

# Chapter XIX

## Measurements in E-Business

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### ABSTRACT

This chapter is designed to answer two fundamental questions related to research on electronic surveys and measures. First, what are some of the major measures specifically related to e-business? Second, what makes Internet research methods different from off-line research methods? The chapter partly delineates what makes Internet research methods distinctive through its discussion and separation of the most common measures. This separation not only provides the framework for the chapter, but it distinguishes research for understanding the evolving e-consumer from measures related to the new paradigm for e-business strategy. In total, 17 different measures are discussed. The chapter concludes with a discussion of emerging issues in e-business metrics, and possibilities for future research.

### INTRODUCTION

The Internet has emerged as the very foundation for business communications worldwide. Indeed, in the instant that it takes to read these words,

millions of people are shopping on the Internet, checking the status of orders and shipments, investigating stock prices and mortgage rates, and browsing and bidding in a new realm of on-line auctions. The Internet has transformed the physical marketplace into a virtual marketplace (Varadarajan & Yadav, 2002); it has created a shift from reasonably well-informed buyers to worldly Web-enabled e-consumers (Bakos, 1997); and, it has accelerated business into an information age wherein issues of technological expertise, privacy, security, and control are now essential aspects of business (Glazer, 1991; Hoffman, Novak, & Peralta, 1999).

Marketing practitioners, strategists, and researchers cannot deny the critical changes that have occurred in the realm of global business communications. Most have come to realize that online retailing is distinctive and that it requires a great deal of new research. Interactive communications and transactions now occur together in a single virtual medium that has increased risks for online consumers, and has placed a heavy communications burden on sellers whose Web site effectiveness is affected by a multitude of design characteristics (Geissler, Zinkhan, &

Table 1. Summary of measures in e-business

Measurements for understanding e-consumers	Measurements for e-business strategy
Online trust	Exposures
Privacy	Impressions
Control of information	Hits
Cognitive effort	Visits
Information search	Clicks
Flow	Path analysis
	Conversion
	Frequency
	Recency
	Average time per visit
	Stickiness

Watson, 2001). Internet consumers are placed in a unique inference-making position in which information asymmetry abounds. The task at hand now, for researchers and practitioners alike, is to accurately measure, analyze, and interpret online behaviors.

The purpose of this chapter is to introduce the topic of e-business measurement, and delineate some of what makes Internet research methods different from off-line research methods. The chapter separates measures for understanding the evolving e-consumer from measures related to the new paradigm for e-business strategy (a separation derived from the work of Biswas and Krishnan, 2004). The measures discussed in this chapter are graphically displayed in Table 1. The chapter concludes with a discussion of emerging issues in e-business metrics, and possibilities for future research.

*Internet technologies are like an arms race in which both sides develop increasingly powerful weapons.* (Bakos, 1998, p. 41)

## MEASUREMENTS FOR UNDERSTANDING E-CONSUMERS

Understanding how the Internet has influenced consumer psychology is a critical task for business people. Speaking of the transformative nature of the Internet, it appears that businesses and consumers alike are now “armed” with previously unthinkable advances in information acquisition, classification, evaluation, and storage. In the unusual context of the Internet, key traditional elements of business exchange are noticeably absent, such as personal, nonverbal cues, and physical contact with products (Keen, Wetzels, de Ruyter, & Feinberg, 2004). In an effort to understand the Internet consumer, business researchers have begun to study notions of online trust, privacy, issues of control of personal information, cognitive effort and information search, and flow. Many of these issues are interrelated and, given that we are still in the early stages of Internet research, the topics need further exploration and insightful analysis.

*Online trust.* Internet marketing researchers have reported that, regardless of the number of privacy policies or “high-tech” encryption systems, what Web consumers really want is “... another type of exchange—characterized by an explicit social contract executed in the context of a cooperative relationship built on trust” (Hoffman et al., 1999; p. 82). This finding is both a recognition of the uniqueness of the Internet as a computer-mediated business environment, and an allusion towards the critical importance of trust in any Internet relationship. A consumer wishing to shop or purchase over the Internet needs to trust the e-tailer, but also needs to trust the Internet itself as a mode of shopping.

A small but growing subset of the business and marketing literature has attempted to define and measure the concept of trust in a computer-mediated environment (CME) (Handy, 1995; Hine & Eve, 1998; Jarvenpaa & Tractinsky, 1999; McKnight & Chervany, 2002). New definitions of

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