

The Definition Dilemma of E-Commerce

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INTRODUCTION

There is confusion among researchers, practitioners and policymakers about the meaning of terms such as e-commerce, and small and medium enterprise (SME) (Krochmal, 1998; Mesenbourg, 2001; Poon, 2002; Xydias-Lobo & Jones, 2003). The lack of standard, universally adopted definitions presents a challenge to researchers and leads to inaccurate comparisons of rates of adoption. This article provides an analysis of various popular definitions of e-commerce and highlights the distinctions between them. A classification system is proposed and applied using examples of e-commerce transactions. Recommendations are provided which should prove helpful for researchers and practitioners interested in developing regional communities with information and communication technology.

BACKGROUND

E-Commerce is recognised as having the potential to contribute to national productivity, economic growth and welfare (Brown, 2002; Poon, 2002), and has been the subject of intense research efforts and conferences in the academic, industry and government arenas. In particular, regional business activities can benefit substantially from greater involvement in e-commerce (Brown, 2002). Rural SMEs also have much to gain from an effective engagement with e-commerce (Grimes, 2003). The Organisation for Economic Co-operation and Development (OECD) is developing policies to promote e-commerce as a core element to achieve sustainable economic growth, more and better jobs, expanding world trade and improved social conditions (OECD, n.d.). However, at the same time, the OECD recognises that the Internet alone will not improve the productivity and profitability of enterprises in developing countries as such firms may be hampered by weak infrastructure, limited managerial expertise and poor quality control (OECD, 2002a).

Recently, in writing a case study article, we encountered difficulties in deciding on a definition to use for

the term e-commerce (Grist & Cater-Steel, 2003). It seemed that every information systems textbook and government report used a different definition, for example: "every type of business transaction in which the participants prepare or transact business or conduct their trade in goods and services electronically" (DCITA, 1999); or "the marketing, buying, and selling of products and services on the Internet" (Awad, 2002); or "the use of Internet technologies for internal business processes (intranet), for business relationships (extranet), and for the buying and selling of goods, services and information (Internet)" (OECD, 1998).

It comes then as no surprise that 41% of small business owners surveyed in New Zealand were unsure about what the e-commerce concept meant (Locke, 2000)! In Australia, a survey of 1,200 small and 600 medium businesses found that respondents understood e-commerce to mean a variety of things: "undertaking business online and conducting business on a global basis" (27%); "buying and selling over the internet" (26%); and "undertaking payments and ordering over the internet" (13%) (Yellow Pages, 2002).

The situation worsened when we examined data relating to adoption of e-commerce. We wanted to compare adoption rates over the last few years and also to compare the adoption of e-commerce in Australia with that of other countries, and regional adoption against metropolitan rates. E-commerce adoption figures released by the Australian Bureau of Statistics (ABS), as shown in Table 1, would include the case of a sole proprietor who uses Internet banking to BPay a telephone account. Other research, such as the Yellow Pages E-Business Report would not classify this type of transaction as e-commerce. Consequently, the comparison of adoption levels from different studies can lead to unreliable findings and questionable conclusions.

Some transactions are readily classified as e-commerce, for example the selection and payment of a book from Amazon.com. But if the owner of a small business pays the telephone account using an Internet banking bill payment facility, is that business engaging in e-commerce? A mobile phone can be used to purchase a Coca-

Table 1. Involvement of small business in e-commerce (ABS, n.d.)

Extent of ICT Use	Size	Nov. 1999		June 2001	
Involved in e-commerce	Non-employing	24,400	5%	76,300	12%
	1-4 employees	33,900	9%	86,800	22%
	5-19 employees	23,700	20%	47,100	37%
	Total Small Business	82,000	8%	210,200	18%

Cola drink from a vending machine at Sydney's Central Railway Station, or to pay for street parking in Melbourne or Dublin; are these examples of e-commerce transactions? These examples and others will be discussed after the definitions have been explored in the next section.

In contrast, others include all activities associated with the commercial transaction, for example: "commercial activities carried out through electronic networks including the promotion, marketing, supply, order or delivery of goods or services" (Commonwealth Treasury, 2000).

DEFINITIONS OF E-COMMERCE

There is no shortage of definitions for e-commerce. A search of the Internet using the Google search tool resulted in 882,000 hits for the search term "e-commerce definition". Close examination of various definitions showed that there are two dimensions to the term e-commerce stemming from the words *electronic* and *commerce*. There is wide variety in how these terms are interpreted within the context of e-commerce. Each of these terms can be interpreted in a broad or narrow sense.

In the United States of America in 1998, a National Science Foundation meeting attempted to reach agreement about the term e-commerce (Krochmal, 1998). The attendees included software developers and economists. Opinions varied with some believing e-commerce should be narrowly focused on transactions over computer networks; others saw Web-based commerce as a subset of e-commerce; and still other participants claimed it "includes everything from learning about products online and electronic transactions to online customer-service and support" (Krochmal, 1998).

The Commerce Dimension

Some definitions are restrictive in their interpretation of what constitutes *commerce*. For example, the United States Census Bureau have restricted the definition to focus on selling: "an e-commerce transaction is *completed* when agreement is reached between the buyer and seller online to transfer the ownership or rights to use goods or services" (Mesenbourg, 2001). Furthermore, they state that it is not the payment, but the online agreement which is the trigger for determining if a transaction is classified as e-commerce. All examples provided to support the Census Bureau definition include the words *sale* or *selling*.

The Electronic Dimension

Another source of divergence in the definition relates to the interpretation of the term *electronic*. Some authors restrict the definition to include only Internet-enabled transactions, for example "e-commerce: the use of the Internet and the Web to transact business, ... digitally enabled commercial transactions between and among organizations and individuals" (Laudon & Traver, 2004). On the other hand, some authors, such as Roger Clarke, take a much broader view of the technology component: "the conduct of trading with the assistance of telecommunications and telecommunications-based tools" (Clarke, 2001a).

Within Australia, definitions used by the federal government take a broad view of the term *electronic* to include electronic networks (Commonwealth Treasury, 2000), in contrast to the Queensland State Government which defines e-commerce as Internet-based (QGDCILGPS, 2001).

To overcome such difficulties in defining the term, the OECD endorsed two definitions of e-commerce transactions: the broad definition includes all electronic transactions including Internet, electronic data interchange (EDI), and interactive telephone systems; and the narrow definition for Internet e-commerce transactions includes only transactions conducted over the Internet (OECD, 2002b).

In order to compare and contrast a range of definitions, a list of some popular definitions is presented in Table 2. It is not claimed that this list represents the most used or most useful definitions, but the list provides a sample to illustrate the vast range of definitions in use today.

The definitions presented in Table 2 have been analysed in terms of their interpretation of the terms *electronic* and *commerce* and placed in a grid repre-

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