Conclusions and Further Research

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17.1 Introduction

Until recently, most scholarly research on Web search engines have been technical studies originating from computer science and related disciplines. The preceding chapters reveal, however, the growing interest – and importance – of studying Web search from a variety of disciplinary approaches. Significant progress has been made to understand Web searching from within social, cultural, and philosophical perspectives, to utilize political, legal, and economic theories, and to place Web searching within information behavioral frameworks.

This final chapter provides a summary of the insights and conclusions presented in *Web Search: Multidisciplinary Perspectives*, illuminating both interconnections and disagreements among its contributors. We also propose new directions for future research to ensure continued progress in the multidisciplinary understanding of Web search.

17.2 Web Search Engine Bias

In the opening chapter of this book, Alex Diaz brings many of the social and cultural critiques commonly applied to traditional media systems to bear on Web search engines, arguing that decisions over content, advertising policies, and consolidation in the industry as a whole undermine the oft-touted promise of search engines to improve deliberative discourse in contemporary society. Diaz is most concerned with incentives for dominant search engines such as Google to “hypercommercialize content and to bias results in a self-interested manner” (emphasis added). For Diaz, and the community of scholars he draws from, instances of such bias – whether by mainstream media companies or Web search engines – represent a threat to democracy and the free and open access to information it demands.

Van Couvering’s contribution appears to provide evidence of the kind of industry consolidation Diaz fears. With a few large firms forming an oligopoly within the search engine industry, it seems increasing likely that economic interests might
take precedent over any desire to create more “egalitarian” search engines to serve the public good. In Chap. 8, however, Eric Goldman suggests that the marketplace will provide sufficient mechanisms to ensure that search engines support the values society deems important – including, presumably, the democratic ideals envisioned by Diaz. Further, Goldman argues that bias in search engines is both necessary and desirable to help relieve users of unnecessary clutter in their results. As the market pushes search engines to improve, Goldman argues, “the most problematic aspects of search engine bias [will] largely disappear.”

Given this range of perspectives and concerns regarding search engine bias, the need for additional research seems obvious. Studies must be undertaken to identify not only possible instances of bias in search engines, but also to measure its effects on both a user and societal level. Only when armed with such additional data can we begin to address the normative dimensions of the bias itself.

17.3 Search Engines as Gatekeepers

Diaz and Van Couvering clearly are concerned about how the current state of the Web search engine industry might work against the maintenance of the liberal ideals of freedom from bias and access to knowledge. Their concern is that – given economic incentives – Web search engines might suppress some particular content in favor of other pieces of information. These reflect concerns of Web search engines as information gatekeepers. Hess’s contribution approaches a similar concern, but from a different direction. Rather than focusing on market consolidation and other economic forces that might create a bias in Web search engine results, Hess considers the formal structure of Web search engines themselves, and concludes that by relying on search engines, the rhizomatic nature of the Internet is reduced to simple and convenient “tracts” – to the detriment of knowledge formation. While for different reasons, Hess shares concerns with Diaz and Van Couvering that Web search engines might become powerful gatekeepers of information, threatening the political and liberal promises many held for the Internet. Similarly, Hinman outlines some of the ethical problems that arise when search engines become “intellectual gatekeepers” which not only act as gatekeepers to information, but increasingly play a “central role in the constitution of knowledge itself.” And Fry, Virkar and Schroeder provide necessary empirical evidence of the powerful gatekeeping roles Web search engines can take.

One of Hinman’s central criticisms of Web search engines is their opacity: the public cannot know precisely how they work and must simply trust the search companies to not exhibit bias or act as gatekeepers to the detriment of knowledge acquisition. Future research, then, must focus on reducing this opacity and bring clarity to how Web search engines work, identifying whether any gatekeeping functions exist. While we are aware of some gatekeeping functions of search engines, such as Google’s complicity with China’s desire to censor certain search results,