



# Table of contents

<b>List of figures .....</b>	<b>III</b>
<b>List of tables .....</b>	<b>IV</b>
<b>List of abbreviations.....</b>	<b>V</b>
<b>1 Introduction and motivation .....</b>	<b>1</b>
<b>2 Theoretical funding.....</b>	<b>2</b>
2.1 Terminology and relation to eBusiness .....	2
2.2 Classification of mobile payment .....	4
2.2.1 Location based technologies .....	4
2.2.2 Size of payment.....	7
2.2.3 Base for funding.....	8
2.3 Market situation and status quo .....	9
2.3.1 Participants and collaboration.....	9
2.3.2 Status quo of mobile payment in various countries .....	13
2.4 Acceptance models for mobile payment.....	15
2.4.1 Technology acceptance model .....	15
2.4.2 Unified Theory of Acceptance and Use of Technology .....	16
<b>3 Research model .....</b>	<b>18</b>
3.1 Model and hypotheses development.....	18
3.2 Methods .....	20
3.2.1 Measurement.....	20
3.2.2 Data set.....	21
3.3 Analysis of results .....	23
3.3.1 Reliability and validity test .....	23
3.3.2 Model fit.....	25
3.3.3 Estimation approach.....	25
<b>4 Discussion.....</b>	<b>27</b>
<b>5 Limitation and outlook.....</b>	<b>32</b>
<b>6 Conclusion .....</b>	<b>33</b>
<b>References .....</b>	<b>35</b>
<b>Appendix .....</b>	<b>40</b>

## 1 Introduction and motivation

*“Can I pay with my phone?”*

This question would terrify many people in Germany if someone wants to pay in a restaurant or taxi with his mobile device. Even in supermarkets, where required equipment is partly available, has this method, to balance his bills, not settled and would raise the attention of people.

In particular, payment processes in other countries than Germany are already characterized by cashless interactions. On the one side by using credit cards or debit cards, on the other side by the use of mobile devices. But clearly haven't settled and established this last named trend in Germany. Questionable is the fact that a leading industrial nation like Germany has such a discrepancy in the adoption and acceptance of mobile payment services in comparison to other nations. Especially this leads to the question for possible reasons of the mentioned development and lack of acceptance.

Moreover, mobile payment is getting continuously more attention and represents an interesting field of research. According to researches of the company Statista, mobile payments at the point of sale (POS) will increase rapidly and the transaction volume will reach globally a level of approx. 1,200 billion € until the year 2022 (see appendix A). For the next years an average growth rate of roughly 35% per year will be estimated. With greater interest will be the research topic of mobile payment acceptance under the aspect that a huge majority of people in Germany are smartphone users. Another investigation of Statista has shown that in 2018 approx. 60 million of the German population has a smartphone, which implies a rate of 72% (cf. Statista, 2017, p. 13).

Through smartphones, or more generally mobile devices, processes are created more efficiently and faster. In context of mobile payment services means this the avoidance of waiting time in a supermarket. In contrast to that, security risks for customers have to be considered. These slightly touched aspects can symbolize crucial factors for successful mobile payment adoption. A survey conducted by Price Waterhouse Cooper, doing business as PwC, has asked German customers regarding their behavioral intention of using mobile payment services and revealed that, for instance, security, easy handling or compatibility are relevant aspects for the customers (cf. PwC Germany, 2017, p. 12).

As already stated, the aim of this thesis is to identify determinants of mobile payment and analyze the situation of mobile payment on the German market towards customer adoption and acceptance. As a whole, this thesis is focused on answering following research questions:

*What are the factors of mobile payment acceptance in Germany?  
Why is Germany in terms of mobile payment behind other countries?*

The structure of this work is as follows: Chapter two gives a fundamental background of the subject. This includes specifically the definition of mobile payment and different possibilities to classify it, e.g. technology, size of payment or funding base. Moreover, the market structure and the status quo of mobile payment in various countries will be demonstrated. In addition to this, different theoretical acceptance models with their constructs will be presented. Then, chapter three includes the research model. At the beginning of it hypothesis will be developed, followed by the explanation of the measurement for the questionnaire. On the basis of the structural model, the results of the empirical research will be reviewed and illustrated. The fourth chapter will discuss the discovered findings and answer the research questions. The thesis will be finalized by the limitation and outlook. In the end, it will be completed by the conclusion.

## **2 Theoretical funding**

### **2.1 Terminology and relation to eBusiness**

The beginning of mobile payment started in 1997 when the Coca Cola Company created a vending machine in Finland with a payment function, which allowed to pay by sending a SMS to a specific number (cf. Dahlberg et al., 2015, p.2). The first mobile payment transaction was born.

Over the following decades, methods for mobile payment have changed in many ways, i.e. different payment technologies and available for almost all products or services in our life. But the core concept of paying through a mobile device for goods and services is still the same today.

The literature concerning mobile payment offers a wide range of definitions. The definition of Schierz et al. (cf. 2010, p. 210) defines mobile payment as a special kind of payment in the world of electronic devices. The mobile device in this surrounding symbolizes the central factor to differ from other payments methods. Also they summarize different definitions and conclude that all of them involve the transfer of monetary value as an additional important factor. All in all, they describe that with the help of mobile devices payments will be authorized, initiated, or realized.

An additional definition from Mallat (cf. 2007, p. 2) refers that two kinds of transaction are possible: From the charged person to the receiving person through a third party or directly from payer to receiver.

In any case, the abovementioned definitions for mobile payments are following the same core concept as already stated. The literature review executed by Dahlberg et al. (2007) compares different papers and articles on the subject of mobile payment. It seems that their definition take all of these aspect into account. Accordingly, the definition of mobile payment by Dahlberg et al. (cf. 2007, p. 1) expressed as follows: *‘Mobile payments are payments for goods, services,*

Those mentioned points are leading to the possibility of extending this research. To analyze the adoption and acceptance of mobile payment, it will be an option to conduct a survey in which several groups of people will be differentiated, for instance. This implies a multi-group analysis between a group of young and old technology users. Moreover, another option to create a multi-group analysis is to examine the survey in two different countries, e.g. Germany and the United Kingdom. Especially through an analysis between two various nations a better insight for the reasons of adoption are measurable. The aspect of cross-cultural analysis could be interesting point for that. To underline those research aspects, Hofstede country comparison is a good evidence to continue. For instance, uncertainty avoidance has been discovered as a compared item in the overview of them, which are under the aspect of this research are also considerable. The findings of that can provide a better comparison why in particular the adoption of mobile payment in Germany is not that sophisticated like in other countries.

At the end it is worth to mention that mobile payment in practical use are often related to other services. It goes many times along with mobile marketing, ticketing or coupons in a mobile wallet application. Under those circumstances it is a legitimate question to ask the impacts of those other services (cf. Oliveria, 2016, p. 412). Moreover, the relation to mobile banking is also interesting for further research.

## **6 Conclusion**

This thesis identified the drivers of mobile payment services in Germany for customers. Through a quantitative research method of conducting a survey, 150 people has been asked regarding their behavioral intention to use mobile payment services. In support of the UTAUT2, a modified structural model with additional constructs has been developed. The software SPSS Statistics and AMOS of IBM was used for the analysis of the survey results. With the assistance of them it was possible to get estimates between the constructs and insights for the self-developed hypothesis. The structural model has shown that performance expectancy is the most important factor for the adoption of mobile payment services in Germany. The following additional factors are social influence and price value. Because of the unexpected result for perceived trust, the structural has been changed slightly and afterwards shown a positively significant relationship between perceived trust and the behavioral intention to use.

In contrast to that, the model has revealed that the relationship of effort expectancy, hedonic motivation, innovativeness and perceived technology security not having a significant direct relationship to the behavioral intention. However, those constructs have on the other side shown that they have an indirect impact, e.g. perceived technology security together with perceived trust and innovativeness together with performance expectancy onto the behavioral intention to use mobile payment services.

Furthermore, this work compared also the current status of mobile payment services in different nations. The huge gap between the leading nations China and the United States has demonstrated the lack of mobile payment acceptance in Germany. Possible reasons are given, like the completely different structure of the German market or the big cash culture in Germany. The limitations have shown that especially a multi-group analysis between those countries is in the field of interest. Especially, to see the factors that have led to this development.

To sum up, mobile payment research is a field of growing interest, especially in Germany. This is also strengthened by the fact of missing adoption and acceptance. With support of this thesis, possible factors have indicated and fundamental background has been created. In addition to this, it provides an appropriate basis for further research to analyze mobile payment services more in detail.