

## Chapter 5.5

# Economics of Immediate Gratification in Mobile Commerce

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### **ABSTRACT**

In this chapter we attempt to build a bridge between mobile commerce and the emerging field of behavioral economics. We first provide examples from mobile commerce and link them to behavioral economics. We then build a stylized model to assess the impact of hyperbolic discounting on the profit-maximizing behavior of a monopolist firm. We find that the monopolist makes lower profits compared to exponential discounting consumers for low levels of (positive) network externalities. As the network externalities increase, first-period prices increase, second period prices decrease and the profits increase in equilibrium.

### **INTRODUCTION**

Shopping is ubiquitous. Malls and individual shops face the first stage of expansion to the digital envi-

ronment through fixed wired Internet. Electronic commerce initiates huge investments and leads to controversies as well as financial disappointments since the mid-1990s. From early 2000 onward we are facing a second wave of digital commercial growth. Wireless technologies are enabling individual consumers to access information wherever they are and whenever they want.

Although the use of mobile devices is evolving rapidly, the investigation of mobile consumer behavior is lacking. An increasing number of electronic commerce services for mobile devices coupled with swift adoption rates will enable mobile operators to provide effective customer services and gain competitive advantage. However, this can only be achieved by analogous deeper understanding of mobile users' behavior.

A tool to understand the consumer behavior within mobile context comes from the field of economics. Neoclassical economics approaches the individual as a rational decision maker faced with a series of consumption choices. The cor-

responding model of human behavior is called “Homoeconomicus,” who is endowed with perfect rationality, self-interest, and knowledge. In reality humans are largely driven by their emotions, and emotions are often irrational. They also perform altruistic acts like charity, volunteerism, lending a helping hand, parenting, and even giving one’s life for one’s country. These all fall contrary to the assumption of self-interest. They perform self-destructive acts like substance abuse, negative addiction, negative risk-taking, procrastination, inability to complete projects, masochism, and suicide. They are also highly ignorant about all their affairs; they can be expert in only a few topics at a time (Laibson, 2001). In parallel to the technology achievements in wireless communications, maybe relatively less rapidly, our understanding of the “homoeconomicus” is expanding toward a complementary economic perspective of the homosapiens. As we discuss in the next section, behavioral economics provides novel concepts using traditional tools. Our goal in this chapter is to discuss the viability of some of the mobile business models through the lens of behavioral economics.

## **IMPACT OF MOBILE TECHNOLOGY**

In this section we provide an overview of the mobile commerce technologies that we believe impact consumers’ decision making. We start with a definition of mobile commerce.

**Definition:** Mobile commerce is defined as all activities related to a (potential) commercial transaction conducted through communications networks that interface with wireless (or mobile) devices.

The most salient feature of mobile commerce is the availability of ubiquitous access to information whenever and wherever it is needed. Using a mobile device a customer can watch streaming

video and complete financial transactions while on the road. Digital content is enriched when ubiquity is coupled with location and time-specific knowledge.

Constant access to information can increase efficiency and lower supplier costs for critical decision making. Examples include Siemens’ wireless extension to SAP Business Warehouse backend system, UPS’ tracking shipments using wireless devices, and Office Depot’s logistics management system using custom wireless handheld units.

Coordination costs for buyers can also decrease. CitiGroup customers receive daily bank balance updates via SMS messages, and major brokerage firms such as Charles Schwab and Merrill Lynch provide wireless access to aggregated account information. In this chapter we are interested in buyer-side impact of mobile technologies.

Although the number of mobile users is expanding, as Table 1 shows, the percentage of consumers using mobile channels to make purchases is very low, according to an AT Kearney study. According to Forrester, there is an upward trend on the expected sales of mobile devices by 2005. Interestingly, the interest in 3G applications focuses on financial and payment solutions after e-mail applications, according to a Taylor Nelson Sofres survey. These are all indications of increased use of mobile devices in the future for payment purposes.

## **BEHAVIORAL ECONOMICS OF MOBILE TECHNOLOGY**

Instant gratification is key to the use of mobile devices. Mobile services that deliver context-dependent content to users fulfill the instant gratification behavior that consumers seek. According to a Jupiter report, consumer interest in purchasing items using a wireless device is not a priority, with only 7% expressing interest in conducting transactions via a wireless phone. The report adds

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