

Chapter IV

Electronic Data Collection Methods

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ABSTRACT

This chapter discusses the application of new technologies to scholarly research. It highlights the process, benefits, and challenges of online data collection and analysis with three case studies: the online survey method, online focus groups, and e-mail interviews. The online survey method is described as it was undertaken to collect and collate data for the evaluation of e-business in Australia. The online focus group research is described as it was applied to complete research on e-commerce with small business. The e-mail interviews applied to collect information from a virtual community of global respondents to assess the impact of interaction between members on B2C e-commerce. The research process, its advantages and disadvantages, are elaborated for all three e-research methods

INTRODUCTION

Information systems research, like most other research, addresses "how do we know what we know" and "how do we acquire knowledge" (Klein, Hirshheim, & Nissen, 1991). As emphasised by Mumford (1991), research is undertaken to make things better for the community as a whole. Depending on the epistemology that guides the research, information systems research can be embarked on by utilising both qualitative and quantitative methods. In this paper, we discuss

three online data collection methods: the online survey method, online focus groups, and online interviews via e-mail, by presenting them as three case studies. These case studies were research methods that were utilised to accomplish information systems research.

Popular traditional methods of collecting data in both qualitative and quantitative methods have been interviews, survey methods, and focus groups. However, recent developments in technology have made a significant impact on information systems and other social science research by automating the processes. Innovative tools and

technologies can be applied to case study research, focus groups, surveys, as well as analysis of data, making research an interesting experience. Application of the Internet, electronic mail, chat, online discussion boards, and other tools are increasingly applied to research to capitalise on the benefits of reduced costs, quick responses, reaching out to a larger population sample, and easier data analysis. However, e-research methods that are new and unproven, and akin to innovations such as business to consumer (B2C) e-commerce, need acceptance by the respondents for expediency and application.

In this chapter, we present and discuss three e-research methods: online surveys, online focus groups, and e-mail interviews. The automated research processes, technologies applied, the approach, and benefits and challenges of these methods are discussed with three case studies.

The first case study is about an online survey undertaken to collect and collate data for the evaluation of e-business in Australia. The use of HTML pages, generating a tracking number to allow respondents to complete the survey at a later time, presentation of the Web pages, use of radio buttons and drop down menus, ability to capture all information by not allowing the respondent to proceed unless an answer to all questions was provided, are discussed at length, together with their implications for research. The benefits of linking HTML pages to a database for capturing responses and transporting it to statistical packages for analysis are explained. Although the advantages of technology applications to the research process are indisputable, this paper highlights the reasons why this method has not replaced traditional methods of data collection, and why mixed methods of data collection are more popular than electronic methods.

The second case study is an online focus group research undertaken to assist the completion of a Delphi study with online expert panels to understand the development of e-commerce in small business. Advantages of online focus groups in

enhancing Delphi studies, and reduced errors in responses for analysis and completion of research are explicated.

The third case study is an example of e-mail interviews carried out with a focus group (virtual community) with global participants. The focus group comprised virtual community members of an e-business. Responses to e-mail interviews were collated and analysed using the software package, NVIVO. The e-mail interview process, data collation, and analysis of responses, together with advantages and disadvantages of this method, are discussed at length in this paper.

An emphasis on issues for research identified from the analysis of the three electronic methods of data collection and an analysis is presented in the following section of the chapter. Future research trends with applications of technology, their impact on the research process, uptake and acceptance issues, bias, and infrastructure issues form the gist of this chapter.

LITERATURE REVIEW

The Internet and the World Wide Web continue to grow at a phenomenal rate. Their presence and applications have extended from defence systems to business, government, education, finance, and other sectors of the globe. The Internet is ubiquitous, and has an astoundingly increasing adoption rate. Widespread networking, together with the ease of publishing multimedia material on the Web, supports exchange of high quality documents including erudite data and information. The Internet and other new technologies such as voice recognition systems, e-mail systems, Internet telephony, and other innovative communication technologies, have enabled e-research both amongst industry and academia.

The Web sites and Web pages are potential sources of data in their own right, as well as supporting both quantitative and qualitative research (Bryman, 2004). Ethnographic studies on the

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