

Application of the latent class regression methodology to the analysis of Internet use for banking transactions in the European Union

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Abstract

This paper offers an empirical investigation on the use of the Internet to carry out banking transactions in the European Union. The study focuses on variables such as customers' ownership of diverse financial products and services, as well as their perceptions and attitudes towards financial services and the Internet as a financial distribution channel. The results confirm that ownership of diverse financial products and services, attitude towards finances, and trust in the Internet as a channel for financial operations exert significant influence on Europeans' use of the Internet for banking transactions.

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1. Introduction

Although nowadays brick-and-mortar branches still remain the main banking distribution channel (Howcroft et al., 2002; Wang et al., 2003), in recent years, the growth of newer channels has introduced significant changes. The telephone, Internet, new ATMs, and digital television are examples of technologies that enable customers to carry out banking operations on their own, without the need to visit a branch office. The former "one-channel" situation, consisting of a branch network, has shifted to a "multi-channel" configuration, where branches coexist with alternative delivery channels.

In developing these new channels, banks seek to lower costs and, at the same time, raise their income by attracting new customers and increasing sales to current customers. On the other hand, financial customers usually look for convenience in these channels (Daniel, 1999; Howcroft et al., 2002; Liao and Cheung, 2002; Sathye, 1999), that is, the comfort of carrying out banking operations without time or place constraints. Adopters

of newer financial distribution channels, such as the Internet, also tend to expect better financial conditions, with lower commissions or better interest rates, as well as higher levels of service, with time savings (e.g., avoiding queues in branches), and more privacy (EFMA, 2004; Howcroft et al., 2002).

The Internet stands out from other new channels because of the high adoption rates among customers and the wide range of operations banks offer through their e-banking services. Internet use to carry out banking operations is approximately 40% and 47% among current European (Telefónica, 2005) and U.S. Internet users (Fox, 2005).

These figures do not necessarily mean the decline of branch networks but confirm the definitive success Internet banking will have in the near future. E-banking is a key element of current bank strategies and still has huge development potential.

New financial channels provide advantages and opportunities, which banks try to seize by leading their customers to their Internet services. Banks' initiatives to promote Internet banking may be beneficial to both parties since customers are also likely to obtain significant benefits. However, activities to promote direct channels should take into account that most customers do not rely on a single channel and, therefore, they will tend to regularly use several financial distribution channels. Consequently, banks should not impose compulsory changes. Customers should have the freedom to decide how to contact their financial providers.

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To ensure the success of these initiatives, banks must gain a customer-based understanding of the changes currently taking place in the delivery of financial products. “Among other things, banks must understand who specifically is adopting and using this new commercial technology and why” (Lassar et al., 2005). Banks should be able to predict which customers will be the earliest users of this channel. First, they should know the main characteristics of these early adopters. Next, banks should understand how these characteristics interact with new e-banking processes and procedures.

Research dealing with these issues strives to empirically validate models that can help financial providers understand which customers are most likely to adopt new channels. Based mainly on Rogers’ Diffusion of Innovations Model (Rogers, 2003), authors increasingly apply adoption research to the e-banking field. These studies analyze several customer traits (e.g., demographics, behavior, and attitude towards new technologies and banks) in order to characterize typical adopters of new distribution channels. On the basis of the identified customer profiles, such papers provide financial entities with recommendations on how to define their strategies and Internet services.

Most research has concentrated on customers’ demographic characteristics, not analyzing other variables such as attitudes and behaviors. The main purpose of this paper is to establish the key characteristics (other than sociodemographics) significantly related to a customer’s propensity to adopt a new banking distribution channel. The analyses focus on customers’ ownership of diverse financial products and services, as well as their perceptions and attitudes towards financial services and the Internet as a financial distribution channel.

This paper begins with the review of previous work analyzing the influence of diverse indicators on the adoption of Internet banking. The next section describes the methodology and results of the empirical analyses, which apply the latent class regression methodology to the survey data included in the dataset Eurobarometer 60.2 “Public opinion in Europe: Financial services”. Finally, the authors offer implications and recommendations for banks derived from the results of the study.

2. Theoretical background

Research related to the adoption of new products seems to be particularly important for the e-banking phenomenon. Such studies aim to understand the reasons why certain customers adopt and use new products and services while others do not. In other words, why are certain customers more innovative than others?

Researchers have paid attention mainly to the sociodemographic indicators in order to identify factors leading to the adoption of technological services. For example, educational level, age, and income show significant associations with usage rates of technological innovations (Dickerson and Gentry, 1983; Zeithaml and Gilly, 1987). With regard to the Internet, the literature confirms the existence of significant associations between demographics and usage patterns (Atkin et al., 1998). Previous studies have profiled Internet users on the basis of their

demographic characteristics, suggesting the influence of gender, educational level, age, and income on the use several Web-based services. Highly-educated, average income, young to middle-aged males account for the majority of Internet users (Korgaonkar and Wolin, 1999).

With regard to e-banking users, research to date yields conflicting evidence on the influence of sociodemographic variables. In this sense, Sathye (1999) examined differences in the intentions to use Internet banking, based on the characteristics of two types of customers: individuals (age, occupation, income, and education) and businesses (form and nature of business, annual turnover, and location). This research did not find significant relationships between respondents’ demographic characteristics and their propensity to use e-banking services (Sathye, 1999).

Other authors have only found significant influences for certain sociodemographic variables (Lassar et al., 2005; Martínez Guerrero et al., 2005). Lassar et al. (2005) identified statistically significant effects for individuals’ income, whereas age and education level did not prove relevant. Martínez Guerrero et al. (2005) detected the influence of age and occupation. However, gender, location, and educational level did not exert significant effects.

Conversely, most studies show significant influences of e-banking users’ demographic characteristics. According to such research, educational level, income, occupation, and age correlate with the use of e-banking services (Karjaluo et al., 2002a). Howcroft et al. (2002) detected differences in the preference for the Internet channel, based on several socio-demographic variables: gender, age, and income. Mattila et al. (2003) found the following indicators to be significant: marital status, gender, educational level, income, occupation, and family size.

Some studies have established the profiles of typical e-banking customers. Young people (from 18 to 35 years of age) are the most prone to use direct channels because they tend to be open to new technologies. Adults, on the other hand, show less interest in new financial channels since they value social interactions and are more hesitant to use newer technologies (Lemaître, 1997). A later study suggests that the typical user of e-banking services is a relatively young, well-educated family man, with high income, and a good job (Karjaluo et al., 2002b).

Sociodemographic differences exist between users and non-users of e-banking services. While users tend to be middle-aged, male, more technology-oriented, and convenience-minded consumers, non-users are more likely to be young or old, more oriented to traditional channels, and hesitant consumers (Akinç et al., 2004). According to these authors, customers with high educational levels show a higher propensity to adopt e-banking since they tend to be computer literate and used to using the Internet.

The previous discussion shows that research on the influence of sociodemographic variables is extensive. However, other factors influencing financial customers’ decision to interact with their banks through the Internet have received little attention. Attitudes towards technology and information services can be suitable indicators to classify bank customers. On the other hand, banks should not assume the existence of significant

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