Factors Affecting Mobile Commerce and Level of Involvement

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INTRODUCTION

Driven by the accelerating advancement in information technology (IT), the penetration of the Internet and other communications services has increased substantially. Hoffman (2000), one of the most renowned scholars in the realm of Internet research, considers the Internet as "the most important innovation since the development of the printing press." Indeed, the omnipresent nature of the Internet and the World Wide Web (WWW) has been a defining characteristic of the "new world" of electronic commerce (Dutta, Kwan, & Segev, 1998). There are a good number of academics and practitioners who predict that the Internet and the WWW will be the central focus of all commercial activities in the coming decades (e.g., Dholakia, 1998). In particular, Jarvenpaa & Todd (1996) argue that the Internet is alive with the potential to act as a commercial medium and market. Figuratively, discussing the business prospects of the Internet and the WWW is somehow analogous to discussing the Gold Rush of the 19th century (Dholakia, 1995).

Admittedly, the close down of a lot of dot.coms since 2000 has been a concern for many people. However, the statistical figures we have up to now show that the growth pattern continues to be exponential. For example, the latest Forrester Online Retail Index released in January 2002 indicates that consumers spent \$5.7 billion online in December, compared to \$4.9 billion in November (Forrester Research, 2002a). There is yet another sign of optimism for online shopping: The Internet Confidence Index (as released in September 2002), jointly developed by Yahoo and ACNielsen, rose 13 points over the inaugural survey released in June 2001, indicating a strengthening in consumers' attitudes and confidence in e-commerce services (Yahoo Media Relations, 2002). Hence, we believe that the setback is only temporary and is part of a normal business adjustment. The future trend is very clear to us. Everybody, be it multinationals or small firms, should be convinced of the need to be on the Web.

While researchers like Sheth and Sisodia (1999) have described the growth of the Internet as astonishing, an even more startling growth is projected in the area of wireless Internet access via mobile devices. The general consensus is that mobile commerce, a variant of Internet commerce (Lucas, 2001) that lets users "surf" their phones (Wolfinbarger & Gilly, 2001), will become part of the next evolutionary stage of e-commerce (e.g., Keen, 2001; Leung & Antypas, 2001; Tausz, 2001). Mobile commerce involves the different processes of content delivery (notification and reporting) and transactions (purchasing and data entry) on mobile devices, and its current landscape resembles the Internet in its first generation in the early 1990s (Leung & Antypas, 2001). According to a study by Strategy Analytics, the rise in demand for mobile commerce services will lead to a market value of \$230 billion by 2006 (Patel, 2001). Also a cause for optimism in mobile commerce services is the estimates made by the Yankee Group that the value of goods and services purchased via mobile devices will exceed \$50 billion by 2005, up from \$100 million in 2000 (Yankee Group, 2001). According to Yankee, the number of wireless consumers using financial services in North America alone will reach more than 35 million in 2005, a leap from the current 500,000.

Research on consumers' online behavior has so far been centered on the World Wide Web. Very few, if any, have specifically focused on mobile access despite the fact that mobile handsets are becoming increasingly popular. This is an important area of study, as the mobile phone is quickly bypassing the PC as the means of Internet access and online shopping. According to the Computer Industry Almanac, there will be an estimated 1.46 billion Internet users by 2007, compared to the 533 million today. Currently, wireless access constitutes a significant, yet limited user share of 16.0%, but by 2007, this number would have increased dramatically to 56.8% (Computer Industry Almanac, 2002). These optimistic projections are further supported by the prediction of Forrester Research that, within 5 years, up to 2.3 million wired phone subscribers in the U.S. would make the switch to

wireless access, making an average of 2.2 wireless phones per household by 2007 (Forrester Research, 2002b).

Aided by staggering advances in information technology, mobile devices are now capable of offering a number of Internet-based and Internet-centric services, fueling the growth of mobile commerce. The ascendancy of mobile commerce as a marketing channel warrants researchers' and practitioners' alert even in its current rudimentary stage, not only because of the huge market potential projected, but also because mobile commerce can offer new channels through which enterprises can interact with customers (Leung & Antypas, 2001). In a bid to fill the research void in the realm of mobile commerce, and to afford some insights to firms battling over the electronic commerce arena, this research was conducted with the following two objectives in mind. The first objective is to scrutinize what constitutes the weighty factors as far as transacting through mobile devices is concerned. The second one is to find out how the importance of these factors would vary when consumers are confronted with two different transactions, each with a varying degree of involvement (Celsi & Olson, 1988). The first type of transaction is a low involvement one that involves buying movie tickets with little financial commitment, while the second one is undertaking stock transactions where the stake is high.

In the following, we would briefly summarize what the literature says about important factors that affect online shopping, which forms the basis for us to speculate on factors that may be important for consumers shopping via their mobile phones, the latter being one kind of online shopping, which should resemble to some degree other forms of shopping on the Internet as far as important factors affecting consumer behavior is concerned. Hypotheses are then formulated, which is followed by the methodology. After presenting the results, we discussed the implications and conclusions of this study.

CONCEPTUALIZATION

Regardless of the mode of access, the popularity of online shopping can be partially attributed to the effectiveness and efficiency to acquire information about vendor prices and product offerings (Alba et al., 1997; Bakos, 1997; Cook & Coupey, 1998; Klein, 1998; Peterson, Balasubramanian, & Bronnenberg, 1997; Sheth, Sisodia, & Sharma, 2000; Wolfinbarger & Gilly, 2001), and convenience in overcoming geographical and time barriers (Peterson, Balasubramanian, & Bronnenberg, 1997; Sheth & Sisodia, 1999). In sum, previous literature has found that convenience, site design and financial security are dominant in determining e-satisfaction and likelihood of using the Internet as a shopping channel (Eighmey & McCord, 1998; Szymanski & Hise, 2000; Tse & Yim, 2001). Given that mobile commerce is also one kind of online shopping, we posit that "convenience," "site design" and "financial security" are the three crucial factors affecting consumers' propensity to transact through mobile phones:

Convenience

One of the widely held perceptions that drives consumers to go online is convenience (e.g., Donthu, 1999; Wind & Mahajan, 2002). The information superhighway has been promoted as a convenient avenue for shopping (Szymanski & Hise, 2000). Driven by the growth of mobile commerce, the convenience of online shopping is further enhanced (Lucas, 2001). Li et al. (1999) find that convenience is a robust predictor of users' online buying status. Similarly, Becker-Olsen (2000) expounds that one of the most important factors that determines whether consumers buy online is the extent to which they perceive the Internet as convenient. The convenience instilled in the electronic marketplace is manifested in time savings, effort economization and accessibility, as perceived by online consumers (Wolfinbarger & Gilly, 2001). Like shopping using a PC, consumers buying movie tickets or completing stock transactions via their mobile phones would be able to save a lot of time and effort that would otherwise be wasted in dealing with agents or ticket offices.

As buying movie tickets is a transaction of low involvement and that undertaking stock transactions is of high involvement, it can be logically reckoned that the convenience factor is different in significance depending upon the situation. Convenience may have a more significant impact on consumers' propensity to transact online in the context of a ticket transaction, as compared to a stock transaction. Consumers should experience greater satisfaction when they can buy movie tickets anytime and anywhere breaking the time- and location-bound facets of traditional "gravitational" commerce (Sheth & Sisodia, 1999). On the other hand, for stock investment, consumers' major concern is security, as the consequence of any mistake can result in a great loss (Rosenbloom, 2000). Hence, we speculate that if an online stock trading system is too convenient, online investors may actually refrain from using it. For example, if, for the sake of convenience, a user is not required to enter a second password to confirm a transaction, the user may end up feeling highly insecure and less satisfied. To test our assertions, we put forward the following hypotheses:

- **H**_{1a}: Convenience significantly affects willingness to transact online for both movie ticket and stock transactions.
- H_{1b} : The importance of convenience in determining whether consumers transact online is greater for a ticket transaction than a stock transaction.

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