Interface Technology Trends Implications for News and Information Services

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INTRODUCTION

The web has become a primary vehicle for news and information dissemination. In 2008, Kohut, (2008, p. 21) reported that, "Thirty-seven percent of people today, including more than half of Internet users, obtain news online whereas ten years ago only 13% of the public and 35% of Internet users went online for news." More recently, in a survey of Internet use, it was found that 61% of respondents obtained news daily online, 71% reported getting news occasionally online and most people reported using between two and five online news sources and that they did not have a favorite news website (Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010). Major transformations are taking place in news and information services, which magnify questions regarding the influence the web has on newsreaders (Santana, Livingstone, & Cho, 2011). As noted by many researchers, media are not solely transmitters of information, but they influence the process of thought (Carr, 2008; Purcell et al., 2010).

The web is represented to users as a highly dynamic interface characterized by a proliferation of media and interactivity that supersedes what is found in traditional informational sources such as newsprint or television news. Increasingly, people get news and information in multiple formats on the web using an array of computational devices such as phones and tablets. In 2011, there were roughly 6 billion mobile-cellular subscriptions (ICT, 2011). Many people access the web wirelessly on laptops or mobile devices, making news and information services portable, personalized, and participatory (Purcell et al., 2010). People can obtain news or be aware of worldwide events at any time of day or in any location around the world.

Digital interfaces or points-of-contact through which people experience news and information services have never been so diverse or transformative. They present complex visual landscapes comprised of and supported by multimedia, communications, and networking technologies. Pervasive worldwide, they afford people an unprecedented degree of functionality and access to news, information services, and other people. Interfaces are a foundational technology that has helped instigate tectonic shifts in news and information consuming behavior, journalistic reporting, and news preparation and distribution, the impact of which is not fully understood.

In this article, I examine trends in today's news-orientated interfaces and the impact of digital interfaces on news consumption. Digital interfaces will be differentiated from traditional informational sources such as newspapers and television news. Additionally, I will explore the following six major characteristics or trends germane to today's news interfaces and their implications for how people consume news and, more generally, for how they transform information services: a) rapid innovation, b) interactivity, c) social, d) standardization, e) scale, and f) media convergence.

BACKGROUND: TRADITIONAL MEDIA SERVICES

Newspaper and television news organizations have long-established traditions for distributing news in their respective media (print or television). The inherent attributes of these media greatly influence how people access and comprehend news as well as how news is reported. Pipps, Walter, Endres, and Tabatcher (2009), for example, report on research showing that content recall for television and radio news was lower than recall of textual information. Access to a news story and learning from it is directly affected by many contextual features or interferences that make up the social and behavioral state of the environment in which a person acquires news (DeFlettr, Davenport, Cronin, & DeFleur, 1992, p. 1011). Television broadcasts

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provide a vastly different news gathering experience compared to newspapers. People adapt their behavior to accommodate the differences. A person may view a TV news broadcast in a room with other people or while engaging in some other activity. Television is a passive medium wherein viewers watch and listen as content gets delivered to them. Broadcasts present short video-based stories sequenced linearly within a specified timeframe at a fixed location for on-air viewing. One's access to and the sequencing of such stories is controlled by the news organization. People can record TV broadcasts for archival purposes. Once recorded, the broadcast can be controlled by the individual.

Newspapers, unlike TV and radio broadcasts and online news, are tangible, highly portable, and can be easily archived by the reader. Although, today's mobile devices, web interfaces, and associated networking technologies, increase the portability of TV and radio broadcasts as well as online news. However, unlike newspapers, online content, while recordable, often requires software and hardware for recording or downloading.

Newspapers afford in-depth reading as well as active information search. Readers control the access to information. They navigate the printed document linearly or non-linearly, depending on their preference. News content is presented primarily as text and it is usually more in-depth compared to broadcasts which use visual and auditory stimuli to underscore messages. With newsprint, people bring established attitudes about what to expect and knowledge of newsprint conventions. Additionally, it has a sense of permanence unlike online news, which is transient in that it appears and disappears without notice (Santana, Livingstone, & Cho, 2011). Similarly, TV news broadcast are temporary unless recorded, but they do have a scheduled broadcast times so they do not appear without notice. Moreover, compared to online news, newsprint often gives readers more informational cues about the magnitude of a story, which may assist readers in story selection (Santana, Livingstone, & Cho, 2011).

Access to the news and one's understanding of it are further influenced by interface elements. When people have contact with news, news organizations have preplanned or designed the visual, auditory, conceptual, and functional aspects of that experience or point-of-contact. The manifestation of this design comprises an interface intended to help people access news and derive meaning from it. For example, when reading a newspaper, the printed document, type, content organization, headings, writing style, the proximity of page elements, the surrounding context, groupings and placement, and page numbering establish a context that guides readers' attention and provides them information about how to use the newspaper to glean information. One can imagine how readers would fare if a paper suddenly removed all headlines, page numbers, table of contents, and used disparate type. Some authors contend that the typographical design of newspaper makes reading easier and enhances comprehension relative to news content published on the web (Shafer, 2011).

Newspaper and television news organizations excel at providing consumers sophisticated interfaces (points-of-contact) that, by-and-large, engender meaningful and efficient access to news. As news organizations evolved, interfaces have become customary with designs grounded firmly in established conventions or rules for type, placement, content organization, and layout, among others. Conventions for newsprint, for instance, date back hundreds of years. Consequently, when people experience or have contact with news, they find much commonality in how different news organizations report, broadcast, or print it. Moreover, the interface is familiar. For the most part, news consumers, with minimal mental or physical effort, can effectively access news content in newspapers or on television any given day from almost any news organization. From a consumer perspective, the adherence to convention and ensuing commonalities among interfaces (points-of-contact) are advantageous because they make news accessible and potentially more comprehensible.

DIGITAL INTERFACE ISSUES

The interfaces or points-of-contact in the digital realm are fundamentally different from those of traditional newsprint and television. Now, between the user of a device and the information or service he/she seeks is a computational or digital interface encompassing the hardware and software components that users see, hear, touch, or talk to as they interact. Digital interfaces are becoming a dominant means of access as people retrieve news on websites, news feeds, or podcasts using computers, phones, or a host of other devices. Correspondingly, broadband, broadcasting,