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Trusting Mobile Payment

*How the Trust-Factor forms the
Mobile Payment Process*

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For my beloved family and adored friends.

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1 Introduction

The rapid technological development and global distribution of wireless devices opens up new possibilities for communication and business activity in our global society. Mobile terminals, such as cell phones, PDAs, smart phones and tablet PCs have become the mainstay of post-modern communication. Mobile users can employ digital services independent of location and time. Wireless devices allow the flexible utilization of digital services that were once limited to stationary use on a personal computer (PC). The range of potential applications has grown due to improved technology and processes of the mobile ecosystem. The wireless device has become a multi-functional machine. Besides the classical telephone service, a large variety of new services in the areas of navigation, social media, photography and alarms have been added to what was once a mobile telephone.

Adequate mobile payment services are now needed to monetize those services. The idea of using a cell phone as a payment medium is not new. The mobile payment topic has been at the forefront since the 1990s, especially due to mobile value added services (VAS).

However, only few of the mobile payment solutions reached a significant market maturity or relevance. Apart from many other success factors, the use of such services requires a great deal of trust by the

user towards the technical set-up, procedural information and data processing. Especially complex payment services require particular attention on the trust building process. But to build trustworthiness it is not enough to only provide a secure data transaction and storage. Trust must also be supported through user experience design, transparent communication and imparted information so the user easily learns, understands, and eventually accepts the service. Enduring success for a mobile payment service can only be achieved by establishing a long-term relationship between the user and the system based on trust.

Trust is an essential factor for any user to select a product or service. Whether and how the trust factor was taken into account and represented when service provider create a mobile payment service has not yet been scientifically analysed. With this paper this gap will be closed. It will analyse the role of trust in the construction and communication of a mobile payment services from the perspective of the service providers. In order to answer this question acknowledged sociological theories on trust will be examined and conceptually expanded.

The paper aims to create a general understanding of the relevance of the trust-factor for mobile payment services by means of a practical comparison in order to elaborate, which aspects of trust are particularly relevant, and in what way they should be considered

and designed. In conclusion, open research questions will be determined and an outlook will be delivered.

The purpose of this paper is not to develop a new trust model for mobile payment service, nor to combine or dismiss existing services. Its purpose rather is to analyse, understand, and reflect the inherent trust-related tension between people and mobile payment services on the basis of existing models. Specifically it will focus on trust towards systems, as the user always has to verify the trustworthiness of a technical system.

Consequently, this paper focuses purely on mobile payment and on the transfer of monetary value. This means it will not answer the question about trust in the monetary system, as it will not examine the trustworthiness of the value of the currency itself, but its transfer.

A theoretical structure is established in the first part of the paper in order to answer these questions. It is based on research of literature, and it provides an explanation of the fragmented concept of trust and the individual description of topic-related models and definitions. It specifically covers statements by authors who have created a reference to describe systems or money. The following chapter explains mobile payment and provides profound insight into its facets. In addition to a general delimitation of the

concept, its development, applications, and characteristics will be discussed.

The second part of the book deals with the practical comparison. Therefor the consideration of aspects of trust in the construction and communication of existing mobile payment services are examined by conducting expert interviews. In this case one-on-one expert interviews are preferred to avoid group dynamics when it comes to enquire opinions. The experts are interviewed verbally. To obtain the most authentic information, the interview is to be conducted in the regular working environment. As this study is more of a hermeneutic exploration, a semi-standardized questionnaire is applied to concede space for additional information and/or questions. This grants the interviewees more freedom for their replies, and they can go deeper as they deem appropriate.

Interviews are conducted with representatives of three current mobile payment providers. In order to ensure a certain degree of comparability of the data, a standardized questionnaire or conversation guide has been developed. It contains main questions and supporting sub-questions. As it is a semi-open interview, the main questions are always asked, while the supporting questions serve to maintain an organic conversation. Besides the interview guide, an audiotape will be used to record the conversations.

2 Theoretical Considerations

2.1 About Trust

Trust is a complex social phenomenon often paraphrased with words such as confidence, familiarity, credibility, or trustworthiness.

This paper does not pretend to extensively depict all scientific approaches to trust. Instead, the phenomenon trust is to be examined in the context of mobile payment services, and its aspects and characteristics are to be analysed. The following text therefore concentrates on the description of the functions, determinants, and peculiarities of trust.

The goal is to find an answer to the following questions: What is the relationship between trust and payment processes? What is the interdisciplinary definition of trust? What is the nature of trust? What are its forms and scientific manifestations?

2.1.1 Money and Trust

This paper particularly focuses on the payment process. The payment process represents the monetary transaction process between two parties. In order to understand the relationship between trust and paying, we must first explain the fundamental relationship between trust and money.

The transaction process illustrates the central nature of money as a social contract and transmitter of economical interactions. Especially this social

interaction needs to bridge this moment of economical uncertainty. Trust becomes equal to a social advance.

This way the use of money is historically based on designing the trust elements of a transaction process, provided by a current social monetary system. This means the instant of payment only acquires its right to exist by successfully creating trust between the dealing parties. Luhmann says: “Those who believe in the stability of monetary value and the continuity of a variety of possibilities of usage, essentially assume that a system functions, and they don't confide in people they know, but in this functioning.”¹

The bearer of the money symbol, i.e., the coin or bill, usually doesn't have the same intrinsic value as the imprinted face value suggests. Without trust, what is left is only the intrinsic substance value of the metal or paper, which frequently is insignificant compared to the face value.

A high relevance of trust is apparent upon the close consideration of the labelling and design of bills: “I promise to pay the bearer on demand the sum of...,” reads the bill of the Bank of England. This indicates that the bill bearing the money symbol represents a physical promise for usage of the exchanged value through the paper bill elsewhere.

¹ Cf. Luhmann, 2000, p. 64

The US \$10 bill also shows trust-related characteristics: “In God We Trust,” it says on the reverse of the bill. But the person that we are actually supposed to trust is the U.S. Treasury Secretary. Alexander Hamilton, the first Treasury Secretary of the United States and co-founder of the modern banking system, is still featured on today's US \$10 bill. On the other hand, when Germans trade their work or merchandise against euros, they trust the President of the European Central Bank (ECB), Mario Draghi (since November 2011). The ECB, together with the national central banks, is responsible for the control and supervision of the banking system in the euro area. On the face of any euro bill, we find the signature of the incumbent President of the ECB as a symbol of trustworthiness and validity of the paper.

Money obtains its role and necessity due to the existence of an intrapersonal idea of values, and it manifests in the interpersonal exchange of values. Money, as the physical bearer of the money symbol, thus becomes the central element of the payment process. During the physical moment of payment with cash, trust is primarily generated through the forgery-proof quality of the means of payment.

Besides the ECB President's imprinted signature, the euro bill contains a large number of security features, such as watermarks, security thread, recess

printing, see-through register, micro-printing, infrared features, black light features, magnetic security detection, pearlescent strip, a special foil element with holograms, bar code, and colour shifting effects when the bill is tilted.²

Today cash is one of many means of payment. Cashless payments have spread swiftly in the past few years and steadily increased its density of use.³ Compared to digital money, cash has expensive disadvantages, such as the cost of its production and provision, the cost of withdrawing it for the end consumer, or the cost of logistics for merchants in daily business.

In contrast, cashless payment processes often seem less expensive and more convenient. However, with the digitalization of the payment processes, the bearers of the money symbol change as well. They show themselves in their new form as a plastic card or as digital information on a cell phone. But even if their shape changes, the user's claim for trust in the bearer and the payment process of the money persist. Although the trust-promoting aspects are no longer as visible as on the bill, the service provider still needs to consider them as inherent elements of the process or medium.

² Cf. German Central Bank: Informationen über die Bundesbank Sicherheitsmerkmale der Euro-Banknoten.(Information on the Security Features of Euro Bills)

³ Cf. Statista: Annual growth rates of cashless transactions 2001-2007 based on the 10 largest cashless markets.