Chapter 57
Do Privacy Concerns Affect Information Seeking via Smartphones?

Mohamed Abdelhamid
University at Buffalo, USA

Srikanth Venkatesan
University at Buffalo, USA

Joana Gaia
University at Buffalo, USA

Raj Sharman
University at Buffalo, USA

ABSTRACT

The innovation and evolution of technologies in smartphone industry has enabled users to efficiently achieve many tasks including utilizing search engines for instant information retrieval anytime and anywhere. Nonetheless, some users choose not to use these smartphone features including search engines to seek information. This study explores the factors that impact the likelihood of information seeking via smartphones. Privacy concern was found to be one of the main factors influencing the likelihood of seeking information. Android users were more likely to seek information compared to iPhone users, possibly due to the differences in the features of the operating systems of these phones. Motivation to seek information captured by technology ownership increases the likelihood of information seeking. The diversity of social network connections also plays a significant in information seeking behavior of the users.

INTRODUCTION

The past decade has witnessed a meteoric rise in the innovation of smartphones. The two main players in smartphones operating systems are IOS and Android, the latter being used in several hardware sets while IOS is only used in Apple products. Recent innovations have resulted in remarkable changes in industries and fields outside the cell phone industry. Among these changes, search engines have taken

on a new challenge since smartphone users may want to acquire and seek information using their smartphones rather than a desktop computer or a laptops. The traditional way of using public desktops or personal computers may not be practical nowadays as people are on the go all the time. Given these circumstances, search engine players such as Google, Bing, and Yahoo have made functional changes to make this experience (seeking information using smartphones) more practical and efficient. Search engines are now smartphone compatible and have been integrated into smartphones operating systems. Users can seek information without even going to a smartphone web browser. Smartphone applications for search engines can be downloaded which makes search functionality available quicker than ever.

As of 2014, 34% of cell internet users don't use their laptops or desktops to go online but mostly use their cell phones. About 30% of cell owners think they cannot live without their phones (Pew Research Center, 2014). Indeed smartphones have become a primary tool in people's everyday personal, academic, and professional lives. However, some owners of smartphones don't use their device to seek information. This brings up a very important question: in the era of smartphone technology innovation, what would deter users from using some of the functionalities that make these innovations smart? Why do some people seek information through smartphones while others do not? What factors contribute to more information seeking through smartphone search engines?

THEORY AND MODEL DEVELOPMENT

This study investigates the factors that impact users to utilize the search engines in their smartphone to seek information. The model has been theoretically developed based on the information foraging theory (IFT) (Pirolli & Card, 1999). The behavioral patterns described in IFT were derived from Optimal Foraging Theory (OFT) (Stephens & Krebs, 1986) and the Adaptive Control of Thought-Rational Theory (ACT-R) (Anderson et al., 2004). We adapt the theory to investigate users' information seeking behavior using the search engines of their smartphones. The theory explores users' online search behavior and the factors that impact their decisions to seek or search for information on the web (Pirolli, 2007). The structure of the interface between the information seeker and information repositories determines the time costs, resource costs, and opportunity costs of different information foraging and sense-making strategies. Based on the trade-off between the value of information gained and the cost of foraging using a particular strategy drives the individuals towards adopting a particular foraging behavior. The theory is based on two important concepts namely "information patch" and "information scent". An information patch is an area of the search environment with similar information (McCart et al., 2013; Pirolli, 2007). It may be defined based on the task in hand. Information scent is the driving force behind why a person makes a navigational selection amongst a group of competing/alternative options (McCart et al., 2013). The interplay between information foraging costs (including search effort) or information scent and the perceived value derived from pursuing an information patch determines the preference to search strategies. With recent advancement in the information technology industry, people have the ability to access and seek information anytime, anywhere, and with minimal efforts (Pettigrew et al., 2002). Smartphones have many of the features that laptops or desktops have. It is, therefore, interesting to investigate why some users would choose not to utilize the features in their smartphones to seek information. We argue that users' decisions to use search engines in their smartphones for seeking information depends on Information Technology (IT) barriers and IT enablers, which essentially is an interplay between foraging costs and value derived.

10 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/do-privacy-concerns-affect-information-seeking-via-smartphones/213850

Related Content

Security in Transnational Interoperable PPDR Communications: Threats, Requirements and Architecture Solution
Ramon Ferrús, Oriol Sallent, Cor Verkoelen, Frank Fransen, Keld Andersen, Christian Bjerrum-Niese, Jaakko Saijonmaa, Claudia Olivieri, Michel Duits, Anita Galin, Franco Pangalloand Debora Proietti Modi (2019). *National Security: Breakthroughs in Research and Practice (pp. 859-879).*
www.irma-international.org/chapter/security-in-transnational-interoperable-ppdr-communications/220920

The Impact of Online Training on Facebook Privacy
Karen H. Smith, Francis A. Méndez Mediavillaand Garry L. White (2019). *Censorship, Surveillance, and Privacy: Concepts, Methodologies, Tools, and Applications (pp. 1947-1967).*
www.irma-international.org/chapter/the-impact-of-online-training-on-facebook-privacy/213892

Research in Germany
 (2020). *Internet Censorship and Regulation Systems in Democracies: Emerging Research and Opportunities (pp. 100-108).*
www.irma-international.org/chapter/research-in-germany/254619

Evaluation of Keystroke Dynamics Authentication Systems: Analysis of Physical and Touch Screen Keyboards
Moustafa Daferand Mohamad El-Abed (2017). *Developing Next-Generation Countermeasures for Homeland Security Threat Prevention (pp. 306-329).*
www.irma-international.org/chapter/evaluation-of-keystroke-dynamics-authentication-systems/164727

Reconciling the Needs for National Security and Citizen Privacy in an Age of Surveillance
Kenneth L. Hacker, Bridget Acquah-Baidooand Anthony Epperson (2016). *Ethical Issues and Citizen Rights in the Era of Digital Government Surveillance (pp. 78-102).*
www.irma-international.org/chapter/reconciling-the-needs-for-national-security-and-citizen-privacy-in-an-age-of-surveillance/145563