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Chapter X

New Challenges in Electronic Payments

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ABSTRACT

While it's essential for "intelligent enterprises" to deliver value added to their customers it's getting increasingly important for them to consider new challenges in electronic payments. This is to meet the users'[1] requirements to pay in a secure, efficient and "easy to use" way, both in e-commerce and m-commerce. In the end, secure and efficient[2] electronic payment systems are one of the most crucial elements of transactions in e- and m-commerce. Currently, one can detect opacity[3] for users because of the huge number of different payment systems and their different impact on the users' individual requirements in different transaction situations posing them possible risks.

Thus, assuring users of features such as convenience, low costs and privacy while conducting transactions may form the basis of competitive advantage for intelligent enterprises. This chapter presents an approach enabling users to evaluate possible risks related with electronic payment systems and hereby eliminating the above mentioned opacity. It highlights the definition of user requirements as a prerequisite for individual risk management. The solution introduced assists users in choosing a convenient payment system in the long term during individual portfolio-setup as well as in the short term while conducting payment transactions.

INTRODUCTION

With the growing number of digital transactions in e- and m-commerce scenarios, Intelligent Enterprises' Information and Communications Technology will be faced with

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enormous challenges for their information and communications technology in the near future. One of the most important prerequisites for the success of this technology will be secure and efficient electronic payment systems enabling financial transactions. Just as traditional payment instruments like cash, cheque or billing, these electronic payment systems should enable value transfers at low transaction costs, manageable security level and usability for users. Consider, for example, the traditional payment instrument cash, which offers an almost perfect degree of anonymity.

Currently, the evolution of new payment systems, especially for mobile payment, as well as the persistence of traditional payment methods can be observed. This adherence to traditional methods (Kurbel & Teuteberg, 1998) is due to a lack of users' confidence and additionally opacity in the digital transaction infrastructures. These arguments are consistent with an online-survey (Stroborn, 2001) aimed at drawing a picture of Internet payment preferences outlining that consumers prefer conventional payment systems. When asked how they wish to pay, invoices are ranked first by consumers (55.1 percent). This fits with consumers' needs in an anonymous Internet world. Payments via direct debits are preferred by 15 percent, followed by credit card payments at 13.2 percent (insecured, via SSL and via SET). Cash on delivery payments sum up to 10.1 percent. M-payments, (micro)billing and pre-paid systems together only account for roughly 5 percent. There are several reasons for this: the systems are relatively new on the market and, as a consequence, they are not well known. Additionally, it takes a long time before consumers change their payment habits—just think of the introduction of the debit-(ec)-card in Germany, which took about 10 years. The participants articulated the need for improved service and more information: " ... complete cost listing at an early stage (packaging and delivery included)," "terms and conditions written out explicitly," "complete business address," "improved delivery service," "the order's status via e-mail," etc. Low costs, ease of use as well as the possibility of cancellation are consumers' main requirements for payment systems. Moreover, coverage in case of loss and the point of time when the customer gets charged play an important role (payment after delivery).

After all, the users' confidence in digital transaction infrastructures is unsatisfactory because users either naively trust information systems like electronic payment systems (Kiefer, 2001), or are insecure about the security of their digital transactions. "Trusted third parties" are not really trusted yet, either. Security is not a built-in feature of payment systems. As an example, ECash and CyberCoin, both prototypes of electronic money, have consistently been discussed among experts. They have completely disappeared. Their failure is symptomatic for certain problems of acceptance of innovative payment schemes. The focus has always been on technical sophistication, while neglecting the consumers' wishes. Even the most advanced electronic payment systems cannot emulate the anonymity, unobservability, and untraceability of traditional cash transactions.

One more aspect might be the kind of goods or services sold on the Internet. The new systems have their strength in providing a possibility to pay for intangible goods and services, but there is still not enough digital content available.

Beyond that, one can detect opacity for users due to the huge number of different payment systems and their obscure influence on individual security and efficiency requirements. Often a payment occurs regardless of user requirements concerning risk