Technological Transformations of News: A Long Term Perspective

Steve Schifferes

City University London, London, UK

What lessons can we learn about the future development of social news on the web from the previous technological transformations of news over the long-term?

1. The internet revolution and the rise of social media is not the first, and will probably not be last time that technology has transformed the nature of news.
2. In each case, the process of transformation took place over a substantial time period, and the outcome was very different from what was predicted when the technology was first developed.
3. Subsequent technological revolutions did not completely replace the previous news technology but incorporated elements of it in the new paradigm
4. Each technological revolution spurred changes across the board in the systems of producing, distributing and creating content for news and the role of journalists.
5. The technological revolutions in news were part of a wider technological transformation of the economy that dramatically boosted productivity.

Newspapers and the rise of the mass media

The evolution of newspapers from the invention to movable type was a long process. The first newspapers were printed and edited by same person, with small circulations and often read aloud in small groups. From the middle of the 19th century, the production of news underwent its first technological revolution. Spurred by new technology of printing (high speed rotary presses and later colour printing) and of distribution (trucks within cities and rail between them) national newspapers were created with a large national circulations. Newsgathering was revolutionized by the telegraph through which the 'wire services' transmitted instant news about war, elections and business conditions. A newly educated wider readership, fully literate and with some discretionary income wanted a different kind of content,

and high politics and literature being replaced with more popular topics like crime, comics, recipes and local human interest stories. The role of the journalist as a professional with a central role in the definition and explanation of news was also codified.

Broadcast: radio and television

From the early 20th century the technical capability of transmitting radio signals across long distances became evident, with Marconi radio stations linking seaborne commerce. In its first 20 years, however, radio was not seen as a means of mass communication, but as a point-to-point service for individuals (radio telephones). It was only in the l920s that radio stations began to broadcast, first to specific groups and then to the general public, and only in the 1930s that networks of stations linking them in a national programme structure emerged. The technological leaders in radio-telephony like AT&T were unable to make the transition, and new media companies like RCA arose. Initially radio broadcasts were seen as entertainment, with a very limited 'rip and read' news services based on wire service headlines from newspapers. It was only in the late 1930s that the potential of live reporting of events became possible by linking reporters to an international circuit, and live newsgathering really came of age in World War II. When television arrived in the late 1940s, its technological capabilities for news were limited by the availability of relevant film (which was slow and laborious to process) and the limited air time was given to 'news bulletins' which were clearly modelled on radio. It was not until the 1960s that live news reporting became possible (at the US political conventions) and news bulletins expanded to 30 minute slots. Local news also became much longer with the availability of quickly gathered footage. With the emergence of satellite broadcasting 24 hour news became feasible. The broadcast networks news reached a huge audience for news events, but still

often relied on newspapers for agenda setting. The skills needed by television journalists expanded, and wider group of technicians were needed to produce the news.

Internet and social media

It was not apparent from the creation of Arpanet in 1969 and to the invention of the World Wide Web that public dissemination of information was going to be its main focus, rather than private data and communication networks. News on the web was made possible by the introduction of browsers and expanded rapidly with broadband in the early 2000s, which allowed broadcast quality video. The first killer web application email, a point-to-point communication system. The very recent rise of social media combines the two communications systems, and enhanced network effects in news propagation, while the rise of new delivery devices such as smartphones meant wider and timely access to news in shorter bursts. Although the cost of entry is lower, network effects mean that the traditional media companies still dominant content creation, even in social media.

Conclusions: Predicting the future of social news on the web

1. The internet technological transformation is proceeding more rapidly than previous transformations, which suggests that the structure of news on the web will evolve further, and current tools may become obsolete or superseded quite quickly.
2. Social news on the web is still very reliant on incorporating news from traditional news sources, both from newspapers and wire services, and broadcast news. The evolution of these elements still has has some way to go to get customized versions.
3. The evolution of the role of journalists, from reporters to curators is also a work in progress, with the rise of automated news production and detection on the horizon.
4. Whether we are witnessing a fundamental change from broadcast and mass media news to more narrow-casting and individualized news is the central question for research into social media and news. Social news has broadened the informal groups that share news but there are influential leaders and followers based on network effects.

References

[1]   Bakker, G. 2015. Paying for Crisis News: The Dilemmas of News Organizations. In Schifferes, S and R. Roberts (editors) *The Media and Financial Crises: Comparative and Historical Perspectives,* Routedge, Abington, Oxford

[2]   Gordon, R., 2015. *The Rise and Fall of American Growth: The US Standard of Living Since the Civil War.* Princeton University Press, Princeton, New Jersey.

[3]   John, R, 2015. *Network Nation: Inventing American Telecommunications.* Harvard University Press, Cambridge, Mass.

[4]   Lippmann, W. 1920.*Public Opinion.* Lippincott, New York

[5]   Starr, P. 2005. *The Creation of the Media: Political Origins of Mass Communication*. Basic Books, New York, NY.

[6]   Thurman, N, Schifferes, S, Newman, N, Fletcher, R, Hunt, S and Shapals, A.J, 2016. Giving Computers a Nose for News: Exploring the Limits of Story Detection and Verification, *Digital Journalism,* DOI 10.1080/21670811.2016.1149436