

유비쿼터스 환경하의 전자상거래 증진요소

Developing Elements of E-Commerce in Ubiquitous Environment

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Abstracts

There are other limitations on B2C e-commerce that have the potential to cap its growth rate and ultimate size. Table 1.4 describes some of these limiting factors.

Some limitations may be minimized in the next decade. For instance, the price of an entry-level computer such as a netbook has fallen to \$200-\$300, although this still represents a substantial amount of money to many.

I. prologue

The technology juggernauts behind e-commerce are the Internet and the Web. Without both of these technologies, e-commerce as we know it would be impossible. The Internet is a worldwide network of computer networks built on common standards. Created in the late 1960s to connect a small number of mainframe computers and their users, the Internet has since grown into the world's largest network. It is impossible to say with certainty exactly how many computers and other wireless access devices such as smartphones are connected to the Internet worldwide at any one time, but the number is clearly over 1 billion. The Internet links businesses, educational institutions, government agencies, and individuals together, and provides users with services such as e-mail, document transfer, shopping, research instant messaging, music, videos, and news. There is no precise measurement of the number of Web pages in existence, in part because today's search engines index only a portion of the known universe of Web pages, and also because the size of the Web universe is unknown. Google reported that its system had, as of July 2008, identified 1 trillion unique URLs, although many of those pages did not necessarily contain unique content. Cui.com, a rival search engine that has since shut down, claimed in July 2008 to have indexed 120 billion Web pages, "more than 3 times than any other search engine." By 2011, it is likely that Google indexes at least that many Web pages (120 billion), if not more. In addition to this "surface" or "visible" Web, there is also the so-called

"deep Web" that is reportedly 1,000 to 5,000 times greater than the surface Web. The deep Web contains databases and other content that is not routinely indexed by search engines such as Google. Although the total size of the Web is not known, what is indisputable is that Web content has grown exponentially since

II. Growth of E-Commerce

It is difficult to pinpoint just when e-commerce began. There were several precursors to e-commerce. In the late 1970s, a pharmaceutical firm named Baxter Healthcare initiated a primitive form of B2B e-commerce by using a telephone-based modem that permitted hospitals to reorder supplies from Baxter. This system was later expanded during the 1980s into a PC-based remote order entry system and was widely copied throughout the United States long before the Internet became a commercial environment. The 1980s saw the development of Electronic Data Interchange (EDI) standards that permitted firms to exchange commercial documents and conduct digital commercial transactions across private networks.

In the B2C arena, the first truly large-scale digitally enabled transaction system was deployed in France in 1981. The French Minitel was a videotext system that combined a telephone with an 8-inch screen. By the mid-1980s, more than 3 million Mintitles were deployed, and over 13,000 different services were available, including ticket agencies, travel services, retail products, and online banking. The Minitel service continued in existence until December 31, 2006, when it was finally

discontinued by its owner, France Telecom.

However, none of these precursor systems had the functionality of the Internet. Generally, when we think of e-commerce today, it is inextricably linked to the Internet. For our purposes, we will say e-commerce begins in 1995, following the appearance of the first banner advertisements placed by AT&T, Volvo, Sprint, and others on Hotwired.com in late October 1994 and the first sales of banner ad space by Netscape and Infoseek in early 1995. Since then, e-commerce has been the fastest growing form of commerce in the United States.

III. Technology and E-Commerce in Perspective

Although in many respects, e-commerce is new and different, it is also important to keep e-commerce in perspective. First, the Internet and the Web are just two of a long list of technologies that have greatly changed commerce in the United States and around the world. Each of these other technologies spawned business models and strategies designed to leverage the technology into commercial advantage and profit. They were also accompanied by explosive early growth, which was characterized by the emergence of thousands of entrepreneurial start-up companies, followed by painful retrenchment, and then a long-term successful exploitation of the technology by larger established firms. In the case of automobiles, for instance, in 1915, there were over 250 automobile manufacturers in the United States, with most broadcasting to local neighborhoods and run by amateurs. By 1990, there were fewer than 500 independent stations. There is every reason to believe e-commerce will follow the same pattern—with notable differences discussed throughout the text.

Second, although e-commerce has grown explosively, there is no guarantee it will continue to grow forever at these rates and much reason to believe e-commerce growth will cap as it confronts its own fundamental limitations.

IV. Conclusion

There are other limitations on B2C e-commerce that have the potential to cap its growth rate and ultimate size.

1. expensive technology
2. sophisticated skill set
3. persistent cultural attraction of physical markets and traditional shopping experiences

4. persistent global inequality limiting access to telephones and personal computers
5. saturation and ceiling effects

The current technological limits on e-commerce growth, while real, are likely to recede in importance over the next decade. The social and cultural limitations of e-commerce are less likely to change as quickly, but the Web is fast developing virtual social shopping experiences and virtual realities that millions find as entertaining as shopping or seeing their friends face-to-face.

■ References ■

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