledge of search strategies, quality of technical connections and social support, ability to evaluate the quality of information, and diversity of uses." (DiMaggio et al., 2001).

Another way of defining the digital divide is by classifying individuals as either tech-savvy or less savvy (Hoffman et al., 2004). Graham (2002) sees this phenomenon as giving the powerful more power over people, time and space, while eroding all powers of those who are marginalised or rendered off-line.

Access and Training

Let us examine these one at a time. A lot of people believe that providing everyone the access to computers and communication technologies could help in bridging the digital divide (Cawkell, 2001; Strover, 2003; Korupp & Szydluk, 2005). The view that policy packages needed to incorporate low-cost ver-

sions of information technology to allow this diffusion to take place was also very popular (James, 2002). However, only in recent times have people started grasping the fact that access to these technologies does not imply adoption of the technologies or effective use of it (Hollifield & Donnermeyer, 2003). More and more people are realising that computers and network connections (material access) are only a part of the resources required by people to make full use of technology. A lot of other factors come into play (Warschauer, 2003). Dijk and Hacker (2003) cite mental access, skills access and usage access as relevant to explaining the problem of information inequality. Even though popular opinion is that the digital divide will be bridged when every citizen gets access to a computer and an Internet connection, studies suggest that the major problems of inequality will only start at this point (Dijk & Hacker, 2003).

Just by providing people with computers and Internet access, we cannot hope to devise a solution to bridge the digital divide, especially when the people don't know how to use these new technologies. The concentration now has to shift to teaching non-users the relevant digital skills. This includes instrumental skills such as being able to operate a computer, informational skills of being able to search and process information, and strategic skills to be able to use the information effectively (Dijk & Hacker, 2003). This could give new users the confidence boost they need to be able to start using computers and the Internet.

Social and Cultural Inequality

"Analyzing causes and trends of the digital divide provides valuable insights into newly emerging trends in social inequality" (Korupp & Szydluk, 2005).

Stanley (2003) shows that race and culture also have a profound effect on the adoption and use of technology. Studies have shown that Asians or Caucasians have higher probability of owning and using computers than African-Americans or Latinos. People, especially non-computer users, have fears, assumptions and pre-conceived notions about technology. If these were alleviated, then perhaps they would be more willing to use them. Stanley tries to explore the complex relationship between ethnicity, identity and the attitudes of people to computers. She cites three non-cost related psychosocial factors for people's non-adoption of technology. These factors are their perception of how relevant the technology is to them, their fear of new technologies, and how they envision themselves with regards to technology. Several researchers have carried out analyses in various countries to show how cultural and social differences affect technology adoption. They relate the digital divide to differing levels of economic, technological and social development. However, Corrocher & Ordanini (2002) show in their model, that the divide exists regardless of technological, social and economic differences.

Warschauer (2003) comments that the divide which exists, is not digital, but social in nature. He says that by referring to this phenomenon as the digital divide, it is implied that the divide can be overcome by providing everyone with a computer and an Internet connection. But we have seen enough studies that disprove this point. Thus he comes up with the concept of Social Embeddedness of Technology. This states that:

"while a digital divide framework suggests that technology 'impacts' a social situation, in fact, technology and society are co-constitutive. While technology can help shape social relations, social relations also shape how technology is developed and deployed" (Warschauer, 2003).

The Gender Divide

Among all these divides that have formed with the advent of the computer and Internet, a gender inequality in technology adoption and use has also been noticed. Studies show how masculine and feminine behavioural intentions to use a system differ with respect to attitude toward using the system, subjective norms and perceived behavioural control (Venkatesh et al., 2004). According to Fountain (2000) referred in Korupp & Szydluk (2005), a startling gender inequality is found when studying adoption and participation rates of women in technology related fields. Research shows that women are less likely to own a computer than men, they are more practical in the use of computers, and they may use them at their place of work but are less likely to own a computer or access the Internet for private use (Korupp & Szydluk, 2005). However, they also note that the strong gender bias that was noticed initially is slowly starting to fade away. Dijk and Hacker, (2003) emphasise that even though the gender divide in terms of technology possession is closing, the skills and usage gap remains as before. However, this gap is not as wide among girls and boys as it is for adults. The 'computer generation' brought up in digital technology homes is found to be more receptive of new communication and information technologies.

Conclusion

Thus, I have tried to chart out the exciting debate that exists in the literature on the digital divide with respect to the causes and trends of the divide. As a collection, their attention to political, social and economic contexts allows us to see the digital divide as far more than access to equipment. There are of course several aspects of the debate which could not be introduced here due to limited time and space. However, some of the basic factors and trends have been examined. This review is neither exhaustive nor definitive; it merely brings out some of the salient points prevalent in IS literature.

While most people concentrate on the availability and access issues that lead to the digital divide, there is a trend of academics moving in to explore how cultural, regional, educational and age differences affect the inequality gap. More recently, there have also been more composite views given on the existence of the digital divide. While some may treat it as a problem that needs to be solved, others believe the existing gap will fill up on its own over the years. My personal opinion on the matter is that although some academics believe the gap will get bridged on its own in due time, this problem is much more deep rooted than any other previous divide, and I'm quite doubtful about it closing up on its own.

Whatever may be the outcome, the point to be noted is that the digital divide is very much existent in the current situation.

"Our results indicate that this gap is opening up again. Future

research should continue to focus on this issue.” (Korupp and Szydlik, 2005).

Research needs to be carried on in understanding its trends. Only then, if at all, can steps be taken to bridge the gap.

We are standing at a critical moment in time where we need to reassess the digital divide to adopt new courses of action that will help integrate Information Technology into society. Some areas for future research could be international and cross-cultural findings, and also the role political systems, organization-level and community-level practices and existing structural inequalities play in the current situation.

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