A framework for studying differences in people's digital media uses

By Eszter Hargitttai
Northwestern University

Introduction

Information technologies have become a staple of adolescents' lives with young people among the most connected in countries that have seen high levels of Internet and cell phone diffusion by the first decade of the 21st century. However, merely knowing various digital media's rates of use says little about how young people are incorporating IT into their everyday lives. Ignoring nuanced measures of use, it is difficult to determine whether digital media are leveling the playing field for youth or whether they are raising new barriers for some while advantaging the societal positions of others. This memo considers the various domains in which users of digital media may possess different levels of know-how. In addition to presenting the conceptual framework, it also draws on unique data about a diverse group of young people's Internet uses in the United States (Chicago) to illustrate existing differences along the lines of the discussed dimensions.

Refined measures of uses, skills and participation

As the opportunities for one-to-one, one-to-many and many-to-many communication have grown over the years and become cheaper, it has become increasingly difficult to understand the discussion networks of adolescents. Additionally, as the amount of information online has grown exponentially, the need for the proficiency to sift through the material and keep track of updates has gotten larger. Tools have evolved to meet some of the needs of users in this more complex environment, nonetheless, they still require a certain level of understanding and skill for efficient uses.

Although, digital media offer access to information on every imaginable topic, it is easy to get lost in the vastness of resources and not always trivial to find that special nugget of material of particular interest to the user. If those in need of certain types of material are unable to find it, the mere availability of the content will not aide them. Moreover, increases in volume have also meant the rising presence of incorrect information (whether inaccurate intentionally or not) and scams. Evaluating the credibility of online content itself poses a challenge to the utility one might derive from time spent using digital media.

Thus, people's ability to navigate the communication landscape whether to contact someone or find desired types of information, and their capacity to evaluate the credibility of the material they come across compose an important part of the medium's potential to contribute to people's everyday needs and well-being, and ultimately improve their life chances. Conversely, the lack of ability in these domains may disadvantage others. A nuanced approach to the New Millennium Learners takes a critical look at how people are able to benefit from digital media once they have

gained access to them.   The following section breaks down the realms in which advanced know-how is necessary for informed participation in the digital world.

A framework for studying informed user participation

Differential know-how and practices have the potential to fragment users and perpetuate existing social inequalities. As discussed above, nuanced measures of use are necessary to delineate exactly how different people may benefit to varying degrees from their engagement with digital media. In order to know what differences to observe and track empirically, it is important to have a conceptual framework for the types of ways in which digital media uses may diverge across users. This document identifies eleven dimensions for consideration.   All of these aspects of use may contribute to differences in online abilities and thereby hinder those who lack them and advantage those who possess them.

The following items contribute to users' ability to make the most of their time spent online. While these categories are not mutually exclusive, they fall into various substantively distinct domains that are worthy of investigation on their own. Studies can focus on just one or two of these dimensions, or they may attempt to encompass most or all of them. The latter approach allows for comparisons across the domains. The focus on just a few enables more in-depth investigations, however, so both may lead to valuable insights. While the discussion here mainly focuses on use of the Internet on a personal computer, the points also apply to the use of other digital media such as PDAs and cell phones.

1. Effective and safe ways of communicating with others

While basic email, IM and SMS communication may seem simple, a sophisticated approach to exchanging messages with others involves more than simply knowing how to compose and send a note to another user. Rather, issues from professionalism to privacy all have to be taken into consideration when managing one's email exchanges.

2. Knowledge of how to contribute to group conversations and share content

One of the unique aspects of digital media as compared to more traditional platforms is that users can contribute their own opinions and content much more easily than in many other domains. Such contributions can best be grouped into two relatively distinct although not necessarily mutually exclusive categories: (1) commenting in response to material created and shared by others; and (2) posting one's own content for others to access. While the digital media make such contributions much more straight forward than other media, effective communication and participation still presupposes some skills.

3. Knowledge about and use of tools

Lots of tools exist nowadays to facilitate people's communication and online participation. From blogs and wikis to feed readers and social bookmarking sites, new

tools are allowing sophisticated users to employ a multitude of approaches to finding and following online content in addition to making their own contributions to conversations. Similarly, sophisticated programs that replicate high-end functionalities can be obtained for free legally. Knowing about these tools and being able to use them constitute important skills.

4. Knowledge of what is available online

When encountering a question in everyday life, how likely is a user to realize that answers to the question are likely available online? While some users may automatically turn to the Web no matter the type of information, others may only think to look for answers online in particular instances. These queries can range from factual information to opinion pieces, from contact information to free tools and services.

5. Ability to find content

Once a user recognizes that it is worth looking online for a particular type of content, the next step concerns finding this content in the chaos of billions and billions of Web pages. Although search engines have improved over the years tremendously, they are far from being able to guess the exact intentions of a user and therefore particular skills are required on the part of the user to find the sought after content, especially on topics that are less mainstream.

6. Efficiency in Web navigation

Being able to find material on the Web is one thing, doing so efficiently is another. Many people lead busy lives that do not allow for much time in front of the computer. When that is the case, a user cannot spend too much time on any one query. If relevant results do not start showing up in response to various initial clicks and queries, the user might abandon the task and may seek the desired information using another method altogether, an alternate method that may not be as efficient in the grand scheme of things. Refined information-seeking skills are necessary to find content quickly.

7. Ability to assess source and message credibility

With the growing potential to make money online, more and more content providers – and in some cases outright scammers – have flooded the network. On occasion intentionally, in other cases by accident, the content a user encounters is not necessarily correct. There are several steps involved in dealing with such a situation. First, users have to recognize that cases of misinformation exist online and should not take for granted material they see on the Web. After recognizing that online content may not always reflect quality content, users need to know how to collect information about the source of material to determine whether it is legitimate. This is not always a trivial undertaking.

8. Understanding of privacy issues

Online services have become increasingly sophisticated in tracking the actions of their users. But to what extent do people realize these practices and are they aware of the particular types of technologies that are making their actions ever-more trackable? Do people consciously think about not divulging too much information while they surf the Web? This issue raises concerns not only in the realms of financial life (e.g. the loss of one's credit card information), but also in the realm of political and religious expression and the domain of health, just to name a few.

9. Understanding of security issues

Related to the previous point is the question of security. Not divulging too much information is essential to maintaining the security of sensitive information. Do users stop to think about the context of, for example, a message that requests confidential information from them? If everyone was aware of these issues and careful as a consequence then phishing emails – messages that pretend to be from a reputable source to extract confidential information from users – would not lead to people giving up their passwords to Web sites that contain private information such as bank accounts.

10. Knowledge of where and how to seek assistance with questions

No matter one's level of user sophistication, everyone, at least on occasion, requires some assistance while navigating the landscape of digital media. Lots of options exist on the Web to seek assistance from other users, however, these opportunities are not always obvious. From the serious to the trivial, communities have come together to offer insights on each others' queries. Some of these are more reliable than others. But many provide valuable information often for free. In order to benefit from others' know-how, users have to either know about these options or have the ability to realize such communities exist (see #4 above) and know how to find them (as per #5 above).

11. Customization

More and more services are allowing customization by users. Personalizing various tools allows more efficient use of and access to services that can then facilitate people's approaches to their digital media uses.

Differences in Young People's Internet Uses

To illustrate that young users do, in fact, differ on the usage dimensions discussed above, this section provides empirical evidence from a unique data set. Findings presented here are based on data collected by the author in February-March, 2006. A survey was administered to a diverse group of students at the University of Illinois, Chicago, an urban public research university in the United States.

The analyses presented here are based on 1,160 first-year students (60 % female, 97% 18-19 years old, 48% first-generation college students). It is very much a wired generation with the majority having over six years of Internet user experience, most going online several times a day and almost all owning a cell phone.

Data were collected on students' level of understanding regarding various Internet-related items. It is valuable to split these terms into two categories signifying different types of familiarity with the Internet: (1) terms about basic Internet use; (2) terms describing more recent Web developments.

Not surprisingly, the index measure of basic Internet terms is somewhat skewed with the majority of people scoring high. This is expected since the terms making up this variable will be familiar to many long-time users, which is characteristic of this sample's majority. Nonetheless, we do see some level of variance. Differential know-how is not randomly distributed. Students with lower reported grades, with lower reported college entrance exam scores and with lower parental educational backgrounds indicate lower levels of understanding of very basic Internet terms. This suggests that even at the level of basic Internet use, a one hundred percent wired group is not on the same footing when it comes to basic know-how.

The second construct of more advanced terms is also skewed, although this time in the other direction with the majority of users claiming low levels of understanding. Similarly to the other variable, we find a statistically significant positive relationship between this score and some background variables, namely: parents' educational background and college admissions test score. Students whose parents have higher educational degrees and students who score higher on the ACT exam report a higher level of familiarity with recent Web developments. Similarly to observations presented in the previous paragraph, these findings again suggest a better position with respect to the Internet for those who are already more privileged.

Conclusion

The various dimensions of user sophistication presented above all pose both challenges and opportunities to users. Those who possess a high level of familiarity and understanding of each dimension will be in a considerably better position to derive benefits from digital media than those who lack expertise in these domains. In fact, depending on the extent to which certain users may not appreciate some of the nuances of usage, they may even suffer negative consequences. Since skills seem to mirror a student's existing societal position, it is unlikely that benefits will be distributed equally on their own without intervention.