

# **Influence of Mobile Users' Privacy Concerns on Mobile Payment**

## **Masterarbeit**

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# Contents

<b>LIST OF FIGURES</b>	<b>I</b>
<b>LIST OF TABLES</b>	<b>I</b>
<b>ABSTRACT</b>	<b>1</b>
<b>1. INTRODUCTION</b>	<b>2</b>
<b>2. THEORETICAL BACKGROUND</b>	<b>4</b>
<b>2.1 LITERATURE REVIEW</b>	<b>4</b>
<b>2.3 MOBILE COMMUNICATION TECHNOLOGIES</b>	<b>17</b>
2.3.1 PROXIMITY PAYMENTS: NEAR FIELD COMMUNICATION	18
2.3.2 PROXIMITY PAYMENTS: BLUETOOTH LOW ENERGY	22
2.3.3 REMOTE PAYMENTS: MOBILE INTERNET AND TEXT MESSAGES	23
<b>2.4 MOBILE PAYMENT SERVICE PROVIDERS</b>	<b>23</b>
2.4.1 APPLE PAY	23
2.4.2 GOOGLE WALLET	29
2.4.3 PAYPAL	29
2.4.4 CURRENTC	31
<b>3. RESEARCH DESIGN &amp; CONCEPTUAL FRAMEWORK</b>	<b>33</b>
<b>4. METHODOLOGY</b>	<b>39</b>
<b>4.1 DATA COLLECTION</b>	<b>39</b>
<b>4.2 QUALITATIVE STUDY (EXPERT INTERVIEWS)</b>	<b>40</b>
4.2.1 RESEARCH DESIGN OF THE EXPERT INTERVIEWS	40
4.2.2 EVALUATION AND RESULTS	44
<b>4.3 QUANTITATIVE STUDY (SURVEY)</b>	<b>47</b>
<b>4.4 QUALITY CRITERIA</b>	<b>48</b>
<b>5. RESULTS</b>	<b>52</b>
<b>5.1 THE OVERALL MODEL</b>	<b>52</b>
<b>5.2 GROUP COMPARISONS</b>	<b>54</b>
<b>6. DISCUSSION AND LIMITATIONS</b>	<b>57</b>
<b>7. CONCLUSION AND FUTURE RESEARCH</b>	<b>62</b>
<b>REFERENCES</b>	<b>64</b>
<b>APPENDIX</b>	<b>I</b>

# 1. Introduction

*“The gold of the 21<sup>st</sup> century lies within data.”<sup>1</sup>*

Mobile payment services promise their potential customers a comfortable, seamless and secure experience when performing transactions. When using mobile payment services, the consumer ideally substitutes his physical wallet for a mobile device, e.g. a smartphone. Depending on the service, the smartphone can further serve other use cases such as mobile ticketing, loyalty programs, etc. as well. Even though mobile payment services have been around for many years now, they struggle to reach an appropriate level of adoption for most countries. Thus, the commercial use has so far been rather small in Europe (Rüter, 2017). A recent study showed that e.g. in the German retail sector, the only considerable achievement that mobile payments reached so far is an estimated contribution of 4% of total payments made in the retail sector for payments of under 10€ within the upcoming five years (Rüter, 2017). A little brighter prospects can be derived from (PricewaterhouseCoopers, 2016) who found that 30% of Germans have used mobile payment services at least once.

Nevertheless, successful business models in Asia and Africa show the possibility of a flourishing introduction of mobile payment services. First and foremost Japan's successful mobile payment service that has been in place for more than 9 years is a role model for western countries (Lerner, 2013). With growth prospects in the field of mobile payment services being promising, some of the worlds biggest players in business such as Google, Apple and PayPal have started pushing into the market, introducing their own payment services. However, most of these services' functionalities are so far only available in the USA with Europe-wide introductions being planned (Rüter, 2017). Especially with regards to privacy protection, these payment service providers have been known to record private data without the consent of users. E.g. Apple's as well as Google's mobile operating systems (iOS and Android) have been known to record and report device owners' locations tracked via GPS (Angwin & Valentino-Devires, 2011).

Another interesting example when it comes to gathering private information without a user's inner will of sharing can be seen in applications restricting use if not given the proper permissions. E.g. an application might only allow access if given the permission to access the user's contacts (Degirmenci et al., 2013).

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<sup>1</sup> cf. Thomas Fricke's expert interview (appendix)

In 2014, there were a number of companies and test programmes for mobile payment services introduced in Germany. Among them were the telecommunication companies O2, Telekom as well as Vodafone, or the supermarket chain Netto (Rüter, 2017). However, when it comes to market entry, the most important factor is acceptance among potential users. With PricewaterhouseCoopers AG (2016) finding that the most important factor for people not engaging with mobile payment services is privacy concerns, it becomes obvious that this is a topic, which needs special attention. When trying to spread consumer acceptance for a new technology is supposed to be as thorough as possible, marketers need to know their product's exact standing within a population. In order to achieve this, it's important to analyse demographic influences and cluster a population accordingly. By doing so, companies can focus on a specific share of the population and direct their efforts more target-oriented (Schneider, 2012). This thesis aims to provide further insight into the topic by answering the following research question:

*RQ: "How do age, gender, profession and prior experience influence privacy concerns towards the intention to use mobile payment systems?"*

In order to answer this research question, chapter two of the thesis at hand provides the theoretical background to the topic. It consists of a literature review and subsequent definitions of the most important terms and findings of it. Chapter three goes on to introduce the research model that was used for the empirical part of the thesis and the hypothesis that go along with it. In chapter four the qualitative research is conducted in form of five expert interviews offering their insights on the topic. Furthermore, it contains the quantitative research, i.e. the survey conducted to collect data with which the research model was then fed. Chapter five presents the respective results and presents whether or not the hypothesis of chapter three are supported. Chapter six goes on to discuss the findings of chapter five and introduces a set of limitations of this thesis. Finally, chapter seven provides suggestions for future research, summarises the findings and closes on a conclusion.

## 7. Conclusion and future research

Having presented the results and subsequently discussed them, limitations of this research were given. This last section aims to firstly address the limitations of section 6 by suggesting ways forward for future research and subsequently provide a summary followed by a conclusion.

With regards to future research direction, this thesis presented a first step towards the understanding of potential mobile payment service users' attitude towards privacy concerns. Future research may focus on investigating these relationships using different modelling methods for the construct of privacy concerns in order to further validate findings and figure out what measures fit a mobile payment service potential user's attitude towards privacy concerns best. Maybe even the predictive model – in this case TAM – could be replaced for another model so as to see what users' attitude towards technology, they haven't already experienced, looks like. Furthermore, future research should focus on a way to ensure they collect exactly the data they need. This will help providing sound results in terms of demographic factors such as profession, which this thesis failed to. On a side-note, with regards to profession, future research might want to look at the supply side of mobile payments in order to see whether profession affects it more than the demand side. Age has been one of the demographic factors suggested having an impact on the privacy concerns and their effect on the intention to use mobile payment services. With the findings of this study not supporting that assumption, future research could focus on different aspects such as early adopters vs. late adopters as a proxy for this demographic factor. Furthermore, the effect of income as a demographic factor combined with before mentioned proxies might help painting a clearer picture when it comes to the adoption of mobile payment services and the way privacy concerns affect it.

The objective of this thesis was to investigate demographic factors' (i.e. age, experience, gender, profession) influence on the relationship between privacy concerns and the intention to use mobile payment services. In order to do so, section two provided a thorough theoretical background needed to understand the topic. Building on the foundation of the literature review matrix, key terms of the thesis as well as models involved in the empirical part were explained and discussed. Subsequently, section three went on to introduce the research design and hypothesis. A total of 9 hypothesis were created before section four empirically tested them. To begin with, section four presented expert interviews with experts

around the topic of mobile payments. The findings were then partly integrated into the research model throughout section four. Section five presented the thesis' results which showed that of the 9 hypothesis, only 4 were supported – none of which relating to demographic factors. By looking at the results of this thesis it can be concluded that no significant effects on the relationship between users' privacy concerns and their intention to use mobile payment services were found that were connected to demographic factors. However, as section six pointed out, there is a number of possible limitations that would have to be controlled for in future research so as to rule out demographic factors as a moderating influence.