

Chapter 70

New Perspectives on Payment Systems: Near Field Communication (NFC) Payments Through Mobile Phones

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ABSTRACT

The technological developments in the mobile industry during the last few years have led companies to increase the functionalities of mobile phones. According to many authors in the field, the NFC mobile payment has become one of the payment systems of the future thanks to its numerous advantages. This chapter revises the importance of this payment system within the mobile commerce strategy that many companies are adopting. The model used in the research is based on the classic variables of the technological acceptance model, together with other variables from recent studies. The results obtained in this research show the decisive impact of perceived compatibility, attitude, and subjective norms on the future intention to use this system. Finally, the authors underline the main implications for management, as well as some strategies that strengthen this new business in the context of the new technical developments.

INTRODUCTION

Payment systems have been altered in recent years due to changes in the economy, technological developments that have taken place on the Internet, the proliferation of social networks, and increased use of mobile devices. These systems have adapted not only to a highly digital and mobile free reality, but

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also to a new business climate. Previous payment activities that merely met consumer needs through e-commerce, now facilitate business transactions anywhere, anytime, for anyone.

One of the most important aspects in the development of electronic commerce is the payment system that is used to complete financial transactions. The main payment tool used for Internet purchases, according to the B2C eCommerce Report from the National Observatory of Telecommunications and the Information Society (Urueña *et al.*, 2012) is a bank card (67.7%), distantly followed by exclusively electronic payment platforms like Paypal (11.6%), payment on delivery (10.7%) and bank transfer (3.9%). However, it is true that an increase in the use of exclusively electronic payment platforms is expected. Indeed, according to numerous studies, mobile payments will soon become the payment system of the future (Bourreau & Verdier, 2010).

However, according to recent studies (Tecnocom, 2012, INE, 2012), while electronic or online payment systems have experienced significant growth, they have not met initial expectations (Prabhaker, 2000; Ropers, 2001; Anil *et al.*, 2003; Liang & Wei, 2004). This is mainly due to user confidence doubts (Sorkin, 2001), the complexity of the systems, privacy concerns (Hwang *et al.*, 2003) and a lack of security (Behrens, 2001), among other reasons.

Despite this, “netizens” who made online purchases in 2011 spent, on average, €828 representing an increase of 88% in the average expenditure since 2003 (Urueña *et al.*, 2012). However, other statistics indicate that there is still a lot of growth potential for e-commerce (B2C), as according to Eurostat, in 2011 in the European Union, 31% of people shopped online in the last 3 months. In Spain, this number was only 17%, while in countries like the UK and Denmark e-commerce penetrations were 60% and 54% respectively (SAR, 2012). Therefore, we conclude there is undeveloped potential for these tools both in Spain, and abroad.

In addition, other facts also indicate that mobile devices have become a key component in digital purchases. Recent studies from eMarketer (2013) suggest three trends that together reflect the future of the mobile market: (1) the increasing number of smartphone buyers whose behavior affects every trade channel, (2) the increasing number of smartphones buyers who enjoy the immediacy of buying through their phone and are expected to generate about a third of mobile commerce sales this year, and (3) the rapid increase in the purchases of tablets, which are the medium for the most mobile commerce sales in the U.S. Therefore, the implication is that as consumers buy smartphones and tablets e-commerce sales levels will grow and more consumers will use these devices to pay for purchases.

Currently, sales via smartphones represent over 10% of all transactions on eBay in the UK. In the United States, in 2013 tablets are expected to account for 9.4% of electronic retail sales and smartphones for 5.3% (eMarketer, 2013), indicating the growth potential posed by these new forms of commerce and payment in future society.

For these and many other reasons mobile payments are considered by many experts to be one of the most promising applications in this sector, considered as the star app or “killer” application of mobile phones (Hu *et al.*, 2008; Ondrus *et al.*, 2009; Ghezzi *et al.*, 2010).

Thus, as mobile commerce is an extension of electronic commerce, mobile payment may be considered a natural evolution of electronic payment (Kumar *et al.*, 2008; Sumanjeet, 2009, Islam *et al.*, 2011). The trend demonstrates that the buying habits of consumers are transforming into shopping “minutes” during the day, rather than long shopping trips. This change also offers small retailers the advantage of being able to create strong strategies for situations in which a consumer has the desire to purchase or is curious about a consumer product as the direct result of an advertisement seen in the street or on TV and has only mobile technology at hand; a situation which is very common these days.

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