Marc Wolsztynski

"IT BRINGS MONEY TO ME IN SITUATIONS WHERE I THOUGHT I HAD NONE":
MEANINGS OF MOBILE PAYMENT METHODS AMONG MILLENNIALS IN GERMANY

ABSTRACT

The payment landscape in Germany is currently experiencing great changes. A country, that is well-known for its love for cash is slowly opening up for new alternatives, the latest being mobile payment. While the great majority of older generations seem to hold on to familiar payment methods, millennials are increasingly exploring more recent mobile services.

The purpose of this thesis is to uncover meanings that millennial consumers in Germany associate with mobile payment methods, as well as finding out in which ways mobile payment providers can market their services more successfully. To achieve this, I adopted a social-constructionist approach and conducted qualitative interviews using the Zaltman Metaphor Elicitation Technique (ZMET), a procedure that explores both conscious and unconscious thoughts and feelings by exploring people's symbolic and metaphorical expressions.

Before the interview process, the participants were given the task to look for images they associate with mobile payment, which were gone through and explained during the interview meetings. During the analysis process of the 9 interviews, including quantitative coding to ensure research reliability, the information from 71 images and 57 pages of transcription resulted in 60 in-vivo codes, 12 sub-meanings, and six meanings. These were 1) Shrinking wallets, increasing freedom, 2) Drive for being more, 3) Ease and internal relaxation, 4) Setting new speed and hygiene standards, 5) Loss of control, 6) Better safety, highest possible accuracy.

The findings are concentrated into a consensus map showing all six meanings and the most important sub-meanings. Furthermore, this research found an overall theme, which is 'Leading a (payment) revolution' because most participants see this as an important objective of their usage and encourage others to use mobile payment methods as well to drive digitalization and mobile services forward. Besides 2) Drive for being more and 5) Loss of control sticking out, the research found out, that the other four meanings concern functional improvements in comparison to cash and card payments. Overall, the most practical features are the most convincing to customers.

Practical features will eventually lead to more users. Bringing out that message and further understanding the meanings of consumers should therefore be the biggest priority for players engaged in mobile payment, as the benefits are already existing, but not (yet) seen by everyone. Standardizing the user experience, strengthening the brand identity of mobile payment as a payment method, as well as educating consumers about the usage are other necessities identified as important for future growth.

Keywords: Payment Methods, Mobile Payment, German Customers, Mobile Services, Millennials, Consumer Research, Consumption Meanings, Zaltman Metaphor Elicitation Technique (ZMET), Qualitative Research

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1 INTRODUCTION

1.1 Germany's dark past leading to present-day payment skepticism

In Germany, the EU's most populous nation, the payment landscape is very different to other areas of the world, such as, for example in the Nordic countries or China (Arvidsson, 2019, p. 6; Laboure & Reid, 2020, p. 2).

The German mobile payment market is currently contested between various international as well as national players, such as PayPal, Apple Pay, Google Pay, Payback Pay, and several Banking apps (Brentnall, 2019). The transition has recently accelerated with Google Pay and Apple Pay entering the market in 2018 and large banks following with mobile payment apps afterwards (Brentnall, 2019). Further, through the COVID-19 pandemic, contactless payments, (a term that includes payments with a contactless payment card and mobile payments), have increased to more than half of all debit card payments in March 2020 (Mai 2020, p. 4).

For a variety of reasons, the uptake of mobile payment methods in the country was slow-paced in the past. Firstly, the historically grown conservative culture around money is a big obstacle for renewal. Germans are generally concerned or skeptical of the perceived risks of technology, data storage, and security (Beutin & Harmsen, 2019, p. 15; Lám, 2015; Pietrowiak et al, 2021, p. 26). The roots of this mistrust in higher authorities and fear of surveillance might lie in the country's previous experience with totalitarian regimes, such as the Third Reich (Greenslade, 2013) and the GDR with its repressive State Security Service, informally known as Stasi (Shubert, 2019). Therefore, as mobile payment combines money with technology it has a difficult stance among the general population.

Perhaps the biggest obstacle for change in the payment landscape in Germany is the country's strong obsession with cash and the payment option having a strong lobby, with some sources going as far as even claiming the Bundesbank, the German central bank, being part of it (Twiehaus, 2019). In 2016 the amount of cash that average consumers carried around in the euro area was 65 Euro. Germans were on top of the list with 103 Euro in an average wallet. (Esselink & Hernández, 2017, p. 34) Cash is used for most consumer purchases, accounting for 74 percent of purchases in 2017 (Bruckmann et al, 2018, p. 8) and 60 percent in 2020 (Pietrowiak et al, 2021, p. 3), despite the COVID-19 pandemic and the WHO as well as businesses largely recommending cashless payment options (Bücker, 2020). Besides the downwards trends the usage is still immense and it is foreseeable that cash will not be displaced anytime soon (Mai 2020, p. 4).

Besides, Germans generally dislike debt and tend to have a risk-averse spending behavior which can be seen in low private debt rates and is further materializing in the modest rate of property ownership (Österreicher, 2018). According to the Federal Statistical Office in Germany, in 2018 only 47.5 percent of households had house ownership (Destatis, 2019, p. 75) despite the country being among the strongest economies in Europe. The roots of this unique culture and the extraordinary attitudes towards money, some say, also have historical reasons because of the twofold experience of hyperinflation in the 20th century (Österreicher, 2018). After both world wars, between 1921-1923 and 1945-1948, Germany has witnessed circumstances that made private life almost unmanageable and called into question the shaping of living conditions that had previously been taken for granted (Hüther, 2020). Both times new currencies were adopted and enormous amounts of public and private wealth were destroyed. For example, in 1948 when people were forced to convert their remaining Reichsmarks to German marks 93 percent of savings were lost (Andrews, 2002). This chapter in history has left severe scars on the country's and its individuals' monetary memory (Ehrmann & Tzamourani, 2009, p. 12). The after-effects can be felt until today, resulting in a predominantly fearful and skeptical behavior towards innovations or trends, such as mobile payment or stock ownership. Instead, the overwhelming majority of German citizens favor established systems, routines, and processes at all costs, such as paying with cash and using savings accounts as primary sources of savings besides all disbenefits. (Lorenzen, 2019) Besides risk avoidance, it leads people to be very discrete of any money-related topics. For example, salaries are not talked openly about in most parts of society.

Another reason for the slow uptake of mobile payment methods is that many shops in Germany used to not offer cashless payment options. In a survey conducted in 2017, the perceived acceptance of non-cash payments was among the lowest in the EU with only around 60 percent (Esselink & Hernández, 2017, p. 34). Some sources claim tax avoidance as the reason (Schneider, 2016, p. 20), others extra costs for shop owners (Twiehaus, 2019). Although lately many shops have started to accept cashless payments, especially after the pickup of contactless payments in 2018 and the COVID-19 outbreak in 2020, it still seems to affect the adoption rates of cashless payments among consumers. In addition to the above-mentioned structural difficulties, a great variety of providers without a clear market leader might have led to a smaller overall usage of mobile payment services because of confused customers.

All the above-mentioned reasons resulted in a persistent preference mostly for cash but also card payments. Moreover, privacy and security concerns, as well as most lately competition from contactless cards are hindering the adoption of mobile payment methods (Bruckmann et al, 2018, p. 26-27; Pietrowiak et al, 2021, p. 26). Although the payment landscape is changing,

it is happening at a slower pace than elsewhere (Beutin & Harmsen, 2019, p. 16). The hopes for transition, therefore, lie in agile, tech-savvy, and innovation-friendly parts of the society. Discovering the meanings young adults have for using the relatively new option of mobile payment methods when buying items is, thus, a timely and reasonable choice, as they on average represent more of the previously stated features. Providers could benefit from the knowledge, as mobile payment is expected to grow exponentially in the next years in the German consumer market, especially among younger generations (Bruckmann et al., 2018, p. 10; Beutin & Harmsen, 2019, p. 8). Further, the findings of this study give insights into the minds of millennial consumers and a better understanding of payment choice, which can be useful for banks, tech companies, and other stakeholders.

1.2 Research aims and questions

This research will examine which meanings millennials in Germany assign to mobile payment methods. According to a recent study published in October 2020, only 24 percent of 25 to 34-year-old Germans pay for their regular grocery shopping in cash, while for older consumers, the figure is still around 40 percent despite the COVID-19 pandemic (Brzeski & Franke, 2020, p. 3). In other words, in Germany, the payment preference is a generational question.

Previous research has concentrated on the situation of cash/cashless payments in Germany overall (Bruckmann et al, 2018; Cabinakova, Knümann & Horst, 2019; Esselink & Hernández, 2017; Pietrowiak et al, 2021). There have also been several studies about technology affiliation among elderly people (Stubbe et al, 2019) or smartphone app usage of children (Krösmann & Nietan, 2019).

Research has often not looked at millennials, an age group that has witnessed the newest developments in their 20s or 30s. A generation labeled as the first brought up as digital natives, and which is at this point well into adulthood, presents a valuable customer group. Finding out their motivations, preferences, and reasons for using mobile payment methods is therefore of interest for banks, business leaders, payment providers, marketing agencies, as well as brick-and-mortar stores and online shops. Furthermore, other reasons for this study are the rising importance of mobile payment methods, a need for qualitative research in the banking/technology sector, and a pressing need to discover the consequences of an upcoming cashless society. The research also responds to calls from academia to further explore how mobile services can be improved in terms of usability and discovering meanings for different customer groups using qualitative research methods (Schierz, Schilke & Wirtz, 2010, p. 215; Di Pietro et al., 2015, p. 476). In subchapter 1.3 I will further explain the benefits for society, business, and theory emerging from my study. Overall, this topic presents a research gap,

that I aim to fill with my master's thesis. Therefore, my focus group to examine are millennials, that reside in Germany for at least the last three years and use mobile payment in their routine consumption. The Pew Research Center decided in 2018 to define Millennials as individuals born between 1981 and 1996 (Dimock 2019) and I will follow this age perimeter in this study.

To analyze and describe how millennial consumers in Germany construct meanings for paying with their mobile device, my study will attempt to answer the following research question:

- What kind of meanings do millennials in Germany attach to mobile payments?

This question provides an idea of the context in which this research operates and has the potential to provide more in-depth information on meanings and perceptions towards mobile services in the finance industry in a more technology/internet-skeptical country.

A sub-question apart from the main research question will be:

- In which ways can mobile payment providers market their services more successfully?

Throughout conducting the interviews, I identified ambiguity, the lack of information, and misinformation about the service to be one of the most pressing challenges for current users and potential future users. Answering the sub-question and providing answers and managerial implications is therefore another aim of this study. This is furthermore an important matter since my objection has always been to provide practical solutions to existing business and digitization challenges.

1.3 Significance of the study

As cash usage trends are going downwards globally and particularly in Germany, people are increasingly looking for alternatives (Arneson, 2020; French, 2021). Hence, discovering the meanings of mobile payments is valuable as it has not been done in the context of millennials in Germany yet. A rapid switch to cashless payments has happened in many countries worldwide and Germany is at the beginning of this transition (French, 2021; Pietrowiak, Korella, & Novotny, 2021, p. 4). First of all, to provide some clarity, mobile payment is not a brand in itself, although in this thesis it will oftentimes be treated as such. It is first and foremost a payment method, however with a strong, independent outline and perception as such. According to the Marketing Dictionary, a brand is "a name, term, design, symbol or any other feature that identifies one seller's good or service as distinct from those of other sellers" (2021). A specific brand offering mobile payment would therefore be Apple with its application Apple Pay, for example. Nevertheless, mobile payment is a term that identifies a service within

the payment world, that is different from the others options. In this regard, mobile payment is a group within different services, that have their specifics, customer groups, and dis/ -advantages. Therefore, this research is important, as it can give strategic advantages not only for individual providers of mobile payment. Further, this research should also be insightful to players who are acting on a macro-level and are interested in supporting a drive towards cashless payments as a whole and reshape the payment market, i. e. central banks and the government. Stakeholders intending to establish a mobile payment platform or aim for a winner-takes-it-all approach, such as potential cooperation between several banks, as well as smaller institutions, that want to encourage their customers to use their already existing services can profit from the generated meanings and outtakes. This is not only the case in the current growing market, but also in the future when the market might consolidate, and customers become more selective.

The insight from this study is further significant because through understanding the meanings of financial services it is possible to create added value (Lee, McGoldrick, Keeling & Doherty, 2003, p. 346, Karjaluoto, Shaikh, Saarijärvi & Saraniemi 2019, p. 252). Karjaluoto et al., for example, found out that mobile payment apps have both utilitarian and hedonic value (2019, p. 259) Hedonic value is the immediate gratification, that comes from the experience (McCrossin, 2012), such as creating fun and pleasure from app usage (Karjaluoto et al., 2019, p. 252). Utilitarian value on the other hand derives from service because it helps the consumer to accomplish tasks or solve problems (McCrossin, 2012) like accomplishing the act of payment and transaction storage from a mobile payment app. This example shows how added value can be created by understanding the matters and connections between the consumers and the services. Since meanings enable us to navigate through societal orders and norms (Anderson et al., 2001, p. 42; Schmid & Gäbler, 2015, p. 118), it is helpful to uncover them. Once discovered they can be changed, targeted, or influenced with marketing initiatives (Gaustad; Samuelsen; Warlop & Fitzsimons, 2018, p. 819) by the different stakeholders and provide insights that further research can build up upon.

In this context, understanding the social identities of consumers and how they influence users in their decision-making process is a theoretical focus of this thesis. Doing this is valuable as this comprehension can give ideas on how to influence these identities (Champniss, Wilson & Macdonald, 2015, p. 94; Mousavi, Roper & Keeling, 2017, p. 376). A mobile payment user might have multiple social identities, such for example a technology lover, a security fanatic, a guru of payment innovation, or even a sustainability-conscious consumer. Consumer identity matters since the identities have the power to make or break an individual. While in traditional societies identity was stable and fixed, in modernity identity became more mobile and at the

same time personal (Kellner, 2014, p. 170). The belonging to a role and norm has been attached to duties, a certain role, and partly continues to do so today. Brands, however, have the ability to change, undermine, add or construct new identities. If brands, or in this case payment methods, seek for increasing consumer identification, develop community spirit and interaction they empower consumers and bind them to the brand through the identity (Black & Veloutsou, 2017, p. 417). Once the meanings of the service and the social identities of its users are discovered the knowledge can be used to grow the usage or gain new customers. Marketing campaigns can target potential consumers more effectively, such as millennials that are using a payment card and cash, or shift the perspective by targeting a certain social identity or brand the service by such.

Lastly, this study is aiming to fill existing research gaps, i. e. millennials in qualitative research, mobile payments in Germany in qualitative research, and looking at the consumer perspective in finance-related services. Firstly, previous research has oftentimes left out millennials in qualitative research, while at the same time there have been several studies on technology affiliation among elderly people (Mansvelt, Elms & Dodds, 2020; Stubbe et al, 2019) or the smartphone app usage of children (Krösmann & Nietan, 2019). This has the potential to benefit society because millennials are a powerful age group, that is pushing into the labor and consumer market. Understanding their motivations is therefore valuable for many societal and governmental players. Secondly, research in Germany about payment services has concentrated on the situation of cash and cashless payments overall (Cabinakova et al., 2019; Bruckmann et al, 2018; Esselink & Hernández, 2017), treating mobile payments only as part of a larger group of cashless payments. Currently, there is a lack of knowledge about this field. Finding out meanings might seem like a rather basic task. At the same time, it can provide a solid foundation, which is missing in theory. Therefore, there is a pressing need to fill this gap because of the rising importance of mobile payment methods and to discover the consequences of an upcoming cashless society. Also, there is a need for qualitative research in the banking/technology sector as these industries' needs and research approaches were historically rather quantitative in nature. Thirdly, my research aims to add to studies on 'consumption meanings' in a new context (mobile payment) and to create a more nuanced picture of 'technology adoption drivers'. Accordingly, this is important since the consumer perspective has not had as much attention by research and the industries due to its gain-oriented makeup and focus on the company perspective (Leichsenring, 2021). Changing the point of the exhibition has as result the chance to discover new possibilities and approaches and gain a deeper understanding of how millennials think, what they associate with mobile payment and how their views are influenced by the distinctiveness of the German payment

market and money narratives. This knowledge would benefit, society and the businesses themselves.

1.4 Thesis structure

The structure of this master thesis is divided into five subchapters, as illustrated in Figure 1. In chapter one, the background of the research topic is introduced in a subchapter called "Germany's dark past leading to present-day payment skepticism", to provide a better understanding of what factors led to the payment status quo in Germany. Additionally, the research aims, the research question, and sub-question, as well as the significance of the study and the importance of closing existing research gaps are presented.
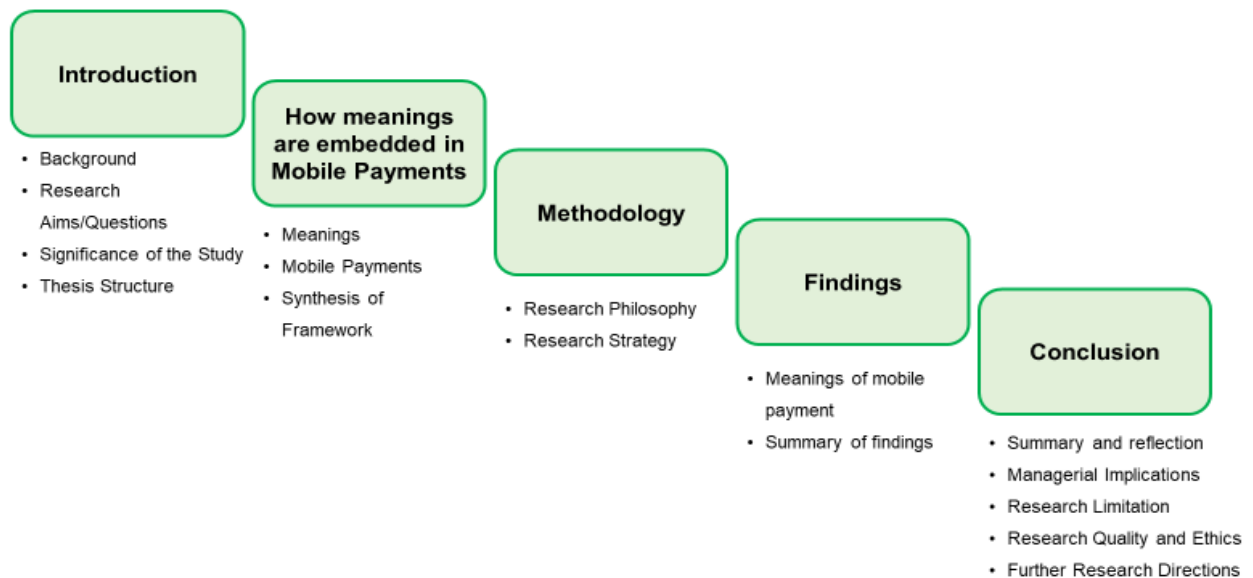
Figure 1: Thesis structure

Chapter 2 or "How meanings are embedded in mobile payments" is the framework chapter of this thesis. This chapter is divided into three parts: Meanings, Mobile Payments, and a Synthesis of both. The chapter begins with an exploration of meanings, their definition, various examples, more profound explanations of the topics of customers' social identities and meanings in consumer research. It goes on with the evolution and features of money, as well as a profound explanation of the payment market in Germany and the development of mobile payment. This is followed by an integration of the different topics, the synthesis.

Chapter 3 provides the methodology chapter of the actual research. It is split into research philosophy and strategy. The first part is explaining how knowledge is produced in the research through ontology and epistemology. Thus, the second part illustrates the choice of a

qualitative study for the research, the interview approach, data generation, such as the criteria for participant selection and data analysis.

Throughout chapter 4 the findings of these previously mentioned interviews are presented. The six meanings for mobile payment, that this study uncovers are shown and explained in detail, demonstrated further by extracted quotes from the ZMET interviews. Afterwards, a consensus map combining them is presented as a summary of the findings and the frequency of the codes and meanings is displayed.

Lastly, Chapter 5 summarizes and reflects the entire research. Also, managerial implications on what changes to existing mobile payment marketing strategies could be implemented, are provided. In addition, the limits of the research are listed and it is shown how the study meets ethical standards of academic research. Also, indications for further research are provided.

2 HOW MEANINGS ARE EMBEDDED IN MOBILE PAYMENTS

This chapter contains the framework for the thesis. Various concepts, terms, and ideas will be presented and explained in detail. First of all, to get an overview a mind map or map to chapter 2 is provided as Figure 2. The different terms are summarized into subgroups, which are arranged around the core of the image. Inside of this center are the four main characteristics of my research: 1) Meanings, 2) Mobile Payment (methods), 3) Millennials, 4) Germany. These four main characteristics, as well as some subgroups, have subchapter numbers attached for easier navigation. However, the four main characteristics do not all have the same importance and in-depth explanations in this thesis chapter as the orientation might indicate. Therefore, a modified version, showing the hierarchy and other adjustments is presented at the end of this chapter, the synthesis of the framework.

Group

Individuals

Identification

Loyalty

Value — Usage

Satisfaction

Self,
object
identifier

Socio-political
affiliations

History

Geography

2.1.2 Consumption
meaning

2.1.1 Social
identities

2.1 Meanings

Mobile
Payment

Online banking

Challenging
status-quo

Unique
experiences

Generational
differences

Early adopters

Digital natives

2.2.4.3
Millennials

2.2.4
Germany

Cashless payments

Cash

Benefits
Challenges

2.1-3 Money

2.2.4 Market

Providers

Acceptance

Obstacles

Change

Consumption
environment

Payment options

Current
environment

History

Resistance

Habits

Cash lobby
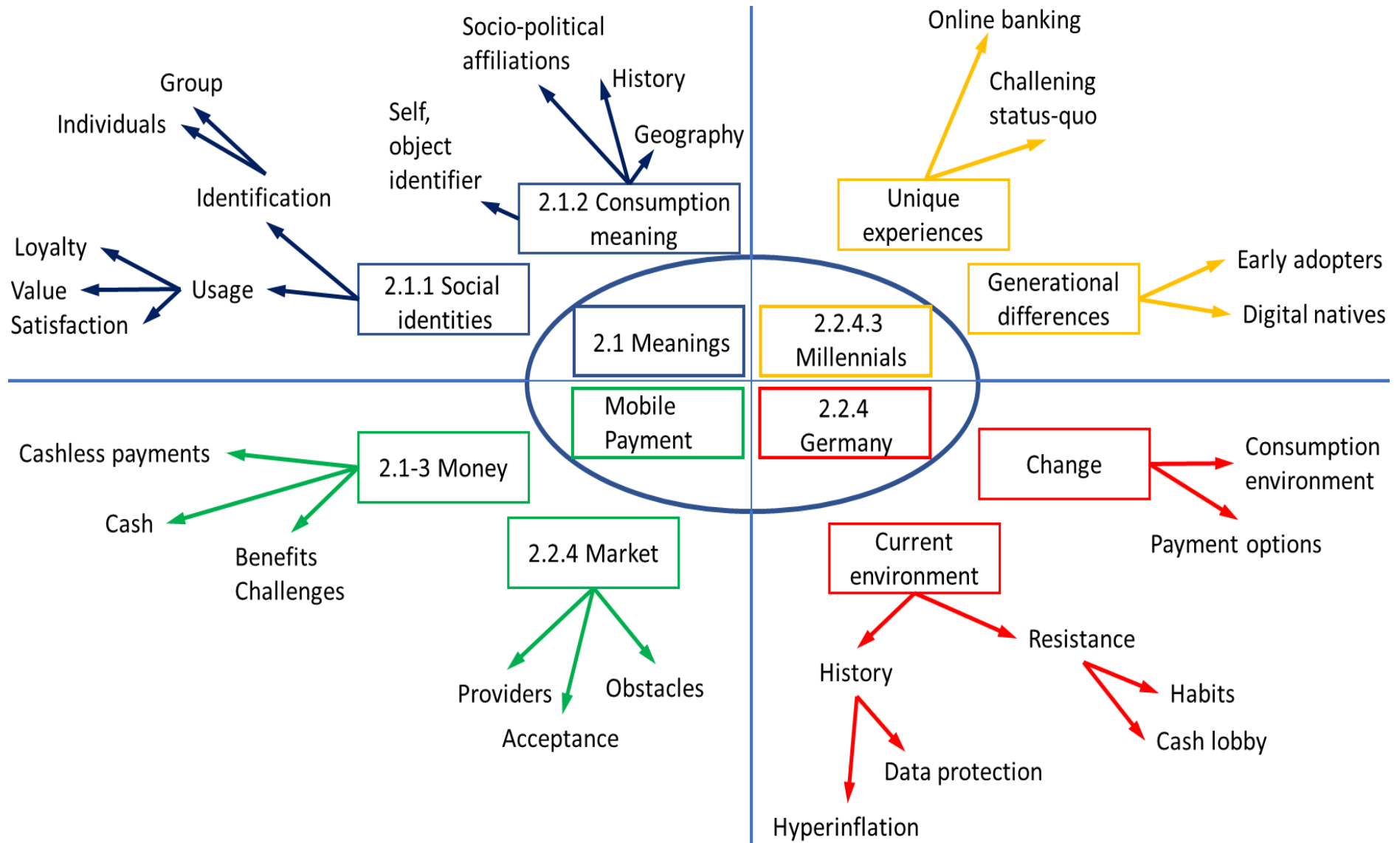
Data protection

Hyperinflation

Figure 2: Map to chapter 2

2.1 Meanings

As a layer of uncovering consumer behavior and the ongoing questions of how preferences, emotions, and attitudes influence purchase decisions, there are various definitions of consumption meanings. Put simply, Thompson (1997, p. 440) refers to consumption meanings as shaped and constructed in the interaction of a culturally established belief system and a consumer's personal life story. McCracken further found out that consumer goods have a significance going beyond their commercial value and most simple function. Like Thompson, he believes that cultural meanings of goods and services have their origin in the social world. The meaning is taken from the culturally shaped world around it, transferred to a consumer good, and then again transferred from the consumer good onto the consumer. (McCracken, G., 1986, p. 71) In other words, the consumed goods and their ascribed meanings reflect on the image of the individual. McCracken adds, that the meanings for consumption in the culture can be changed or influenced by producers, designers, and the consumers themselves (McCracken, G., 1986, p. 71). According to Belk people seek to express or confirm a sense of being through what they have (1988, p. 146). The consumed products become part of the extended self of the consumer and are expressed through the meanings that are contained within the goods, but also through the wider socio-political affiliations around it (Kozinets & Handelman, 1988, p. 477).

These consumption meanings influence many industries but are especially strong for tangible products, such as in fashion (McCracken, G., 1986, p. 71). Depending on the individual's point of view a certain brand can have many meanings. For example, the crocodile in the logo of Lacoste can stand for riches, arrogance, good style, or simply another tennis enthusiast, all depending on the viewpoint of the wider socio-political affiliation and the wearer's intention.

Also, the consumer world is made up of different meanings formed by symbols and signs. Prior research has argued that consumers were influenced by the world of signs, often in ways that may be invisible on the surface (Houze, 2016, p. 3). These signs again are dependent on time and their cultural space (Mick & Oswald, 2006, p. 42), meaning that in different parts of the world or different subgroups within societies these signs for the same object can differ greatly. The key entity of meaning is a sign. Berger sees a sign as "something that stands for something else, such as a spoken or written word, a drawn figure or a material object unified in the mind with a particular cultural concept" (2010, p. 3). Signs are everything that is able to represent something else. Therefore, the term 'sign' covers more aspects than in spoken language. Semiotics is the science of signs dealing with the general principles which underlie the structure of all signs and their utilization in messages (Chandler, 2007, p. 4). The relation between the signifier and the signified is constructed by codes that associate a material

signifier (image, word) with a signified (cultural concept). According to Oswald the relationship between them is based on convention and is arbitrary. (Oswald, 2012, p. 10) A PayBack Pay application on your phone, for example, has a meaning, that is not intrinsic to the application but is arranged by convention and habit. Through research, we can understand why people buy a certain product, such as athletic shoes from a certain brand (Houze, 2016, p.3), or use a certain mobile service, such as online maps. The logo or the simple usage of mobile payment methods is on that occasion a sign for the larger sphere of consumer experiences, rituals, and cultural codes (Oswald, 2012, p. 52). Since the association of the signifier and the signified is ruled by cultural habit and social convention, according to Berger, their relationship is related to the context and can change or develop over time (2010, p. 5).

Food is another product that also has a political dimension, as discussion about food choices have become increasingly loaded with meaning over the last decades. In today's world meanings for food items like meat or milk greatly differ not only in specific countries (Wiley, 2011) but also among societal groups. In Finland, for example, Niva and Jallinoja found out that half of the survey respondents have boycotted foods already at some point in their lives (2018, p. 349). Boycotting behavior can also be a way of morally transforming behavior and differentiate oneself from "the rest" or "the crowd" by buying leather or products free from animal testing (Kozinets & Handelman, 1988, p. 477). Even though money is an intangible commodity, there are meanings contributed to it, as it is a big part of every aspect of life and consumer purchase and defines social opportunities, lifestyles, and choices. In the specific case of Germany, the different ways of payment, the ways of using money, are strongly discussed and people tend to have stronger opinions about them. This might also be because of Germany's unique history, discussed in chapter 1. The meanings of the emergent method of mobile payment are therefore looked at in this master thesis, as research on the matter is scarce, especially in the narrowed focus of millennial consumers. However, conspicuous similarities to the examples of boycotts presented by Kozinets & Handelman were found in the interview process. Several interviewees said that they avoid it as much as possible at the least. One interviewer expressed his thoughts even more strongly and mentioned that he avoids shops, that do not offer other payment options than cash completely. In that case, payment options become political, influential, and charged with meanings as a dimension of boycott is reached.

Overall, the subject of consumption meanings has grown in interest in the literature, as such, this section will begin with answering what is known about these meanings and on which industries they have a stronger influence. Following that, this subchapter will be structured around three main areas; 1) Customers Social Identities 2) Meanings in Consumption, and 3) How this is connected to the perception of Mobile Payments among millennials in Germany.

The first area that will be addressed is how the social identities of customers are created, influence decision-making processes, and how businesses can use this process to their benefit. (Champniss et al., 2015; Choo et al., 2011; Keh & Xie, 2009; Stryker, 1968) Research in the second area has centered on how meanings in consumer research are constructed (Barnham, 2019; Gaustad et al, 2018), how they can be targeted or changed (Gaustad et al, 2018), and how they differ geographically (McCracken, G., 1986; Wiley, 2011; Ref, 2015). Finally, the relationship to mobile payments will be discussed through exploring the concept of money, focusing on technology, being digital, and how meanings can be attributed to a payment method. Though much literature has been reviewed, Table 1 details the key journals that contributed towards the understanding of meanings in consumer research in this study.

Table 1: Key articles that provided an understanding of meanings in consumer research

Authors	Literature Title	Research Design	The theme of the Article	Summary of Findings	Impact on my Study
Mansvelt, Elms & Dodds, 2020	Connecting meanings of aging, consumption, and information and communication technologies through practice	Qualitative data from semi-structured interviews	Understanding the meanings of Information and Communication Technology (ICT) for older New Zealanders	The main meanings of ICTs are (1) keep up with fast-changing times, (2) keep up with technology itself and use ICTs to consume goods and services, and (3) keep up with others as one ages.	The similarities to my research by discovering meanings of a product in the area of technology (ICTs) from the viewpoint of a certain generation (older people) provides insights on how to structure my own study
Champniss, Wilson & Macdonald, 2015	Why Your Customers' Social Identities Matter	An experimental contest between three groups of participants	The way consumers see themselves determines their behavior and can be influenced by marketing	The participants in the group with the stronger sharpened social identity engaged more in the behaviors that were requested of them	A descriptive article that provides examples and information about how the social identities of customers impact their decision making
McCracken, 1986	Culture and Consumption: A Theoretical Account of the Structure and Movement of the Cultural Meaning of Consumer Goods	Literature review and conceptual analysis	The article theoretically analyzes the movement of cultural meaning	The cultural meaning carried by consumer goods is complex. Also, the article suggests that meaning resides in (1) the culturally constituted world, (2) the consumer good, and (3) the individual consumer	The article gives a profound understanding of how cultural meaning is carried and communicated through rituals of consumer goods, such as possession, divestment, grooming, and exchange
Anghelcev, Chung, Sar, Duff, 2013	A ZMET-based analysis of perceptions of climate change among young South Koreans	Qualitative data from semi-structured interviews	An investigation of the public perceptions of climate change in South Korea and how message strategies to fight climate change can be improved	A mental model of climate change, with factual, interpretive, and emotional knowledge organized around themes of human greed, affective distress, loss, and representations of tragic endings	This study showed how a ZMET process was carried out in the interview and analysis phases and how meanings were found, for example through using the ZMET step 2 of asking for Missing Images
Luomala, Paasovaara & Lehtola, 2006	Exploring consumers' health meaning categories: towards a health consumption meaning model	Qualitative data from focus-group interviews, interpretive analysis	Exploration of meanings younger and older rural and urban consumers attach to health in their everyday lives	The research found four health meaning categories, reaching from mindfulness to flexibility. Also, the findings implicate that differences in health meanings exist between different consumer backgrounds	Discovering the meanings for health gave insights on how frequencies of meaning categories can be shown in a research
Wiley, 2011	Milk for "Growth": Global and Local Meanings of Milk Consumption in China, India, and the United States	Literature review and conceptual analysis	This paper explored historical meanings for milk in three different countries and how they have changed in the 21st century	Linking milk to strength, body size, and growth made milk sales rise in all three countries at different times. While the U.S. market is currently declining, China and India are growing	Deep understanding of how perceptions of products can change over time and how meanings for the same good can be different throughout time and geographical areas

Three of the key articles had shown in different manners how meanings were deduced from interviews. Firstly, the work of Mansvelt, Elms & Dodds was valuable not only because of the extraction of main meanings for Communication Technology but also because they concentrated on a specific age group, elderly New Zealanders (2020). Here, the focus on technological innovation and age gave insights on how to structure my research. Secondly, Luomala, Paasovaara & Lehtola's study focused on meaning categories for health among rural, urban, older, and younger generations and not only presented overlaps in meanings but also divergences (2006). Other than that, an insight worth mentioning was how the frequency of meaning categories was presented. After all, I decided to use quantitative content analysis, because it supports the discovered meanings in ZMET ideally and it provided early ideas on how to structure the research. Thirdly, Anghelcev, Chung, Sar & Duff's article presented how young South Koreans perceive climate change (2013). Their article was very valuable as it described in detail how the ZMET interviews were carried out, as it was dealing with younger generations and gave practical implications on how to improve message strategies about climate change. These insights provided further ideas and objectification for usage in my study.

Wiley's work gave a further impulse on meanings extraction from other sources than interviews, namely from a literature review and conceptual analysis, as it explored historical and current meanings for milk in India, China, and the US (2011). It further raised awareness during the review of literature about the broadness of how meanings can be seen in different contexts, such as varying geographical or religious realities. This topic is connected to Champniss, Wilson & Macdonald's masterpiece of explaining why and how social identities are worth exploring (2015). Becoming aware of their existence and how the interview perspective might have an influence was valuable, as it made me realize that these identities need to be found out. Lastly, McCracken's thoughts on consumption and culture were of great importance as it explained where meaning resides and how it can be communicated (1986) and therefore enabled a basic understanding of the world of meanings.

The definitions of consumption meanings of Thompson (1997) and McCracken (1986) are the most relevant for my thesis. Both have in common that meanings have their origins in the social world and are influenced by different actors, such as not only the consumers themselves but also attitudes and advertisements (McCracken, G., 1986; Thompson, 1997). The definitions differ in their perception of how variable the meanings are in terms of time and their ability to change. While McCracken argues that meaning flows continually and puts, therefore, an emphasis on the continuous change of meaning (1986, p. 71), Thompson believes that meaning for consumption derives from historically established cultural meanings and belief

systems (1997, p. 440) and is rather static in nature. While I certainly agree with McCracken, that meaning is changing over time, I do not think it flows as continually in the perception of payment methods and money as with more tangible goods, such as fashion, cars, or food. As I believe that consumption meanings for mobile payment are strongly connected to cultural meanings and historically established beliefs, which I further elaborate on in chapter 2.2, I will use Thompson's definition of consumption meanings in this thesis.

2.1.1 Customers' social identities

Social identities matter in the research of consumption meanings for the simple fact, that they have a major influence on the decisions we make as consumers. Becoming aware of the separate identities, getting to know consumer characteristics and how they shape meanings is crucial. It can help to comprehend consumption from the viewpoints of consumers and answer what meanings different consumers have for different goods, which then facilitates understanding consumption patterns, markets, and justifications. This knowledge about social identities is after all making it possible to adjust marketing strategies to target the right identity and specific customer meanings more successfully. In the following subchapter, it will be explained how these identities evolve, how they can be found through providing several examples, and why they are connected to payment methods. In order to be able to understand customers' social identities, it is necessary to start with where identities come from.

Identity is seen as a major component of the self. Social identities are shaped by meanings that individuals attribute to themselves as if they were an object (Burke & Tully, 1977, p. 882). In this usage, identities exist because the individual is a participant in structured social relationships. In these relationships, they require the position designated towards them and accepted by the other participants of these social constructs. Indeed, the self is a collection of identities, each of which is experienced and defined through interaction with other individuals. According to Stryker, exemplary identities can be family identities, such as father, husband, or daughter, political identities like senator or candidate, or occupational identities such as doctor or employee (Stryker, 1968, p. 559). The self-concept shapes a personal identity that refers to an individual's distinctive characteristics, such as interests and abilities, membership in salient organizations (e.g. a church, work union, club, or organization), and a social identity reflected by a demographic classification based on features, such as gender, age, race (Tajfel & Turner, 1985). According to Burke & Tully, each identity is associated with a wider variety of certain situations or performances. The meanings of certain roles are what people come to be known through social interaction in situations in which others react to the performer of a particular role. Those meanings of the self are then created and learned over time because others answer as if the person had an identity attached to the repeated role performance.

(Burke & Tully, 1977, p. 882) Over time, there is a gradual shift from situation-specific roles and identities, such as puberty or marriage (Young, 1991, p.34) to a hierarchy of identities. The most central and influential roles are on top of the hierarchy, such as gender, race, and age roles. As they define most social interactions they help order roles and identities that are lower in the hierarchy (McCall & Simmons, 1966), such as possibly the role of an early adopter of technological services.

Consumers have the described social identity besides their personal identity also to develop their sense of self (Catalin & Andreea, 2013, p. 104). As a result of that consumers may identify with businesses or brands even if they do not have a formal membership (Choo, Park & Petrick, 2011). Since individuals have a need to self-define themselves they do that through building social-identifying relationships (Keh & Xie, 2009; Choo et al., 2011). This identification with a brand can correlate with an ambition to add to the company's benefit and through supporting with personal purchases the customer is pursuing this goal (Dutton, Dukerich, & Harquail, 1994). Reasonably, the social identity of the customer plays a significant role in a consumer's decision about purchasing a certain service/product or staying loyal to it (Wilson & Macdonald, 2015; So, King, Sparks & Wang, 2013).

Individuals often consume products that suit themselves, however, under special conditions, they avoid those products which stay in conflict with their identity attitudes (Shirazi, Lorestani & Mazidi, 2013, p. 168). This negative correlation between the social identity and a product was found by researchers in market exploration. They proposed free installment washing machines, which were part of a pay-per-use system. The idea was welcomed by consumers in prelaunch research because the washing machines were energy efficient, could be repaired faster, and only be paid for when actually used. (Champniss et al., 2015, p. 90) While a trial was run, however, there was no demand for the service. The clue to this reaction was that paying per wash is associated with the lower class and the customer group's social identity was in the middle class. In other words, the targeted consumers did not want to be associated with the lower class or their status as a member of "their" perceived class to be challenged by others. While in the earlier consumer study the "market research respondent" identity was triggered leading to an open-minded overall approach on the proposed service seeing the benefits, the actual purchase was challenged by the social identity of the "member of the middle class" and the potential threat to it. As Stryker described it, the existence of identities needs acceptance by participants in the relationships (Stryker, 1968, p. 559). If members of a social identity disapprove of another member's belonging to the group as a result of buying a pay-per-use washing machine, a strong reason against a purchase is created. This is because social identity is also a sense of feeling united in a group with other individuals (Ashforth & Mael, 1989) and the importance of a customer's social identity cannot be overestimated. The

sheer potential of losing a social identity prevented the purchase (Champniss, Wilson & Macdonald, 2015, p. 90), since other "members of the middle class", for example, from the neighborhood or friend circles were not even around when the offer was made. Individuals belonging to a group define themselves in relation to its members and differentiate themselves from outsiders, that are not part of the group, which strengthens the group identity (Champniss et al., 2015, p. 91; Tajfel & Turner, 1985).

Another example underlining the power of social identity was the reasons for people to install solar panels on their roofs. One might think that the main motivation was either concern for the environment or reducing energy costs. This turned out to be wrong, as the strongest factor was connected to the social identity of "neighborhood" as people answered other solar-powered homes being nearby as the biggest reason to install it themselves. (Champniss, Wilson & Macdonald, 2015) A study conducted by Pavis, Cunningham-Burley, and Amos came to similar findings while exploring the meanings of alcohol consumption on the Scottish East coast. Two of the four meanings found peer influence and social facilitation were connected to group processes. (Pavis, Cunningham-Burley & Amos, 1997, p. 316) The influence of the surrounding results in influence or even pressure on the individual and a strong signal of the importance of the social identities shaping consumer choices.

Customer's social identities can furthermore also be used to achieve a certain purpose. Social identities and their conscious usage in marketing or brand design can increase a feeling of belonging to a brand or platform (Zhao & Wang, 2014; Shirazi et al., 2013; Martinez & Rodriguez del Bosque, 2014). Zhao and Wang while investigating online health communities, so-called OHC's, found out that shared language and visions lead to stronger identification with the platform. This can lead to individual members engaging in value co-creation in OHCs, such as sharing their knowledge and engaging in activities in the long term. (Zhao & Wang, 2014, p.91) Identity is the main element of branding and its development is the core of creating and extending a strong brand (Laforet 2010).

The brands contain the social identity and a brand is prosperous when people feel belonged to it. A relationship between perceived value, satisfaction, and brand loyalty was also suggested in a study carried out with students in Iran about their cell phone selection. (Shirazi et al., 2013, p. 168) Another research that resulted in similar findings was carried out among hotel customers of well-known Spanish hotel chains (Martinez & Rodriguez del Bosque, 2014, p. 9). The goal of the survey was to find out, whether CSR initiatives had an impact on the social identification of the customer with the hotel chain, which could strengthen the relationship and loyalty. The study results confirmed that hotel chains that carry out CSR

initiatives benefit from building customer identification, commitment, and trust. (Martinez & Rodriguez del Bosque, 2014, p. 14)

Appealing to the social identity of customers can be lucrative and create sustainable and longer-lasting business relations. Social Identity affects brand loyalty especially in a B2C context (Shirazi et al., 2013, p.155). Since mobile payment itself is a B2C service, discovering customer's social identities is valuable for the payment method as a whole and providers in particular.

2.1.2 Meanings in consumer research

Meanings within consumer research can be found in various places, in the consumer goods, in the consumers themselves, in the ways of consumption, for example, the online environment or brick and mortar stores. It is essential to comprehend the meanings of payment methods because by understanding them it is possible to create added value (Champniss et al., 2015, p. 92). Meanings are everywhere, constructed by our surroundings and our own mind (Barnham, 2019; Gaustad et al, 2018, p. 819). Through meanings, we have the possibility to maneuver in our daily activities as they reproduce and consolidate societal orders and norms (Anderson et al., 2001, p. 42; Schmid & Gäbler, 2015, p. 118). Therefore, these attributes can be influenced, changed, or targeted through marketing campaigns once they are found (Gaustad et al, 2018, p. 819). However, because meanings are everywhere, we usually do not pay attention to them. This proves that the things, which perhaps seem the most natural to us are oftentimes largely unknown. Our lives are centered around meanings, which we have constructed with others over time (Holbrook, 1987, p. 129). Those meanings are mostly taken for granted and we do not further reflect on them. Objects that people purchase carry symbolic significance and the consumers are generally unconsciously aware of these symbols and how to make use of them (Campbell, 1996, p. 103). According to Barnham, meanings are created in the mind: "what a brand means to a consumer has no structure, no history, and is simply what the consumer 'interprets' the brand to be" (2019, p. 489). Consumer research, however, is able to discover these meanings, for example through applying special interviewing techniques and uncover these previously unknown layers of a product or service (Champniss et al., 2015, p. 96; McCracken, G., 1986, p. 74).

Additionally, meanings for products can differ geographically (McCracken, G., 1986, p. 72; Ref, 2015, p. 86). Wiley found out that the traditional meanings for milk in China, the United States, and India were completely unrelated. The same product had different local meanings. In the United States, it stood for individual strength, power, and child growth, while in China it was conceived as a food of the barbarian Mongols and the largely lactose intolerant population

had a negative image of it (Wiley, 2011, p. 13). Another example is a qualitative study, that compared meanings of western luxury fashion brands in the original Western context with meanings Muslim women in Kuwait attached to the brands. While the core values of the brands stayed the same in both geographical and cultural areas, one meaning was changed. Luxury brands were described as luxurious, fashionable, posh, and cool in both contexts, while the attribute of "sexy", which was advertised was changed to "modest" to fit in the Islamic context (Al-Mutawa, 2013, p. 239). Attaching cultural characteristics, such as modesty, honor, and reputation, in this case, was suggested to diversify the geographic distribution of the brand (Al-Mutawa, 2013, p. 243). The case shows the changeability of meanings in certain areas and how culture has an impact on how contexts are created.

Further certain age groups can be more interesting to a study, such as millennials in this thesis or the elderly in research about communication technologies. Mansvelt, Elms & Dodds figured out the meanings of New Zealanders to bridge a gap between technology and people in their later life to fight the digital divide in society (2020). Their findings included the meanings of information and communication technology to be: keeping up with technology and keeping up with others. A recommendation for providers of internet and device education was therefore to shift the focus of commercials away from using specific programs such as Skype to practices like staying connected to family (Mansvelt, Elms & Dodds, 2020, p. 296). This recommendation seems rather simple. Nevertheless, a shift of focus could have a big impact on corporations applying this first in their marketing. It has the potential to rebrand itself or claim the meaning of "staying connected" exclusively for Skype in the eyes of the elderly consumer, which would have a great impact on a single brand.

Semiotics is important in market and consumer research as they open new ways of understanding what customers appreciate about products or services and how meanings are constructed (Hudders, Pandelaere & Vyncke, 2013, p. 392). Another way to structure signs is to inspect the fundamentals of meaning and follow Peirce's triadic model introduced in Figure 3. The model involves three parts: the sign, the interpretant, and the object, which is an interpretation of the sign or simply another sign (Mick 1986, p. 198-199).
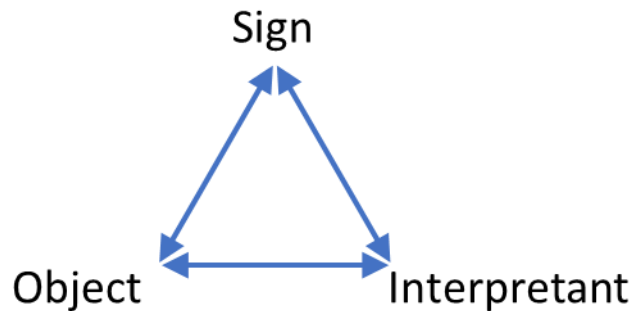
Figure 3: Peirce's triadic model (modified from Mick, 1986)

An example to put the model into the context of mobile payments: the sign is a mobile payment app, the object is a way to pay bills, the interpretant could be speeding up payment processes. This model is essential as it shows how there can be numerous meanings for one sign, which are hidden within the interpretant and need to be uncovered. For example, the technology behind mobile payment might not be interesting for most millennials in Germany, however, the signs and symbols for their usage can be uncovered. If the reason or interpretant for the usage of the object was for example revealed as demonstrating status and being seen by others as adaptive or even "open-minded" or generally ready for changes, this knowledge would be helpful for future marketing campaigns. Luomala, Paasovaara, and Lehtola used a similar approach to uncover meanings through pictures brought by participants in the health sector (2006, p. 275). Campbell found out, that in consumer purchases taste-based preferences are often considered less strongly than practical and instrumental considerations, which are shaped by the surroundings or environment outside of the consumer (1996, p. 100). The triadic model of Pierce further highlights the part society, people, and culture play in the development of meaning (Mick 1986, p. 198) and is therefore valuable for this thesis as it emphasizes the importance of the interpretation of consumers.

2.2 Mobile payments

In order to speak about mobile payments and their importance as a digitalized means of payment, it is crucial to look at what money is and how it evolved over time. In continuation, the novelties that mobile payment methods bring into the payments sector, as well as the German market and its specifics are briefly described.

2.2.1 Evolution of money

"'Money talks' because money is a metaphor, a transfer, and a bridge. "

- Marshall McLuhan, Understanding Media: The Extensions of Man

According to Orrell & Chlupaty, money built a ground for modern capitalism and determines much of our lives' structure. Jobs are largely seen as a means to obtain it, an important measure of success for people is the money they earn. Houses are seen as stores of wealth rather than just as homes and a country's fortune is measured in its gross domestic product. (Orrell & Chlupaty, 2016, p. 2)

The importance of money and its meanings have developed over time and as this thesis is examining the perception and meanings created for a recent version of exchanging money it is necessary to see how money started and evolved in several steps from ancient history until today.

Once early civilizations evolved and began trading with each other the first exchanges were made with commodity money. This step, also referred to as the barter exchange is characterized by the payment in goods (Karimzadi, 2013, p.5; Smith, 1723, p. 26) such as furs, salt, weapons rice, or wheat. The second step was moving to metallic money which happened in different geographical regions, among several empires, and at different times, such as in Mesopotamia, Ancient Egypt, and other areas around the Mediterranean. Gold or silver were used as a standard and scale. (Metcalf, 2016, p. 43-44; Goetzmann, 2017, p. 21-60; Albarède et al., 2020, p. 143)

As trade and commerce increased even further, another alternative to hardly portable coins needed to be found. Therefore, the lighter and easier to store version of paper money was invented during the early 11-hundreds in Song dynasty China (Headrick, 2009, p. 85), spread throughout the Indian subcontinent to Europe (Moshenskyi, 2008, p. 55) and the rest of the world in the following centuries.

In the second half of the twentieth century payment cards became a dominant method of payment for consumer goods in many first-world countries. In 1958, the BankAmericard credit card was first issued in the United States and soon followed by American Express and Mastercard (Stearns, 2011, p.1). Outside of the US other card payment systems became more popular such as the Carte Bleue in France (Banqo, 2020) or the Girocard, commonly known as EC-Karte, in Germany (Neuhaus, 2017). The emerging payment cards have removed the need for carrying cash to be able to make transactions.

The latest step in the evolution of money is its digitization (Deutsche Bundesbank, 2019, p. 16). In the modern financial landscape, technological innovations have emerged, such as online banking since its breakthrough in the early 2000s (Batiz-Lazo, 2002, p. 6). One example is cryptocurrencies, like Bitcoin, which is perhaps the best-known digital currency and first appeared in 2008 (Wallace, 2011). Mobile payment methods are also part of this digitization trend, which has accelerated since the turn of the millennia (Eveleth, 2015). Many of the latest innovations were invented by so-called FinTech, a relatively new category of companies that focus on offering digital, financial products and are increasingly challenging well-established banks and financial institutions (Van Loo, 2018, p. 238). Thus, the usage of these innovations has become possible due to the use of mobile devices, such as smartphones, smartwatches, or tablets, and the use of the Internet (Rodrigues et al., 2020, p. 1).

2.2.2 Features of money

A high degree of division of labor and specialization are characteristics of modern economies (Pierenkemper, 2015, p. 62). Goods, services, and commodities that are continuously exchanged for each other are the result of this development. However, an economy based on pure exchange is associated with high transaction costs. Moreover, there is no guarantee that a suitable exchange partner is available. The exchange relation of each object to each other has to be determined. Fast trade is difficult or impossible under these circumstances. (Deutsche Bundesbank, 2019, p. 8)

Gischer, Herz, and Menkhoff state that a simple economy, for example, a so-called "Robinson Crusoe economy", consisting of only one person, could manage without money. In a society based on the division of labor, this would no longer be possible. An economy consisting of so many people that goods have to be exchanged gives reason to introduce money. When larger groups or societies come into being, living together must be organized by means of exchange transactions that can be carried out quickly and easily. Exchanges are no longer sufficient and only carried out in the private sphere. Trade-in goods are greatly simplified by the introduction of money in an economy. (2012, p.3) Without money, people are forced to exchange these goods directly (Gischer, Herz & Menkhoff, 2012, p.4).

In the following section, the tasks and features of money are presented and illustrated.

Money is a commodity that embodies the power of disposal over economic goods. It is used in the trade of goods and services and according to Grill and Perczynski, it fulfills four features in a modern economy based on the division of labor (2014, p. 115).

First, one function of money is that it is a general medium of exchange, that makes the trade of goods whose consumption is desired easier (Champ & Freeman, 2001, p. 3). It is used for the exchange of goods and services, can be used for exchange at any time, and is accepted by everyone. The efficient indirect exchange ensures lower information and transaction costs. Besides, money is used to repay debts and grant loans. In this case, however, for the sake of completeness, it is not an exchange of goods but a financial transaction. (Grill & Perczynski, 2014, p. 115)

Moreover, money is a measure of value and a calculation unit. It is constantly used to value exchanged goods. All goods become comparable and summable since each good is evaluated in monetary units and each exchange is settled over money units. It is no longer necessary to define exchange relations among different goods. For example, with 10 goods that can be exchanged, there are 45 exchange relations. By using money there is no need to consider 45 exchange relations anymore, only 10 prices. The prerequisite for this calculation unit function is that money is divisible. (Deutsche Bundesbank, 2019, p. 11)

The durability and stable value of money result in the third task of being a store of value. This feature translates to the issuing and acquisition of money being able to take place at different times. This aspect is very important in the history of money because it enabled our ancestors to store values, i.e. to save, for the first time. Also, credit financing makes it possible to transfer purchasing power from the future to the present. Confidence in the stability of the value of money is, however, a prerequisite for its function as a store of value. (Grill & Perczynski, 2014, p. 115)

Finally, money is suitable as a means of transferring value because it is a medium of exchange (Champ & Freeman, 2001, p. 38) and a store of value. It is, therefore, possible to change the owner in the case of gifts, inheritances, or the payment of wages. Last but not least, the entire credit system is based on this function. (Grill & Perczynski, 2014, p. 115)

Table 2 summarizes the various money features. The most important statements are briefly explained and the preconditions for the fulfillment of the features are mentioned.

Table 2: The features of money (modified from Deutsche Bundesbank, 2019 and Grill & Perczynski, 2014)

Features of money	
General medium of exchange	*A measure of value and calculation unit*
− Money simplifies the exchange of goods − Other financial transactions, such as lending are made possible	− Goods become comparable and summable − Money serves as a measure of value
Store of value	*Medium of value transmission*
− Money is durable and stable in value − Acquisition and expenditure of funds can be separated in time	− Change of ownership is made possible because money is a medium of exchange and a store of value
The object used as money must be readily divisible, generally accepted, and stable in value.	

2.2.3 The road to mobile payments

The service of Mobile payment can be treated as a unique way of electronic handling of money exchange (Schierz, Schilke & Wirtz, 2010, p. 210). Definitions vary with commonalities and slight differences. Some authors define mobile payment as a process in which a mobile or electronic device is used to initiate, authorize and carry out a financial transaction (Ramos de Luna, Liébana-Cabanillas & Sánchez-Fernández, 2019, p. 932; Zmijewska & Lawrence, 2006, p. 19). Instead of paying with cheque, cash, or credit/ debit cards, a consumer uses a smartphone, smartwatch, or other devices to pay for a wide range of services and goods.

While most definitions distinguish mobile payment from other payment methods through the usage of a mobile device, Henkel used a more limited definition and focused on cell phones (Henkel, 2002, p. 328).

Several definitions of the function of mobile payments have the transfer of monetary value in common (Henkel, 2002, p. 328; Ramos de Luna, Liébana-Cabanillas & Sánchez-Fernández, 2019, p. 931; Zmijewska & Lawrence, 2006, p. 23). Differences occur in the description of the phases of the payment process, which are considered mobile payments. For example, Dahlberg, Mallat, Ondrus & Zmijewska (2008, p. 166) include the whole payment process in their definition. Henkel (2002, p. 328), however, only points out the initiation and authorization of the payment process in his definition. In this master thesis, I adopt an adjusted view of mobile payment services, that concentrates only on the German market and its providers. Further, my definition for mobile payments is: payments for products and services authorized and realized with a mobile device in the B2C consumer context at a stationary point of sale

(POS), also referred to as cash terminal. I define mobile payments in this way and I will also examine them as such in my study.

The concept of using cashless currency systems has a long history (Hollow, 2012, p. 7). Although it is only in the 21st century that the technology supporting such systems has become widely available. The NFC technology, for example, played a key role in the mass transition to mobile payment in countries like Sweden (Arvidsson, 2019, p. 42). Mobile payment is being adopted in different ways through NFC technology all over the globe. The Mobile Suica system is a Japanese cashless payment system for public transport, which can be used with a plastic card and through an app. Its predecessor EDY launched in Japan in 2001 and was an early advance of mobile payment. (Amoroso, 2012, p. 103) Another example is M-Pesa, which was first launched in Kenya in 2007 and had become the most successful financial service based on a mobile phone in East Africa and other countries of the developing world by 2010 (Riley & Kulathunga, 2017, p. 113).

In Germany, the first experiments of mobile payment took place in 2005, with a payment on the tramways and buses of the city of Hanau, operated by RMV, the public transport operator of the greater Frankfurt area. With the Nokia 3220 customers could buy, store and use tickets made possible by the NFC standard of Philips and Sony. (Lopez Calvet, 2005, p. 137) However, the adaption of mobile payment methods has since then evolved quicker in other countries in Europe, such as the innovation-friendly Netherlands or the Nordic countries but also in Germany's neighbors France and Switzerland (Statista, 2021). In Germany, the usage numbers accelerated with the entry of Google Pay in June 2018 and Apple Pay in December 2018 and have since lead to a wider acceptance and usage in the country (Lietzau, 2020). Despite the success, the pros and cons of cashless payments in general and mobile payment, in particular, remain a controversial topic in German society. Therefore, the following chapters are providing an overview of the payment landscape in Germany and the opportunities and challenges of mobile payment methods.

2.2.3.1 Opportunities of mobile payment

The opportunities of mobile payment methods for consumers, as well as other stakeholders, are listed in the following part.

From a consumer perspective, the mobile payment method offers time savings compared with most payment cards and cash payments. In Deutsche Bundesbank's latest payment study from 2017 mobile payment was not included, but anticipated that it would be the fastest payment option (Bruckmann et al., 2018, p. 41). Mobile payments, which are made using NFC

(near field communication), were not very widespread at the time and were not included in the calculation. However, it can be assumed that the average payment time will remain below that of cash payments. In the NFC system, a magnetic field is used to couple the reader and the transponder (Langer & Roland, 2010, p. 13). This enables payment by placing the NFC-enabled device such as a smartphone or smartwatch on top and is executed automatically within a few seconds. In addition to the faster process comes the novelty that the wallet weighs less. This is especially the case if individuals who pay via their mobile device could do without payment cards, coins, and banknotes, or even a wallet altogether.

In addition, the adoption of mobile payment is helpful for consumer safety and useful for the fight against crime. A crime reduction is foreseeable in smaller-scale crime, such as petty crime, as well as large-scale robberies. Mobile payment is the only means of consumer payment that can be exclusively unlocked by the owner through fingerprint or face-ID. Payment cards in Germany are either contactless, with a limit that was raised to 50 Euro on a country-level in 2020, or accessible with a PIN or signature (Kannenberg, 2020). Both PIN and signature can be counterfeit by a third party, such as a thief. Cash, once stolen, can be spent immediately. Therefore, assuming individuals carry less cash and payment cards around makes stealing less lucrative and could likely reduce (Thiele et al., 2015, p. 3). Headlines such as in 2019 when a cash transporter was robbed in front of an Austrian Airlines plane on Tirana Airport and two million Euro were stolen (Spiegel, 2019) would also be a thing of the past in a world without cash usage.

Another opportunity of mobile payments is saving costs (Iman, 2018, p. 76). For consumers there is no charge for the usage of mobile payments and, in cases of complete adoption, going to ATMs, which takes time and can be costly, becomes unnecessary. In contrast to mobile payment, the costs of the cash system are high. In Germany, the private-sector costs of the cash system amounted to 12.5 billion euros in 2013, which corresponded to an annual cost burden of 150 euros per citizen (Kleine, Krautbauer & Weller, 2013, p. 12). In a survey published in March 2019, the Bundesbank examined the total costs of retail payments in Germany. They amounted to 5.43 billion euros annually and the majority of this, 3.75 billion euros, was accounted for costs for cash payments (Cabinakova et al., 2019, p. 105). If mobile payment were to be used exclusively, the burden on retailers would fall and the monetary and environmental cost for producing plastic cards would be saved. The elimination of fees for cash storage would mean no more insurance, transport, and handling costs. However, mobile payments also incur transaction costs, such as turnover fees to the provider of the payments, terminal provisioning costs, and interchange fees (Noack & Philipper, 2016, p. 15). The interests of banks and large retailers are clearly focused on cost reduction and these players

benefit from cost reduction through mobile payments (Frietsch, 2020), whereas small retailers benefit less (Zydra, 2016).

2.2.3.2 Challenges of mobile payment

In addition to the numerous opportunities, however, there are also some challenges of mobile payment methods.

First, mobile payments exclude many groups of the population. As the technique requires several utensils to operate, such as a mobile device, a bank account, and in most cases a payment card it is expensive to set up and many consumers cannot afford one or several of these items. Also, technological knowledge is needed to be able to set up the payment method. (Klein, 2020) This might be why according to Beutin & Harmsen especially in Germany university graduates and men are more frequently using mobile payment, as they are mostly wealthier and better educated than other groups (2019, p. 16). The groups who are more affected by the challenges of mobile payment include women and people without a university education (Beutin & Harmsen, 2019, p. 16) as well as the underbanked, elderly and disabled people (Bremner, 2018).

According to Retsinas & Belsky underbanked refers to those who have a banking account at a bank or financial institution, but also rely on other financial services providers, such as payday lenders and refund anticipation lenders. The underbanked oftentimes come from low- or moderate-income neighborhoods. (2005, p. 299) These groups are oftentimes less educated, poor, or even homeless and more likely to have a migration background (Xu, 2019, p. 386). Many of these terms are overlapping and some individuals are a part of multiple of these heterogeneous categories. In other words, mobile payment is not inclusive and the most vulnerable groups in society face greater difficulties to obtain and use it.

Many poor and elderly people pay a very high percentage of their expenses with cash, some, such as the homeless, exclusively. A 2017 statistic from the Deutsche Bundesbank found that the lower the household income, the less frequently cashless payments are used. Households with a monthly income of fewer than 1,500 euros still make 56 percent of their payments in cash, the national average at that time was 26 percent (Bruckmann et al, 2018, p. 50). Cash payments are thus significantly more popular among low-income families. These groups use the cash more often and are ultimately more dependent on this payment method. This dependence makes them vulnerable in times of gradual expansion of mobile payment, as areas are created in which it is no longer possible to participate without this means of payment. One example of this is online retailing, but also many cashless machines in city centers and

at train stations, to which homeless people, for example, thus no longer have access. The cashless world is excluding vulnerable sections of the population and this presents a risk, that has not been tackled sufficiently.

The difficult accessibility is a restriction of freedom as people are also unable to participate in many discount campaigns that require mobile or card payment and an app. The potential threat of freedom restriction is another challenge of mobile payments, as the method is not anonymous and payments are tracked and saved. Power is shifting to big tech companies, such as Google and Apple or banks as data protection could be misused and clients become targets of commercials or data fraud (Klein, 2020). Users of mobile payment cannot protect themselves from possible access and control by state authorities or criminal organizations. Instead, they rely on safety networks provided through state laws and payment issuer safety systems. (Hennies, 2016, p. 4-5) This abandonment of anonymity represents a risk of mobile payment. The scenario of the "transparent citizen" would become real because transactions that take place electronically can fundamentally be monitored (Benrath, 2007, p. 6). According to Buhl & Müller, we will become rather dependent on how Internet giants conceive their responsibilities when using their services (2010, p. 204). However, the freedom of choice that is restricted to only those who use mobile payment and the power shift from citizens to the state, big tech, and banking is not all. The possible loss of control goes beyond that. Perceived freedom would be significantly restricted and can nip creativity in the bud, as the thought of whether a certain behavior might not be detrimental plays a role before any decision-making process. Some purchases that do not correspond to the social norm would not be made out of fear, such as the purchase of extravagant clothing or books critical of the system. These thoughts are prevented in advance because of the fear that this information will be used to socially stigmatize the person. (Benrath, 2007, p. 9) Digital scoring and monitoring systems, such as those currently being used in China (Hoar, 2019, p. 41), which is called the Social Credit System, could very quickly become a reality in other parts of the world as well (Liang, Das, Kostyuk & Hussain, 2018, p. 435).

2.2.3.3 Overview mobile payments

To understand the arguments used in the discussion about the dangers of the abolition of cash, which is also used against the adoption of mobile payment, contactless payments, or cashless payments in general, it is crucial to look at the differences between cash and cashless payments. This discourse and its narratives are also reflected in arguments used by the interviewees. They were in certain cases used to protect or justify the usage of cash or its users and criticized mobile payment or people who are using it, including themselves. In other

cases, they were used by interviewees to expose these arguments as wrong in their point of view, differentiate themselves from the "others", the "vast majority" or the "society" and even disparage them.

Table 3 is comparing both varieties of money possession concerning several societal and monetary phenomena, such as monetary policy or data protection. This viewpoint, excluding societal groups, corporate groups, or overall developments is important to see the discussion from an objective perspective.

Table 3: Comparison between cash and cashless payments (modified from Deutsche Bank Research, 2017)

	Cash	Cashless payments
Criminal abuse	Easy	Further steps required to conceal actual ownership/activities
Data protection	High	Dependent on compliance with data protection laws
Monetary policy	Limitation of monetary policy	No limitation
Financial market stability	Risk of a bank run due to cash withdrawals	Risk of a bank run due to transfers to other banks
Individual savings deposits	Protection against: Illiquidity of an individual institution or the financial system. No protection against: − Inflation	Protection against: Illiquidity only if protection mechanisms such as deposit insurance or access to central bank exist No protection against: − Inflation − negative interest rates
Transaction security	High	High

2.2.4 Payments market in Germany

2.2.4.1 Cash moving from the medium of exchange to store of value

There is no doubt about the fact that cashless payments, especially mobile payments are on the rise. It is rather the question of when the end of cash as a means of payment occurs, then whether it will happen or not (Schäffer, 2020).

Due to the steady decline in cash usage in Germany from 82 percent of all transactions in 2008 to 60 percent in 2020 (Pietrowiak et al, 2021, p. 3), the existing infrastructure is becoming more expensive (Prinz & Beck, 2020, p. 448). In combination with other measures such as fees for cash transactions issued by banks, the supply of cash is becoming increasingly unattractive for shop owners and customers (Lempp et al, 2018, p. 6).

Cash of the Euro currency might still be around for many years as it is increasingly used as a storage of value. The amount of Euro in circulation has constantly risen since the issuing of the currency in January 2002, from 7,8 to 25,4 billion in October 2020 (European Central Bank, 2020). There is a shift of usage from a general medium of exchange to the storage of value, similar to the development of gold, silver, or other metals after the usage as a currency. Also, the euro is a popular reserve currency, similar to the U.S. dollar. Security and stability concerns of those hoarding the cash play an important role. The euro's reputation is therefore also not to be underestimated outside the monetary union. This, however, will not stop the decline of the Euro's importance as a medium of exchange. (Deutsche Bundesbank, 2020, p. 16)

2.2.4.2 Cashless future driven by millennials

In the Nordic countries, the development towards a cashless society is already significantly stronger and cash oftentimes seems to be a means of the past. In 2018, according to the Bank of Finland, only 10 percent of people used cash for shopping (Yle, Oct 31, 2018). Similar circumstances are present in neighboring Sweden, where notes and coins are increasingly dispensed with card or mobile payment. Indeed, this Scandinavian country is leading the race for the first completely cashless economy. Niklas Arvidsson for example projects Sweden to become the first cashless society in 2023 (2019, p. 82). In a study conducted in 2018 by Sveriges Riksbank, the Swedish central bank, 80 percent of respondents said they paid with a debit card for their last purchase, 7 percent said they used a credit card and 13 percent said they paid in cash (Sveriges Riksbank, 2018). Living without cash does not seem difficult. Going out to eat, paying for parking, and many other procedures are offered completely cashless.

In Germany however, this situation is still very different. In a study conducted in 2019 cash payment accounted for 77.9 percent of all payment transactions in retail stores and 51.3 percent of the share of sales (Cabinakova et al., 2019, p. 22-24), which presents a stark contrast to the country's Northern neighbors. Attitudes towards using mobile payment are also incomparable. In Statista's 2020 Global Consumer Survey only 19 percent of Germans interviewed answered that they would "like to pay with their smartphones all the time". In contrast, 27 percent of US Americans and 35 percent of surveyed Spaniards and Italians took this option. At the same time, 39 percent of Germans stated, that they "don't want to pay with their smartphone at all". (Statista Global Consumer Survey, 2020) Pwc's 2019 Mobile Payment Report had similar findings with Germany having the lowest rate of mobile payment usage of all surveyed countries with 25 percent in comparison to i.e. the Netherlands with 51 percent or Turkey with 65 percent (Beutin & Harmsen, 2019, p. 7). This puts Germany in an interesting position, which is worth exploring because it is different from other countries regarding mobile payment technologies. As it is among the lowest ranks of the trend away from cash and generally resistant to changes for a longer period, finding out reasons and meanings for mobile payments is a gap in need to be discovered. This can help to understand how this change can be led in the future.

 "If we look at the next years in Germany while keeping in mind that nation's current demographics and Germans' favorite payment methods and payment method intentions, we can expect the cash to remain the most popular in-store payment method" until 2025 (Laboure & Reid, 2020, p. 11). A great variety of online-transferal providers without a clear market leader bring about smaller overall usage. Elsewhere Laboure & Reid expect mobile payment applications to be the second most preferred method of payment after cards and the preferred method among millennial consumers (2020, p. 11).

As the report by Deutsche Bank Research pointed out mobile payments are already the preferred method among millennials in China, India, and other Southeast Asian countries (Laboure & Reid, 2020, p. 11). This development will also doubtlessly be seen in Germany, albeit with a time delay. Also, millennials are keener to try out mobile, digitalized services than previous generations, such as Generation X or Baby Boomers, because they were the first ones to grow up as digital natives (Gerhardt & Peluchette, 2018, p. 28). On the other hand, they are in a different stage of their lives in comparison to following generations, such as Generation Z or Alpha. Millennials are well into adulthood, oftentimes having finished studies and establishing their careers. The average age of the population in Germany in 2020 is 45,7 years (United Nations, 2020). Millennials being slightly younger, with the bulk of them being in their mid-20's and early 30's can be a suitable indicator helping to predict how the situation will develop in the short- to mid-term future.

2.3 Synthesis of framework

The study framework is divided into meanings and mobile payment. The meanings part focuses on customer's social identities, consumption meanings, as well how these are constructed. The second part examines mobile payment, the specifics of the German payments market, money, and its evolution. However, also two other topics, Germany and Millennials, have great importance in the framework, whenever being not as outstanding as the other two. Therefore, in the synthesis of the framework, these four topics are aligned according to their importance from the top to the bottom in Figure 4 and are the basis of this research, with sub-categorizations, concepts, and terms arranged around it.
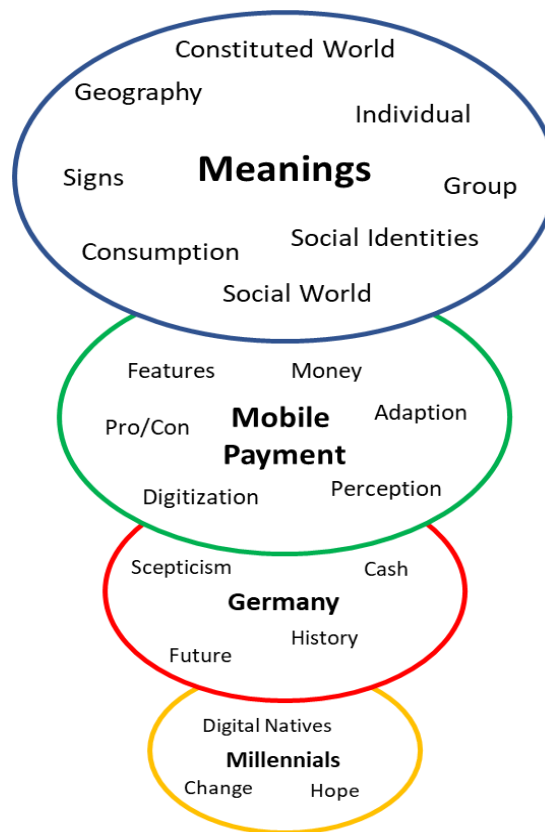
Figure 4: Theoretical framework

According to Belk money itself is too abstract, invisible, and intangible to become a part of the extended self (1988, p. 155). The topic of money and especially the way we use it, however, is full of meanings. Many of them have not been discovered. As payment usage and meaning building in Germany is a generational question – cash for older generations and mobile payment for younger ones, uncovering the meanings millennials attach to mobile payment is the goal of this thesis. Individuals and their views are taken from the culturally shaped world surrounding them (McCracken, 1986, p. 72). As consumers can change or influence the meanings around them and attached to products it is important to figure out what they attach

to mobile payment methods in the first place to then, in the second step, be able to change or use them. Meaning is made through the interaction of the product, the consumer, and their cultural background. Reaching a completely objective and thorough description of meanings, in theory, is not possible as meaning becomes clear only after the interpretation. Consequently, to comprehend the meanings millennials associate with mobile payment methods, qualitative research is conducted using the Zaltman Metaphor Elicitation Technique (ZMET) that allows interpreting consumers and their individual meanings for mobile payments subjectively, as well as grouping them to build the meanings for millennial consumers.

3 METHODOLOGY

In this chapter, the research philosophy and the research strategy will be discussed. First, I will introduce my philosophical approach, which is based on social constructionism, ontology, and epistemology. Afterwards, I detail the decisions made around the strategy of the research. This includes one section about the particularities of qualitative study and why I chose to adopt it in my study, why and how I used the Zaltman Metaphor Elicitation Technique, as well as how the data was generated and analyzed.

3.1 Research philosophy

In terms of the philosophical approach, this thesis is based on social constructionism because this theory invites us to question the view that conventional knowledge is based on an unbiased, objective examination of the world (Weinberg, 2014, p. 25). It further insists on a critical stance toward a taken-for-granted way of understanding the world and ourselves (Burr, 2015, p. 2). It further argues that reality is created and mentally perceived by the individual (Burr, 2015, p. 9). This approach is capable of uncovering meanings as it encourages being critical and questioning conventional ways of finding meanings. This philosophy is exactly in line with what I adopt in regards to meanings for mobile payments in Germany, as I believe opinions and meanings are socially constructed and can only be fully understood once uncovered. Further, the meanings and findings of this study are interpretive, as throughout the interview and analysis I am eager to discover existing meanings. ZMET gives freedom to the interviewees to tell the meanings they perceive. This is useful as they are not predetermined by the research, although I must remember to keep a critical, unbiased stance. Here the interviewing technique invented and patented by Zaltman (Hancock & Foster, 2019, p. 55) is once again helpful as the interviewees determine the meanings themselves. Staying in line with the social constructionist approach is however important for evaluating meanings in terms of how much emphasis is dedicated to each of them.

Moreover, ontology is a philosophical assumption about the world and another philosophical pillar that I adopt in this study. From an ontological perspective what is part of the world/reality or what is in the world is interesting to figure out (Jaquette, 2002, p. 48). Something is real in the world if the parties involved construct it in their minds in the given situation and context (Guba & Licoln, 1988). Resulting from this assumption a reality is not simply existing everywhere, but only in the minds of the actors (Creswell, 2007, p. 248). Embedding this thought in my study carries weight as meanings are not concrete but rather subjective and built by the individual view of many. Therefore, it is that meanings are important and through

meanings, we can understand i.e. why people consume or use mobile payment as a service. They are inside our culture, our heads, our thoughts, and by implication one can only find them if we go to where they are, enabled by images, interviews, and mental maps.

Besides social constructionism and ontology, the third philosophical layer is epistemology. This philosophical assumption suitable for qualitative research addresses, that the researcher and the studied phenomena are interrelated, not independent from each other (Creswell, 2007, p. 247). While ontology is more concerned about what is part of the world or reality, epistemology is interested in how these things can be studied and how we can reach understanding/knowledge (Pissarek, 2018, p. 130). From an epistemological point of view closeness to the study is crucial and, according to Creswell, as researchers gain more knowledge they become so-called 'insiders' in the matter (2007, p. 17). He further suggests that they should also conduct their studies where the interviewees live and work to understand them as well as possible (2007, p.18). The idea of becoming an insider in the field throughout the study is something familiar to me. Further, I identify with this assumption of how we can study phenomena, in particular how I can study the meanings in the payment culture. As a logical consequence I found out that using ZMET is the best way to do this and to further meet the interviewees in their homes or a comfortable place was important to be able to understand them.

3.2. Research strategy

3.2.1 Qualitative study

Foremost, the research method choice depends on what a study is trying to find out. Neither qualitative nor quantitative research is in any way better than the other. Characteristics of qualitative research are data collection, analysis, and interpretation being drawn rather simultaneously and conclusions being also drawn during fieldwork (Gummesson, 2005, p. 312). Further, qualitative research typically aims to study phenomena in their natural settings and make sense of or interpret them holistically and broadly (Creswell, 2007, p. 36). Throughout the entire qualitative research process, the researcher keeps a focus on learning the meaning that the participants hold, not the meaning the literature previously found (Creswell, 2007, p. 39). In qualitative studies 'why' and 'how' questions are asked to understand the world from the point of view of the one's studied (Pratt, 2009, p. 856). Qualitative studies use people as data, and the information is collected from people, but often additional sources, such as forms, documents, and tests are used too. One of the main features of qualitative studies is that they use qualitative methods, such as different types of interviews, to collect data. In this way, the researcher can collect in-depth data and utilize the

opinions and voices of the people who are being studied to gain a complex, detailed understanding. (Creswell, 2007, p. 40)

This master's thesis is qualitative research, as the research question of what meanings millennial consumers in Germany construct for mobile payment methods, guided the search of a research approach and interviewing technique. A qualitative method was chosen for this thesis for several reasons. First of all, the method allows in-depth interviews to be conducted and supports the collection of versatile, qualitative data. Secondly, this study aims to collect data from different interviewees and to utilize it in forming the meanings for a specific customer group. Therefore, the qualitative method supports the use of the interviews with ZMET the best. Thirdly, this thesis also studies a single service/ payment option, and people who are using it share their insights and experiences. As Creswell (2007, p. 40) mentions, qualitative research is conducted around a group or population, as well as this study. This study is not aiming to produce statistical, generalizable data, but rather discover meanings for mobile payment as a payment method, and therefore the choice of method can be well justified.

In contrast to qualitative studies where 'why' and 'how' questions dominate, in quantitative studies, there is a prevalence of 'how many' questions, data collection methods such as surveys and lab studies, and statistical analysis methods such as ANOVA and multiple regression (Pratt, 2009, p. 856). The nature of discovering meanings in consumer research does not support a quantitative study and therefore this study concept was not adopted.

3.2.2 The Zaltman Metaphor Elicitation Technique (ZMET)

"A lot goes on in our minds that we're not aware of. Most of what influences what we say and do occurs below the level of awareness. That's why we need new techniques: to get at hidden knowledge – to get at what people don't know they know."

- Gerald Zaltman, Professor Emeritus at Harvard Business School

During the investigation of consumers, researchers need to find out how people think and find ways that enable them to represent their thoughts thoroughly. Not every research tool is able to 'dig' deep enough to discover hidden meanings and claim new findings, but rather state superficial knowledge, that might have been previously known. For example, surveys with pre-defined answers are a reactive approach to seeking information. While taking a survey, people are restricted in their ability to express their opinions to statements generated by experts. The technical experts', however, have biased views because of their scientific and deep knowledge of the studied matter. Therefore, the statements are unable to have new findings because they are predetermined by the researcher's choices. (Anghelcev et al., 2013, p. 58) In contrast,

techniques, where data is driven by interviewees rather than the researcher make it possible for the interviewees to communicate their views openly. Thus, it is able to reveal a wider range of relevant opinions, as well as knowledge in the interview process. (Coulter, Zaltman & Coulter, 2001, p. 2)

The Zaltman Metaphor Elicitation Technique is such an interviewing technique where data is informant-driven (Coulter et al., 2001, p. 2). This qualitative methodology enables researchers with in-depth, personal interviews to extensively explore the participants' thoughts and feelings (Coulter et al., 2001, p. 4). It is based on mental images that are collected before the interview. ZMET being able to reach into the world of thoughts of the participants is the reason why I chose to use this interviewing process. The intense, elaborate, and detailed preparation of the expert interviewees guarantees for utmost expertise and high-level output of information. Besides, the clear procedure to follow and traceability of results were other objections justifying my choice.

Three procedures were part of the data collection: developing a purposive sampling plan, preparing interview instructions, conducting one-to-one interviews (Lee et al., 2003, p. 342-343) The first step is profoundly explained in chapter '3.2.3 Data generation'. Preparing the interview instructions first involved becoming familiar with ZMET and conducting a practice interview. While reaching out to the participants' instructions on how the interview will be conducted were provided in a text document. The possibility to ask questions about the process was used by some of the interviewees. ZMET requires the participant to collect pictures of the meanings of the phenomena before the interview. These could come from the internet, be their own pictures taken with their smartphones or collected from magazines or books (Zaltman & Coulter, 1995, p. 40). In my research, the interviewees' task involved collecting 8-10 images, that they associate with mobile payment in the week before the interview. Finding these many images was challenging for some of the interviewees and I received between 5 and 12 images, depending on the individual. A major benefit of this step is that the interviewees dealing with the subject, are able to clear their thoughts and collect ideas beforehand. Shortly, usually a day before the interview the participants sent these pictures to me via e-mail or WhatsApp, so I could get familiar with them and prepare specific questions about some of the images. During the interview, I went through the seven most suitable of the 10 original ZMET steps (Zaltman & Coulter, 1995, p. 40-42), which can be seen in Table 4.

The colors were used to distinguish the steps as follows:

Green: These steps were used during my interview process.

Red: These steps were not used during my interview process.

Table 4: The 10 ZMET steps (modified from Zaltman & Coulter, 1995, p. 40-42)

ZMET steps	
1. Storytelling	participants describe how each picture they brought to the interview represents their thoughts and feelings
2. Missed Issues and Images	participants are asked if there were important ideas, they wanted to express but for which they could not find relevant images
3. Sorting Task	participants remove duplicates and sort their images into meaningful sets
4. Construct Elicitation	the Kelly Repertory Grid and laddering are used to elicit basic constructs and relationships, three random images are chosen by the interviewer and the interviewee needs to group two and explain how the third differs from the others
5. Most Representative Image	participants are asked to select the image that captures their strongest feelings towards the topic
6. Opposite Image	participants are asked to select an image that does not capture or show the negative side of the topic for them (opposite of the previous task)
7. Sensory Images	participants use other senses to explain what does/ does not represent the topic
8. Mental Map	During the interview, the interviewer creates papers with the main ideas written onto them. Participants get these papers and show how mentioned ideas relate by drawing connection lines
9. Summary Image	Summary collage created through cutting up and putting together images (face-to-face) or photoshop (online)
10. Vignette	Participants come up with a story or movie, that would tell their feelings about the topic

The first step involved going through every picture. My general approach was to stay reactive and let the participants talk freely. Every now and then I intervened to clarify certain expressions or ask about details that were shown in the picture. Additionally, I had a few questions prepared to keep the flow. Some questions were connected to finding out about the habits and thoughts when using mobile payment, such as 'When did you download mobile payment?' or 'Does the lock rather represent safety for you or feeling incarcerated?' This step took the longest time and was followed by asking the participants if there were any missing images or aspects, which, if yes, were explained by them.

Following I asked the interviewees to sort the images into groups and remove pictures representing the same topic. This third step was important to determine initial sub-meanings and was helpful to clear thoughts and prepare for later on creating the mental map. Thereafter the participants were asked to point out the most and least representative image for mobile payment for them to distinguish, which idea has the strongest association and which is less

important. The final task was a combination of steps 8 and 9, which involved putting the images on a big paper, drawing connection lines, and writing down keywords. Carrying out this task gave a closing overview of what mobile payment means for every single interviewee.

The steps marked in red were taken out of the interview process because I considered them not suitable for my research topic (steps 4, 7, and 10). Steps 4 and 7 were removed as I believe they fit better to marketing campaigns of more feasible products, such as clothes, perfumes, or cars rather than services. Step 4 is taken out of the interview as it is rather repetitive and therefore not necessary since Step 3, 8, and 9 already group and combine the main ideas from the interview.

Validation studies found out that four to five ZMET interviews usually contribute to roughly 90 percent of the core information about the researched topic (Zaltman, 1997; Zaltman and Coulter, 1995). I agree with these findings, as in this study there was a repetition of many meanings, and clarity was reached after around six interviews. However, it was important to conduct more interviews to meet academic standards and present valid findings. The Zaltman Metaphor Elicitation Technique is useful in my case because it enables finding completely new meanings in the process, which had not been thought of before. As I seek to understand the reasons why people pay with their smartphone instead of using other means, such as cash or card payments, I need a broad perspective, taking different interviewees. ZMET as a research technique for market research is relevant because it uncovers the meanings, themes, and symbols that should be used to contextualize the emotions so that the message intended is relevant to the targeted audience. (Anghelcev et al., 2013, p. 72) The patterns of the meanings are constructed throughout the process, which gives the freedom of going into different perspectives, finding and documenting them. At the same time, the ZMET interviewing technique provides a clear framework to follow. After all, the thought arises from images, and moving closer to where this thought emerges is fruitful for new discoveries (Zaltman, 1997, p. 424-425).

3.2.3 Data generation

Data generation included interviews with nine millennials in Germany that are using mobile payment methods. For the interviewee sample, I used the purposive sampling technique. It is widely used in qualitative research as it facilitates identifying and selecting individuals that are experienced with the phenomenon under consideration (Palinkas et al, 2013, p. 534). Purposive sampling is often used in market research where a population is selected through certain characteristics (Barratt, Ferris & Lenton, 2015, p. 7). This procedure fits my thesis research, as preselection was inevitable since this study discovers meanings attributed to the

use of a specific payment method from a specific age group in a specific country. Therefore, Table 5 depicts the factors that impact the selection of the sample:

Table 5: Criteria for selecting participants for the study

Criteria for purposive sampling in the current study	
Characteristic	**Which factor is considered when sampling**
Age	Born between 1981 and 1996
Residence	Germany
Mobile payment usage	Yes, at least once a week
Mobile payment apps	PayPal, Apple Pay, Google Pay, Payback Pay, Mobile Banking Apps

As I focus on millennials, the age group needs to correspond to these criteria. The age group for millennials is that defined by the Pew Research Center, an American think tank providing information on social issues, public opinion, and demographic trends shaping the world (Pew Research Center, 2020). While there are also other range definitions, studies often define millennials as people born within these 15 years (CNN Editorial Research 2020; Gale et al 2020; Mezza et al 2019; Valerio 2015). In line with this definition, my research will only conduct interviews with people born between 1981 and 1996.

Furthermore, the participants needed to reside in Germany and be familiar with mobile payment methods. This means they needed to use at least one of the five most widely used application provider types (PayPal, Apple Pay, Google Pay, Payback Pay, Mobile Banking Apps) regularly, which I define as at least once a week.

Currently, the German mobile payment application market is dominated by several players, that offer mobile payments in an electronic wallet (Apple Pay, Google Pay, Payback Pay, various Mobile Banking Apps) or as an add-on to the former providers (PayPal and some Mobile Banking Apps). They are the most-known and most-used mobile payment methods in Germany, as at least 40 percent of participants in surveys knew about them and more than 25 percent had used one or more of these mobile payment methods within the 12 months prior to March 2020. (Deutsche Bundesbank, 2019; Statista, 2020)

The participants, which are presented in Table 6 were recruited from my network of contacts. To reflect the diversity between millennials in Germany, the interviewees were selected from different social backgrounds, genders, and places of residence. In a retrospective, it is interesting to note, that finding male participants was rather easy while finding female

participants meeting the criteria was a challenge. This might strengthen the findings of Beutin & Harmsen, that in Germany men are much more likely to use the technology than women (2019, p. 16).

Table 6: Participants of the study

Participant	Age	Recruited from	Location	Duration	Mobile Payment Device
A	31	Contact	Interviewer's Home	50 min	Smartphone
B	27	Own Network	Interviewer's Home	50 min	Smartphone and Smartwatch
C	29	Contact	Interviewer's Workplace	50 min	Smartphone
D	25	Contact	Interviewer's Home	65 min	Smartphone
E	27	Own Network	Interviewee's Home	75 min	Smartphone
F	31	Own Network	Online	60 min	Smartphone
G	25	Contact	Interviewee's Home	60 min	Smartwatch
H	31	Contact	Interviewer's Home	65 min	Smartwatch
I	35	Contact	Interviewer's Home	65 min	Smartwatch

The interviews were conducted within a period of two weeks during a stay in the Frankfurt area. Provided the interviewees' consent, interviews were recorded and transcribed. The interviewees' names were replaced by pseudonyms. Once the transcription was finished, I compared the transcribed part with my notes made during the interview to rule out, if there was anything to clarify or missing information, which was not the case. Once this step was completed, the data collected was analyzed, quotes extracted, meaning clusters found and presented in the thesis. While my preference was for in-person interviews, due to the COVID-19 outbreak, it was inevitable that one interview had to be organized in an online setting.

3.2.4 Data analysis

The second of the two major processes of ZMET is the data analysis, which consists of recording participant metaphorical expressions, developing thematic categories, and identifying deep meanings (Lee et al., 2003, p. 342-343). During the interview process, the first step of data analysis was helping the interviewees with the mental map and taking notes during each interview. Afterwards, while transcribing the interviews and going through the data another time I immediately made comments to get a broad overview. Thus, the first round of analysis consisted of composing a summary of each interview, usually around 500 words, trying to answer what meanings or attitudes each participant held, comparing the visual collages, and extracting two to three quotes from each interview.

The more thorough, second round of analysis involved quantitative content analysis. Since qualitative research is oftentimes criticized for not adequately justifying its evidence (Gioia, Corley & Hamilton, 2013, p. 18), I adopted a quantitative step to verify the research and be able to present my findings with quantitative underlining. For the analysis, I used a technique called in-vivo coding, since according to Creswell coding is increasing scientific credibility (2007, p. 95). In-vivo coding refers to using the words of respondents as a code and therefore indicates that the terms had their origins from the data (Strauss & Corbin, 2012, p. 84). During the coding phase, I identified 60 in-vivo codes, that were divided into 12 sub-meanings and combined into 6 overall meanings. An example of the data analysis and the in-vivo coding process is provided in Table 7, showing the process from raw data until uncovering a meaning for mobile payment methods.

Table 7: Example of the data analysis

Raw data	In-vivo Coding	Sub-meanings	Meaning
"When I thought about mobile payment this clock actually came into my mind. It reflects time because that just goes really fast." (B)	fast payment	faster payment	Setting new speed and hygiene standards
"The hygiene aspect is very important to me, especially in winter during cold time." (D)	clean hygiene	cleaner payment	

Qualitative research is oftentimes divided between deductive and inductive analysis. While deductive content analysis is utilized when the analysis is based on existing knowledge and the study purpose is testing, inductive data research is used for finding new aspects. As deductive research is based on existing models it moves from general knowledge to more specific aspects, while inductive research on the opposite moves from specific to general. (Elo & Kyngäs, 2008, p. 109) Due to the research objective moving from specific to general and from data to a concept in the inductive analysis I adopt this inductive approach in this thesis. By coding every mentioned argument, and then moving to more specific groups and sub-meanings, I could get a better overview of each analysis step. In conclusion, it proved to be very useful to keep track of the data observation during each round of analysis, first finding detailed codes and combining them into meanings, which became clearer over time. Listening through the recordings and reading the arguments of the participants several times gave a deep understanding of what aspects of mobile payment methods were most important for them.

4 FINDINGS

In this chapter, I present the findings of the interview analysis process, which permit me to reach my research aim, which was to discover the meanings millennial consumers in Germany attach to mobile payment methods. The analysis of the interview data enabled me to develop six meanings, that round up the main thoughts and feelings about the emerging payment alternative, that the interviewees representing millennials as a group have. Throughout the different subchapters, I will discuss my findings and undermine them with quotes and explanations, as well as conclude them in a consensus map at the end.

4.1 Meanings of mobile payment methods for consumers

During the process of in-vivo coding and going over the 9 interview transcripts 60 overall codes were identified. Those could be merged into 12 sub-meanings, categories which were mentioned by the interviews. A further evaluation and concentration three of these sub-meanings were eliminated because they were only mentioned by a single person and therefore are rather individual thoughts and not presented in this master thesis. Three further sub-meanings were merged with other similar sub-meanings, which are directed towards the same benefits or challenges of the payment method. This resulted in 6 overall meanings, which are: *(1) Shrinking wallet, increasing freedom, (2) Drive for being more, (3) Ease and internal relaxation, (4) Setting new speed and hygiene standards, (5) Loss of control, (6) Better safety, highest accuracy,* and will be thoroughly presented in the next sub-chapters.

4.1.1 Shrinking wallets, increasing freedom

The first finding throughout the analysis was that the interviewees appreciate mobile payment methods because it reduces certain sacrifices, that they associate with the other two main competing payment methods, cash, and card payments. A desire many expressed was about either reducing the size, weight, or the number of items inside of their wallet. Some were talking about getting rid of the physical wallet altogether. These wishes were expressed 32 times and the participants expressed their discomfort with coins and several payment cards occupying space. They have set their hopes on mobile payment methods to reduce these burdens. In this regard, oftentimes interviewees mentioned that this would increase their freedom because they did not have to think about so many items. Therefore, the first identified meaning of mobile payment methods is shrinking the wallet.

> *The other advantage would be the empty wallet, the small change, that which is practically already almost redundant in my eyes. (C)*

The pockets, the man with the empty pockets. That was most important for me to carry less in my wallet and thus to be a bit freer. (E)

Connected to the aim to carry fewer items and less weight with them is the goal of having to remember less PINs and passwords, which is mostly associated with payment cards, and would further increase their freedom. The fact that the PIN was needed once during installing the mobile payment application was perceived extremely positive, as this had two benefits. First, the PIN was not needed anymore, hence did not have to be remembered anymore. Secondly, this deletion also was regarded as beneficial because it reduced touching points in stores, especially important in pandemic times and it increased the feeling of security. The fingerprint or face ID, which is used to authorize payments with mobile payment is personalized, while a PIN can be spied out and contactless payments with cards can be carried out without any authorization below 50 euros. All of these arguments resulted in more freedom through the erased need to remember one's PIN.

I no longer have to remember the PIN. Because you have a PIN for the credit card, a PIN for the debit card, and a cell phone PIN, and then everything gets mixed up if you're unlucky. (B)

All of this resulted in a third characterization of these mobile payment meanings, which is the feeling of not running out of money, no-where and at no times. Being able to pay and not having to reconsider taking cash or cards for any potentially upcoming need to spend money is freeing to consumers, as exemplarily described with the fitting quote by interviewee G.

Another example is when I was just out for a walk and just wanted to buy a drink, I could pay with my iPhone. I always have that in mind when I pay with mobile payment. Mobile payment brings money to me in situations where I thought I had none with me. The payment option gives me the possibility to pay in many situations, even though I have not thought about it before or even planned to spend money, and yet I can realize my wish in a blink of an eye. I appreciate that very much. Always having the possibility to pay in this way. (G)

Overall, the first meaning of mobile payment for millennial consumers in Germany is that the payment method is shrinking wallets and freeing memory capacity from PINs and passwords. Carrying fewer payment cards and coins, no need to touch PIN pads or even remembering them, as well as always carrying money are thoughts associated with the payment innovation. Another, a greater expectation of digitalizing the entire wallet in the near future, including ID and driver's license, has come closer to reality through mobile payment.

4.1.2 Drive for being more

Another finding of this study was that millennial consumers in Germany associate mobile payment methods with a collection of several topics, that are projected onto the user and therefore make them unique and distinct from the general population, that is not using mobile payment. Many participants are aware, that Germany's digitization as a whole, payment digitalization, and people's attitude towards adopting technology, is different than in other countries and characterized by skepticism. They, however, see themselves as rebels and define their status in society through their usage of smartwatches, smartphone applications, and mobile payment. Many want to set themselves apart from the rest of consumers and embrace their payment patterns, which they see as progressive, modern, digital and cool, and project these features onto themselves. This feeling is mostly coming from their own perception or the attitudes of acquaintances with the same views and payment preferences. However, these attitudes have also in part been given to them through outside opinions, feedback and questions and confirmed or supported them in their usage of mobile payment. Some of the interviewees even saw bad or surprised looks as an empowering gesture, which convinced them even further to use mobile payment and prove to the 'rest', that the technology is working and has many benefits for them. Therefore, one meaning of mobile payment is a 'drive for being more' and being part of a progressive, digitally advanced group, which is expressed in the following interview quotes.

And it was quite interesting because I sometimes work on a project with customers that really notice: Technology is not only advised but also felt and lived [referring to the mobile payment usage on her smartwatch]. So that was also a good aspect to use it. (H)

After paying with mobile payment, many looked and asked how I do it. That was a good feeling that I was also faster and safer than the others. I still feel cool now when I pay with mobile payment. (F)

Mobile payment is safe if you deal with it and understand it, and I can do that professionally. It's such an abstract fear. People are afraid of nuclear energy because they don't understand it, although it's also very safe. It's the same with MP or online banking, it's very safe, you just have to understand it, then you get it and many don't understand it because they don't deal with it. That's cognitive dissonance, that's just not true. (I)

A certain addition to the perception by others and oneself as progressive and modern is that millennial consumers perceive mobile payment as more international than cash and card payment. They, once again, use that meaning for themselves and think of themselves as

cosmopolitan and part of a broader, global community. Through mobile payment, they can become members of this elite group as well, which is described in the succeeding quote.

New York City, being a cosmopolitan [pointing to one of the pictures]. It expresses modernity and speed and that's what I associate with mobile payment; luxury and exclusivity too, something special. City life and wanting/having to do everything quickly. People who live there are more flexible to use mobile payments than in small towns. (F)

Through traveling the younger generation in Germany has become aware of the payment landscapes in other, mostly European countries like Sweden, Belgium, or Spain. Foreign movies and culture, as well as a general interest, have also made them conscious of countries such as the USA, Japan, and China. Besides the perception that mobile payment adds to the user's image, the functional aspect of the technology to act as an international payment standard is a further meaning and advantage users appreciate.

That's exactly what's international [pointing to one of the pictures]. The globe, because I travel a lot abroad for work and often like to go to Japan or the U.S., it's important for me to use an international payment standard, and that's given with mobile payment. (I)

To sum up, Germans born between 1981 and 1996 recognize, that mobile payment gives them more payment possibilities, enables them to pay in other currencies, and benefit from the standard of mobile payment established, within Germany and internationally. Besides these functionalities, users adopted their meanings for themselves and perceive themselves as cool, technologically advanced, cosmopolitan, and modern, which is partly reproduced in social interactions with other consumers, family members, and friends. Receiving surprised or bad looks by others while using mobile payment occurred often in the cash-loving German society before the COVID-19 pandemic and continued into the time the interviews were recorded (December 2020 - January 2021). These reactions only further encouraged users to continue using mobile payment, one reason why 7 out of 9 interviewees use it as their only means of payment, paying mobile whenever possible. The motivations are diverse, as some are driven by the sheer functionalities, others seem to enjoy their rebel status, want to stick out and be part of a more 'advanced' crowd. For all, however, the 'drive to be more', whatever this 'more' might represent in each case, is a unique meaning of mobile payment methods.

4.1.3 Ease and internal relaxation

Perhaps the third meaning does not come as a surprise. The participants associate adjectives such as easy, convenient, stress-free, simple, uncomplicated, effortless, comfortable, and pleasant with mobile payment methods. They refer to the process, the setup, and the payment method when they use these attributes. In comparison to other payment methods, interviewees have described the ease of taking one's device and paying, without having to search for coins, cards, or banknotes first, as smartwatches are mostly already at hand and smartphones easy to reach. Several participants have brought images of relaxing situations or postures, such as sofa beds with integrated electricity plugs, people with their feet on the table, and koalas sleeping in a tree to describe this specific meaning of mobile payment for them. Besides, the ability to unlock the transactions with fingerprint or face ID and receive an instant notification, that the payment has worked, further increases this feeling of easiness as indicated in the following quote.

> Yes, that is on the subject of easy [pointing to one of the pictures]. It's just super simple. When I think of mobile payment, I think of the fact that you can pay super easily. Without any complications or anything. I open my phone on the side with my fingerprint sensor. Then I hold it up to the debit card machine, to the payment terminal, and that's it. I don't have to do anything else. (A)

Other than that, the participants also told me that the payment method was working well at all times once it had been established. The initial setup was furthermore described as fast and easy, which increased the feeling of convenience linked to mobile payment applications.

> The setup was no problem with my smartphone. I'm a client at Sparkasse [German savings banks] and somehow, I just had to select mobile payment on the app and then everything worked automatically. (E)

Mental barriers seem to be existing towards mobile payments for many parts of the German society, increasing with age. Also, as previously discussed, there are additional material burdens, such as the possession of a payment device and a payment card or PayPal account among potentially other things. Besides these clearly existing burdens, once people were able and decided to use mobile payment methods, they describe the setup and usage as uncomplicated, fast, and pleasant. As this research is uncovering the meanings for millennials, digital natives, that are rather confident with technology and possess smart devices and payment cards, their meanings for mobile payment are that it is effortless and involves an easier process than other alternatives, especially in comparison to cash.

4.1.4 Setting new speed and hygiene standards

The single most mentioned in-vivo code is to be found within this meaning. Mobile payment standing for "fast payment" was mentioned 38 times. Altogether 8 out of 9 interviewees clearly stated that mobile payment is representing the fastest payment option for them, while the remaining interviewee saw it at the same speed as card payments but faster than paying with cash. A relief many participants described was the payment method giving them crucial seconds of advantage when they are at a supermarket or shop counter and are in need to make space for following clients. A timely advantage is even perceived in comparison to cashiers and cash terminals, as the quote shows.

> When I pay with my card, it takes a moment to take my card out, for it to be accepted, etc. On my smartphone, however, it shows me before the machine has reacted that the payment worked successfully. It makes a sound or vibrates and you also see a check mark on the phone that you have paid. I'm almost out the door when I hear that the receipt is printed because the machine [referring to the payment terminal] has only now recognized that I have paid. I knew that 20 seconds ago and could have left the store without having to wait. It just goes extremely fast. (A)

Connected to the aspect of the payments being faster is the process which involves fewer steps, such as exchanging coins or swiping a card through a payment terminal. These functional improvements not only save time but are also perceived by the participants as cleaner, a meaning they give to mobile payments. Clean hygiene and elimination of useless touching points, as described by the interviewees, were expressed and shown in images throughout the interview process. Many participants explained that this meaning has become more important because of the COVID-19 pandemic, but had certain importance already before. The consecutive quote is participant G explaining the choice of their picture related to cleaner payment with mobile payment methods.

> I chose this picture because you can see exactly that you have no point of contact in the payment process at all. The money is only transferred from device to device. I find this also particularly helpful in the current situation [referring to COVID-19 pandemic] since there are no points of contact to no checkouts or other people. (G)

Saving time was also expressed through no further need to collect receipts or keep manual track of expenses. In summary, the most important aspect of this meaning is being faster at the cashier. However, the participants also recognize and appreciate the features of mobile payments to recover time on other occasions. Also, mobile payment methods are associated with clean hygiene and little to no touch points, which explains the meaning of faster and

cleaner payment for millennial consumers towards Apple Pay, Google Pay, and other providers.

4.1.5 Loss of control

Although participants generally feel a sense of safety towards their own money when it comes to using mobile payment, most of the participants also joined into the narrative of slowly losing control over a certain aspect of what they feel is 'theirs'. Many saw the shift towards using digital means of payment represented by mobile payment methods through the electronic wallets and overview of payments provided in the applications. While millennial consumers welcome this shift and are on average more open for this digitalization step than older generations, some feel unease because they see the change as inevitable. This causes fears of not having other alternatives, as many want to keep having the choice between different payment options in the future. In addition, many users were telling about the disadvantages of the usage being too intuitive and easy, which is facilitating looser spending. In this regard, they refer to people that need visibility in their spending, which cash provides by big bills slowly turning into smaller ones and eventually disappearing. This overview however does not exist that strikingly in the case of mobile payment applications. While the participants believe the aspect of looser spending or overspending does not affect themselves and only a few people throughout their daily routine consumption, they fear the effects of it in certain situations. These include free-time activities, especially going out in combination with alcohol consumption. This loss of control has already happened to some interviewees, demonstrated in the following quote.

> *This is to show that the money is gone quickly. I noticed that especially when I visited a friend abroad. If you go out in the evening and only hold the phone to this terminal, the money is gone in a flash. So, you spend the money really fast and without thinking about it. That can cause problems for some people. The money flies away. (B)*

Further participants were slightly concerned about data theft, even though others also answered, that they are aware of the danger but do not worry about it. While they were not concerned about data theft, another worry was present, which is their payment data being used by firms. Becoming a transparent consumer is associated with mobile payment methods. This is building onto the construction of the meaning of losing control. As mobile payment is more digitalized than card payments and more traceable than cash this is an existing feeling of becoming transparent. In this regard, a popular German illustration of the 'glass consumer' or someone who is completely visible to higher authorities like the government, banks, or firms (Bendrath, 2007, p. 6) was mentioned by several participants, such as interviewee D.

The image is based on the term 'glass consumer'. When paying with mobile payment, you become transparent. Cash is not so traceable but with mobile payment, the companies can also make great use of this by tracking exactly what is bought, how, and where. In my opinion, this is also the reason why many, whether young or old, do not support the disclosure of their data and therefore do not use mobile payment. You make yourself completely visible. (D)

Another related fear was the threat of mobile payment first becoming the only payment possibility and then the providers market becoming an oligopoly led by just a handful of players controlling the market. A few participants are also aware, despite the encouragement of tax evasion, that by paying in cash they can support poorer people, such as owners of restaurants or small shops. These might be able to avoid showing all the expenses paid in cash to the authorities, while cashless payments do not allow this evasion. While mobile payment and other cashless payments in consequence create a more accurate, comprehensible payment and taxation process, participants believe there is a general shift of power towards big companies and tech, away from smaller actors and the state. They regard this as a potential threat. Although they believe it will occur further in the future it is still feasible for them and part of a greater perceived loss of self-determination, choice, and overall control.

4.1.6 Better safety, highest possible accuracy

Lastly, a meaning that stands for mobile payment methods according to millennial consumers in Germany is that of a safer and very accurate payment process. Generally, while believing there is a certain loss of control on a meta-level, as described in chapter 4.1.5, they perceive the mobile payment methods as safe on a micro-level. Safe for their personal data, transactions, and savings from third-party actors or criminal interferences. Interviewees expressed their tranquility by mobile payment providers having high-security measures to ensure safety. The interviewees believe that it is mostly because it is in the providers' interest to keep data safe, as a leak or scandal would lead to a bad image and loss of credibility for the specific provider and mobile payment in Germany as a whole. Also, in contrast to payment cards and cash which can be used once stolen, a mobile payment transaction cannot be executed by an outsider as it requires a personalized fingerprint or face-ID authorization. This further increases perceived security as described by participant A.

Yeah, so I personally feel pretty safe paying with it. For example, if I lost my card that allows contactless payment, anyone could pay with it. If I lose my phone somewhere as long as they don't have my fingerprint you can't access it. The phone has to be unlocked to pay with it. That already feels more secure. (A)

Furthermore, concerning safety and transparency, millennial consumers appreciate mobile payment methods because of the detailed expenditure overview. Being able to check expenses at any time, verifying transactions, and having different data available are assets of mobile payment, that are regarded as beneficial. Once accustomed many participants argued that they do not want to live without these aspects anymore and have shown that through their images and expressions.

> *Through mobile payment, I can also pay on the weekend and immediately see what I have spent. I always have an overview of my finances, no matter what day it is. Less waiting time, everything directly available. (F)*

Another aspect, which I had certainly not expected was interviewees perceiving mobile payments as accurate, which is another layer of this meaning. In comparison to cash, where the accuracy in giving out change is exposed to human error and can be incorrect, mobile payments are always accurate.

> *What I find great about MP compared to cash is that you can always be sure that you have paid the right amount. (E)*

Overall millennials, which have fewer concerns about data misusage and technology adaption perceive mobile payment as safer than other payment methods. Their reasoning relates to online security but also higher safety of their money in case of pickpocketing or theft. Also, consumers born between 1981 and 1996 associate the emerging payment method with accuracy, being exact, and providing a good expenditure overview. These reasons result in the meaning of mobile payment as a safer and more accurate payment process.

4.2 Summary of findings

This subchapter introduces the consensus map containing the meanings of millennial consumers for mobile payment in Germany. The map represents the six meanings introduced in chapter 4.1 and the most distinct sub-meanings aggregating each of the meanings. The empirical data generated from the interviews were identified and discussed in each sub-chapter. Several distinct images presented by the participants and documentation of the in-vivo coding process carried out with the software program Atlas.ti can be found in the appendices. The biggest difference between two meanings can be found between meanings *(2) drive for being more* and *(5) loss of control*. 'Drive for being more' represents a general feeling of freedom, concerning the self-perception of mobile payment users and their surroundings. 'Loss of control' on the other side refers to millennial consumers partly joining into narratives of fear of data theft, becoming transparent consumers, and being witnesses of

a general shift of power towards big tech companies. This meaning of losing control connects them with the general population and their concerns. The millennials' perception of this challenge is somehow not as strong and does not result in abandoning mobile payment. Furthermore, 'loss of control' also needs to be seen as distinct from the other meanings of mobile payment and is not connected to any of them. The 'drive for being more' on the other side is connected to other meanings, profits from them, and increases its importance by absorbing the use of other meanings. Most interviewees for example when referring to attributes of this meaning, such as being international, used other meanings within the same quote, such as mobile payment being fast, safe, and easy to use. Furthermore, as explained in chapter 4.1.6, meanings *(5) loss of control* and *(6) Better safety, highest accuracy* concern different levels of understanding. While consumers perceive mobile payment as safe for their monetary possession on a micro-level and attach safety to it, they also fear the described loss of control on a meta-level through more control from banks, payment providers, and companies over everyone's data. The connections between the different meanings are represented by the dashed lines in Figure 5. All sub-meanings and meanings are connected to the overall theme of mobile payment meanings, which is 'Leading a (payment) revolution'.
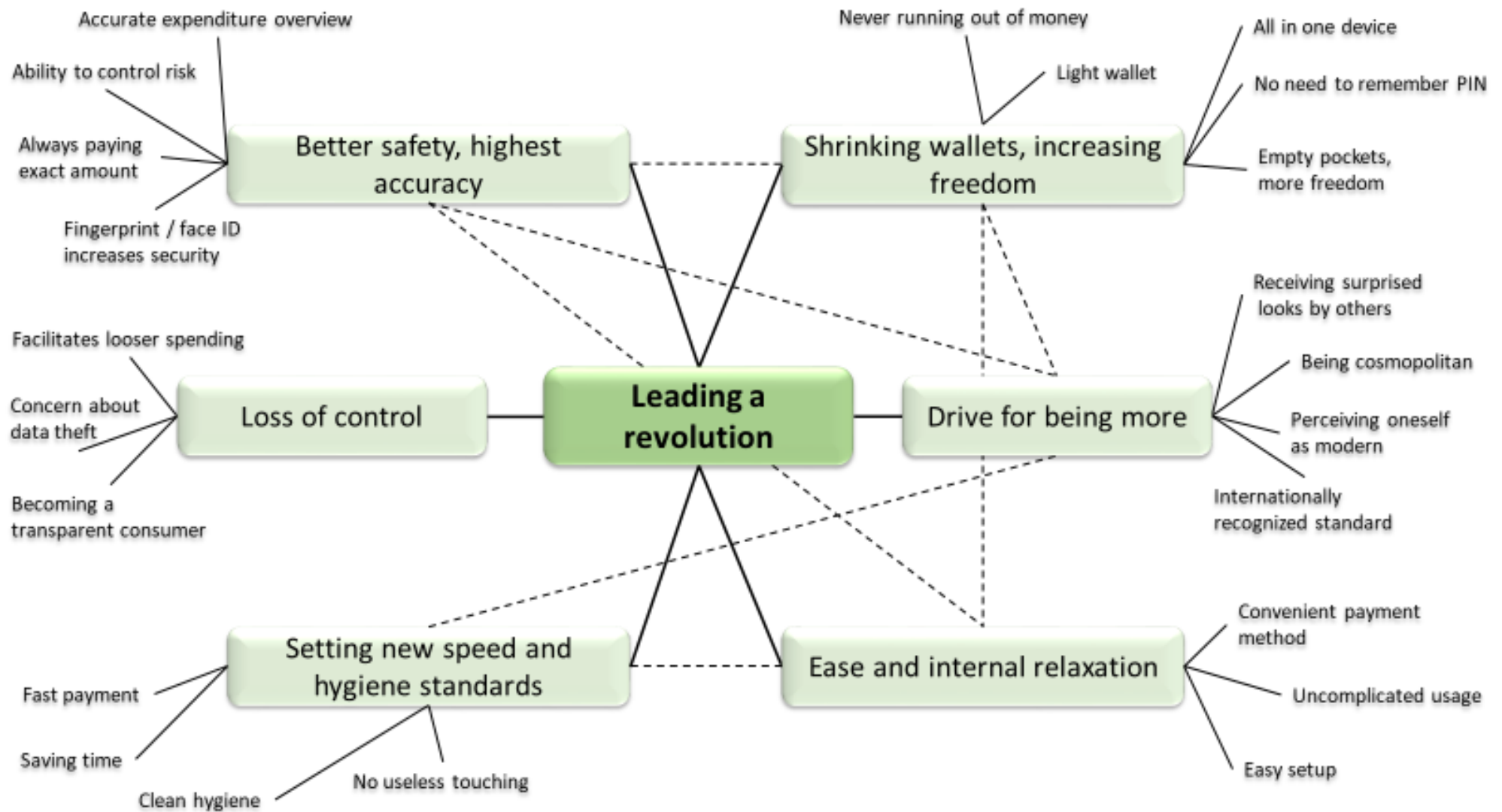
Figure 5: Consensus map of millennial consumers' meanings for mobile payment

As Catalin & Andreea described, the social identity is used by consumers besides their personal identity to develop a sense of self (2013, p. 104). Because of that individuals may identify with companies even without formal membership (Choo, Park & Petrick, 2011). This can be confirmed in this study, as interview participants strongly linked the attributes they perceive mobile payment to have to the perception of themselves. Attributes such as modern, cool, and international were used when participants referred to mobile payment methods and themselves as users. The participants gave the impression that through mobile payment they can undermine these features and claim them as their own. Further, consumers need to develop their sense of self-definition and express it through social-identifying relationships (Keh & Xie, 2009; Choo et al., 2011). These relationships were expressed by interview participants as well, many said that they received the idea to use mobile payment from a friend and that in their surroundings and friend circles mobile payment is frequently used and the friends share similar views.

Expressing products, as part of the extended self, as well as building relationships with other individuals who think alike are related to the customer's social identities, discussed in chapter 2.1.1. According to Burke & Tully each identity, that a consumer carries, is associated with a wider variety of certain situations (1977, p. 882). Throughout the interviews, the participants have told me about many situations, that they witnessed when using mobile payment. The images were oftentimes aiding to tell about events when others were judging the interviewees for using mobile payment when other consumers or cashiers in small shops reacted surprised or even friends were ridiculing them for using it. In contrast, participants also told about outsiders encouraging them, admiring them or other users, other 'insiders', as one interviewee called them, supporting them. Burke & Tully found out, that the meanings of certain roles are what people come to be known through interaction with others in situations in which others respond to the performer of a particular role. Those meanings of the self are then created and learned over time because others answer as if the person had an identity attached to the repeated role performance. (Burke & Tully, 1977, p. 882) Depending on the reactions, mobile payment users have developed one role, which can be described as the outlaw or enlightener. This customers' social identity is vocal about explaining to others how mobile payment works and insists on its added value, bringing speed, ease, and modernity. This social identity also derives from the overall theme of leading a revolution. These very strong justifications of speed and ease are due to the socially constructed world associating these features to cash rather than mobile payment and the users want to change this point of view. Providing facts for their claims as a mobile payment provider could increase their sense of belonging to the payment method by undermining their customer social identity.

A second social identity found in this research is the one of being part of an inner circle. This group of people thinks alike about mobile payment, common stereotypes that others might have about the payment method, such as it being insecure, are not shared within this identity. The members perceive themselves as modern, cool and develop a sense of feeling somewhat superior to cash users. This feeling of superiority is coming from the rejection of their views by other groups in society and resulted in a certain arrogance. The inner-circle social identity is responsible for some mobile payment users boycotting stores, that are not offering cashless payment, and talking about cognitive dissonances of others opposing their views. The meaning of the drive for being more builds up on these feelings as well. In conformity with the Theory of Cognitive Dissonance, individuals intend to stay consistent between their existing opinions and new ideas, which is also called consonance. Being exposed to information, that is challenging their current viewpoints would provoke psychological dissonance. To avoid having to modify their views, individuals will likely try to get rid of the dissonance by denying the novelties. Rejecting the message is less psychologically costly than modifying the views and therefore more likely to happen. (Anghelcev et al., 2013, p. 71) By using these theoretical terms and implying their opinion about the mobile payment being the best payment method its users try to justify their usage and shape the second social identity shared within the inner circle. Providers could use this identity by again providing more information and convincing users even further and non-users by feasible data and giving security.

To get a better understanding of how the consensus map was created, which builds on the findings, Table 8 provides numerical information about how many codes became part of the meanings and how often they were mentioned. While some meanings, such as 'Setting new speed and hygiene standards' were described similarly by the interviewees and therefore only had 4 overall codes, other meanings i.e. 'Drive for being more' had more codes as participants used broader descriptions, meanings, and explanations.

Table 8: Meanings and their frequencies in Atlas.ti

Meanings	Sub-meanings	Codes	Times mentioned
Shrinking wallet, increasing freedom	Carrying less	8	37
	Remembering less	2	7
Drive for being more		11	60
Ease and internal relaxation		7	58
Setting new speed and hygiene standards	faster payment	2	43
	cleaner payment	2	20
Loss of control		8	49
Better safety, highest accuracy	safer payment	10	63
	more accurate process	5	25

Millennials mostly appreciate the functional experiences of mobile payment and became convinced users. They are excited by the technology and describe the experience as pleasant, especially when using the mobile payment for the first time they feel empowered and cool before the usage becomes a new normal for them.

> *"By now it's normal but in the beginning, it was cool, wasn't it? It feels cool to pay like that. Now it's pretty normal for me, yeah. In the beginning, it was cool (laughs). More modern, more advanced like many others maybe in that sense. "(A)*

These findings are in line with Hopkinson & Pujari, who defined the experience and hedonic consumption, or pursuing pleasure, as an important pillar of overall consumption (1999, p. 273-274). Despite the customer's social identities, the meanings and codes possibly indicating something different, above all, the improvements related to the payment process are the biggest incentives for mobile payment users and this study has discovered four out of six meanings related to functional features, which are *(1) Shrinking wallet, increasing freedom, (3) Ease and internal relaxation, (4) Setting new speed and hygiene standards, (6) Better safety, highest accuracy.* In the end, the most practical features are the most convincing to customers and they will also lead to more users. Bringing out that message should be therefore the biggest priority for players engaged in mobile payment, as the benefits are already existing, but not (yet) seen by everyone.

5 CONCLUSION

5.1 Summary of the research and reflection

The purpose of this research was to determine the meanings that millennial consumers in Germany attach to mobile payment methods. To reach this goal, the research had one main research question:

- What kind of meanings do millennials in Germany attach to mobile payments?

A sub-question apart from the main research question was

- In which ways can mobile payment providers market their services more successfully?

Uncovering the meanings for mobile payment was important to completely understand one aspect of the complex problem of digitalization in Germany. By providing an insight into the world of thoughts of millennials a new dimension of understanding customer groups is added to existing research. The sub-question results from my background in the banking sector, which has undergone tremendous changes in the last decade and continues to transform rapidly. My interest has always been in seeing the big picture; analyzing one complex matter was, therefore, a natural solution for me. However, as my other aim was to produce feasible knowledge, that could be adapted by banks and businesses my summary chapter will also include managerial implications that give potential answers and insights to some existing questions for mobile payment providers about their user's thoughts. During the interview process, I found ambiguity, a lack of information, misinformation about the mobile service, and general confusion to be among the biggest challenges for current users and potential future users. Providing managerial implications is therefore another aim of this study, which will be presented in chapter 5.2.

To answer these questions, however, a holistic understanding of meanings and mobile payments needed to be provided for the reader. The meanings chapter explained several definitions of meanings in general, and in consumer research in particular, as well as customers' social identities and how they matter in consumption. In the mobile payments chapter, the evolution and features of money were described and the uniqueness of mobile payments, their standing in Germany, and the country's overall payment landscape were shown. With regards to the methodology, a qualitative approach was utilized for the data generation. I adopted a social-constructionist approach and conducted qualitative interviews using the Zaltman Metaphor Elicitation Technique (ZMET), a procedure that explores

unconscious and conscious feelings and thoughts by exploring people's metaphorical and symbolic expressions.

The nine interviewees were given the task to look for images they associate with mobile payment a week before the interview. The images and photographs were gone through and explained during the actual interview meetings, which allows and encourages participants to think freely of the meanings they have for mobile payment. As they decide on which pictures to bring they are not "trapped" in prefabricated clusters and questionnaires, but free to express their views through the images, which in retrospective proved to be very fruitful for my research. During the analysis process, including quantitative in-vivo coding to ensure research reliability, the information from 71 images and 57 pages of transcription resulted in 60 in-vivo codes, 12 sub-meanings, and 6 general meanings. These were 1) Shrinking wallets, increasing freedom, 2) Drive for being more, 3) Ease and internal relaxation, 4) Setting new speed and hygiene standards, 5) Loss of control, 6) Better safety, highest possible accuracy. These were presented in a consensus map, showing several important sub-meanings, creating the heart of this study's findings.

To summarize, Germany's past has hindered change for a long time, but a more globalized and curious generation is ready to break with old payment patterns and increasingly replacing cash or card for mobile payment. Even though they are aware of potential risks, such as a perceived loss of control over their sole data ownership, they are willing to use mobile payment and other services and have developed meanings for them, that might differ greatly from other generations. For millennials, mobile payment stands for speed, ease, and safety. They associate shrinking wallets, accuracy, and a way to be part of a cosmopolitan community with the latest payment option. To obtain these perceived benefits, they are willing to live with bad looks by other consumers, judgment and even develop rebellious features, for example by boycotting stores, that do not offer cashless payment methods. By knowing their meanings of mobile payment, their preferred features about paying mobile, and their fears, marketers can more easily target the right attributes in advertisements, and providers can figure out ways to reduce perceived weaknesses and increase existing strengths.

With fierce competition in the payment landscape, as well as within the mobile payment market, providers need to put a greater emphasis on understanding their customers. This is especially valid for actors, that are operating on a national level and do not have as much technical experience, such as German banks. At the moment many consumers are confused with the usage. Establishing oneself as the leading actor in commercials through explaining the usage and clearing up myths needs to be considered by actors in mobile payment. Furthermore, taking digitalization seriously and encouraging consumers in using mobile

services is a greater takeout and ideal the actors should follow for future challenges. In addition, I encourage every player to see digitalization as a chance, rather than a challenge as most millennial consumers seem ready, expecting, and wanting a change. COVID-19 has proven to be an accelerator for change in cashless payments since early 2020. I recommend not to wait for another external factor, but to start actively pursuing new ideas and concepts proactively. How this could be done and what mobile payment providers need to improve is following in the next chapter.

5.2 Managerial implications

The findings of this study have several practical implications for mobile payment actors, tailored with a focus on increasing the usage of mobile payment as a whole and possible improvements for the banking sector. This interest to solve existing challenges for these players results from my insights into the area of finance and seeing the industry's struggles to deal with digitization, which I seek to provide with answers. A summary of the managerial implications of this research can be found in Table 9.

Table 9: Managerial implications of the study

Challenges of mobile payment	Explanation of status quo and future vision	Practical implications
Confused consumers	- Consumers expressed a lack of information concerning usage, setup, and requirements of mobile payment - Consumers explained that they are unsure in which stores mobile payment is accepted -If these wishes are ignored, the risk of consumers changing to shopping online increases	To reduce confusion, the providers and retail shops should cooperate and build alliances to prevent losing consumers to online shopping. There is a need to inform consumers through offline and online initiatives, such as producing more video content about how mobile payment is done, as well as having info stands in banks, shopping malls, or other gathering places. Users and potential users need to see content, reviews, recommendations, and practical tips by advertisements or influencers. Furthermore, retail stores should be encouraging to use mobile payment and to show this as an asset, as an added value they provide.
Weak brand identity	- Many consumers are not aware of the benefits of mobile payment - Majority sees mobile payment as an insufficient alternative to mainstream payment methods	The actors should use the described social identities to promote the product. Further, as meanings are connected to practical functions by current users these meanings should be spread more. Instead of being appealing to a 'leader in technology' identity, that is divisive, providers should use example situations of mobile payment making life easier in advertisements. As an example, by showing a situation where in a shop checkout many things need to be done at the same time (pack the bag, watch the children, remember things) and mobile payment is helpful by paying easily and fast.
Lack of standardization	- Great variety of providers lead to the smaller overall usage of mobile payment services - Every provider having different requirements is deterrent certain consumers and gives an impression of a 'difficult' setup	A business tip and outlook for a potential future for banks to combat internet giants like Google and Apple gaining further influence would be to provide a shared payment platform on a national or even European level. Looking to the Nordic countries, solutions such as Mobile Pay in Finland and Denmark have proven to be successful. As this is a winner-takes-it-all market the consumers could likely be attracted to a standardized product issued by banks. This move would also increase the perceived safety, which consumers associate with banks rather than big tech.
Small user amount	- Mobile payment creates a new payment option but some voices did not see enough added value - Further incentives to use the technology are needed to increase user numbers and make customers switch to paying mobile	Here again, a successful approach can be found in the Nordic countries, where mobile payment apps combine the stationary payment function with the opportunity to pay and demand money from friends. This process, which in Germany is currently done either in cash, with PayPal, or through bank transferals could be added to a standardized application and increase its value. Especially as banks still enjoy high trust levels among the population the opportunity should be taken before they are behind time and other services have gained too many users. Think collective, search for advice from Nordic players and combine services is perhaps the most important managerial implication of this study.
Sustainability potential untapped	- Consumers do not make a connection between sustainability and mobile payment - Consumers demand sustainability and mobile payment saves resources such as paper and plastic	Another piece of advice is to start branding sustainability in payments and claim it for mobile payment. Card and cash are considered as dirty and using many resources, while interviewees in this study did not associate mobile payment negatively in regards to the environment. Sustainability is sought after by consumers in every product, in payment options however it has not been in focus yet. Mobile payment does not require a printed bill and does not create paper and plastic waste in such amounts as payment cards and cash. This positive feature should be pointed out and sustainability used as another persuasive argument to pay mobile.

The findings of this study have several practical managerial implications for the mobile payment market in Germany regarding targeting more millennials and consumers beyond this age group. An implication I want to stress is the development of a USP, a unique selling proposition to tackle the existing challenge of weak brand identity in Germany. Working out the functional strengths of perceived ease and increased speed, can be used as an advantage, as working out a USP is what people will remember about a product (Clark, 2011). Currently, there is a lack of clarity and many interviewees have described initial confusion before downloading mobile payment and that they see these fears of contact in their surroundings. The broader term of safety is related to this confusion, represented by two meanings *(5) Loss of control* and *(6) Better safety, highest accuracy.* Attaching the latter meaning to the consumer identity and actively encouraging this process through advertisements is recommended. Marketing campaigns should target the safety aspect and point out the accuracy of mobile payments. Users, that identify with the service would feel closer to it and use these attributes to expand them onto themselves, such as by being perceived as someone who cares about safety. Users, that do not use mobile payment yet can more easily be persuaded to switch to paying mobile. Further, *loss of control* is an important current issue associated with mobile payment by the participants. Focusing on better safety and transparency could also help to change the current meaning of the *loss of control* perception or at least weaken its impact. Also, as safety is and will continue to be a big concern for many about digital banking providers should educate consumers about their safety efforts and provide information to gain trust.

In this study, the consumer meanings for mobile payment for millennials in Germany were first researched. The consensus map can be used in the future as a foundation for other studies. This research has found that several meanings are connected to practical functions, such as ease, speed, safety, hygiene, and increased freedom. While one might have guessed these features would be mentioned in a description of mobile payment assets, this research is proof stating their relevance. Further, and more importantly, *(2) drive for being more* and *(5) loss of control* are meanings concerning the perception of mobile payment and its impact on society. The *drive for being more* resulting in social identities, such as the outlaw, enlightener, and inner circle member may not have been expected and present the relevant findings of this research. Millennials despite all of the described differences to previous generations joining in on a *loss of control* meaning are another main finding of this research. The strength and persistency of this meaning result in it carrying on into younger generations and underlines the fact, that it can and should not be underestimated in the future. For mobile payment to continue its current success from early adopters into mainstream consumer acceptance beyond the millennial age group, an enormous amount of clarification, transparency, and

explanation will be needed. This study has provided a theoretical contribution by showing meanings, identities, and perceived challenges for consumers. These practical and theoretical findings are backed by qualitative data, that is also quantitatively coded and thoroughly explained. My research is a theoretical contribution as well because it sheds light on the under-researched topic of mobile payments in Germany, which is current and concerns everybody's daily life. Payment is a meaningful process, often not getting the attention it deserves. Now we know more about this crucial topic and the consumer meanings attached to it. These meanings should be used by the players in the market to spread mobile payment usage. Also, the payment sector should use the described social identities to promote the product and improve customer loyalty. Providers should use example situations of mobile payment making life easier in advertisements. As an example, given by several interviewees through showing a situation where mobile payment facilitates the shopping experience. For example, in a shop when a person needs to do checkout tasks, such as packing the bag, watching the children, and paying at the same time. Mobile payment is then presented as a helpful method, allowing to pay quickly and by simply reaching into the pocket. At the same time, the meanings around safety need to be addressed to overcome consumer doubts.

Furthermore, banks should let go of individual solutions and rather join together into providing a mobile payment platform accessible from every bank with a similar interface. This own brand would attract more users and has proven to be successful in other countries, such as in Denmark, where the provider MobilePay combines mobile payment and peer-to-peer transactions in one application. The application which operates also in Finland, and Greenland, brands itself as "simplifying life" and was installed on 90 percent of smartphones in Denmark at the end of 2020 (MobilePay, 2021). This outstanding example shows that a platform is successful and has been used in several countries, not only in the Nordic sphere. Teaming up with more agile players, such as startups and fintech, and finally taking digitization in the payment sector seriously would be able to make up years of transformation, that have been lost and lead a way for change.

5.3 Research limitation

Despite its merits, this research has several limitations relating to its focus within the mobile payment market, its scale, and the experiences of the research participants.

First, as this research focused on the mobile payment service in Germany, the delimitations with regards to this work relate to the scale of the study in gaining a holistic understanding of the meanings of mobile payment methods for millennials. The sample for this research included 9 millennials in Germany, that have used mobile payment methods. As the ZMET

interviewing technique involved in-depth interviews with a longer preparation and analysis phase and a substantial number of findings (Goffin, Lemke & Koners, 2010, p. 29-31), the number of actual interviewees is lower, than if other research methods were chosen. Nevertheless, a higher number of participants might have brought even more detailed findings. Besides, the criteria for purposive sampling in the current study presupposed the use of mobile payment. This criterion was chosen to have interviewees who know about the technology and can comment on their usage and meanings towards the service. Therefore, only the opinions of those millennial consumers who are already using mobile payment were considered. Even though the participants were asked thoroughly about the negative aspects of mobile payment and what they believe the general opinion of millennials towards this payment method was, a potential lack of meanings exclusively held by non-users cannot be ruled out completely. Therefore, the first limitation of this study is not being able to precisely capture the detailed meaning that mobile payment has had on each millennial consumer living in Germany.

Secondly, as this study includes various millennials, the findings are indicative of the main influences perceived, rather than detailed accounts of each case. The matter that Germany's payment landscape is very distinct (Arvidsson, 2019, p. 6; Laboure & Reid, 2020, p. 2) also means that the findings can only to a limited extent be compared with other countries. Further research about consumer meanings regarding the area of mobile payments in Germany, as well as other countries, is needed. Therefore, this study has its limitations, which nevertheless found various possibilities for further research.

Thirdly, the consumer market in Germany is vast in terms of size. Nowadays, the country has more than 83 million inhabitants (United Nations, 2020), a pluralistic society with 77 percent of the population living in urban areas (Zech, 2018) and 26 percent having a migration background (Destatis, 2020). Countless social identities, including different levels of urbanization, nationalities, political affiliations, and viewpoints on technology, to name only a few distinctions, exist. Thus, it is challenging to gain an accurate account of the influences of mobile payment as they differ by case. However, at the same time, the millennials have many things in common such as having witnessed the same societal progress and historical events through being raised in the same time span (Gerhardt & Peluchette, 2018, p. 10). The group of millennials in Germany using a mobile payment that I chose as interviewees for this study is very diverse, characterized by different economic, geographical, educational, and professional backgrounds and the individuals have been experiencing rather different challenges in their lives so far. Therefore, they have different interests, priorities, needs regarding mobile payment and reflect the plurality of millennials to a certain extent. A general interest in technology and mobile services was given for all interviewees as well. However,

even if it is rather a philosophical question, a third limitation, concerning whether one can argue the definition of millennial consumers in Germany is too broad or not, remains.

Another limitation was due to the COVID-19 pandemic. After all, one interview took place via video chat in an online environment. The conversation was rich and meanings discovered or strengthened from previous interviews were plenty. Nevertheless, a slight disadvantage was still noticeable as non-verbal communication aspects could not be observed as closely as in comparison to face-to-face interviews. Overall, the Corona period represents an exciting era with many changes undergoing societies globally. The adoption of mobile payment benefited from the development and certainly accelerated usage and user numbers (Allam, 2020, p. 108; Pietrowiak et al, 2021, p. 3). However, the question arises whether the participants were able to build broad, timely opinions about all areas of payment throughout the last year. This concern is there because starting from March 2020 certain businesses such as bars, leisure activities or restaurants were at least partly inaccessible. This is especially the case as Germany went through several lockdowns in 2020 and early 2021, which resulted in the partial still stand of public activities. The possibility to execute mobile payments was not given in all businesses at all times. While the COVID-19 outbreak gave certain meanings for mobile payment higher importance and created entirely new meanings, I doubt that it affected the participants' ability to judge the majority of customer experiences. Nevertheless, the possible limitation of the coronavirus needed to be mentioned as it affected nearly every aspect of modern life in some way, including mobile payment.

5.4 Research quality and ethics

This research adheres to the principles of good scientific research formulated by the Finnish National Board on Research Integrity and key rules related to the ethical considerations in research projects (Kohonen, Kuula-Luumi & Spoof, 2019). I have identified the following ethical concerns to be mindful of and actively address during this research project:

First and foremost, to ensure quality and research integrity, the anonymity of interviewees is guaranteed. To ensure full confidentiality for interviewees, their names are not disclosed but replaced by pseudonyms, such as 'Interviewee A', for instance. Even though confidentiality was not as big a challenge as for other thesis projects which deal with internal company data, for example, I believe it is of importance. In addition, the likelihood of interviewees agreeing to be recorded was higher than if names were shown. During the process of approaching potential participants, I felt that being reassured about anonymity increased trust and openness to tell about their thoughts and feelings towards mobile payment. I believe this was especially important as many Germans are very sensitive to data protection (Beutin &

Harmsen, 2019; Lám, 2015; Pietrowiak et al, 2021). For example, in a 2018 questionnaire, 61 percent of surveyed individuals had either big or very big concerns about data abuse on the internet (Kunert & Schlinkert, 2018). Therefore, anonymity is considered an advantage. Besides, the interviewees' names are not of importance, since the group of millennials in Germany is studied as a whole, and distinctions can be made through pseudonyms. In this study, which is a situation where I am handling sensitive material, it is of special importance that the materials are not able to fall into the hands of external parties. To provide additional anonymity, I committed to the interviewees that all recordings and pictures will be deleted one year after handing in the master thesis.

Further, to ensure subjectivity and neutrality from personal values, I took all necessary steps during the preparation and the execution of the interviews. Also, the data analysis is conducted following best practices and good scientific research purposes. Carrying out practice interviews beforehand, formulating neutral questions and qualitative data analysis are exemplary measures to restrict outside influence on the participants' opinion. However, my values remain an important factor. This is also critical in the case of having conducted interviews with the Zaltman Metaphor Elicitation Technique (ZMET), and I believe reflexivity, honesty, and transparency are the best solution in this case. Lee et al. (2003) underlined that "an advantage of ZMET over traditional research techniques is that the interviewees' voices are less constrained by the issues and questions framed by survey designers or interviewers" (p. 342). The technique emphasized, "that research tools need to focus on non-verbal communication because understanding the meaning of metaphors can help to enable rich stories" (Zaltman & Coulter, 1995, p. 49) and finding new evidence or patterns. The design of the ZMET prevents pre-constructed meanings to a certain extent. Nevertheless, neutrality and giving interviewees enough space for explanations is something I kept in mind at all times.

Lastly, the process of defining meanings needed specific accuracy, which I assured by asking further questions in cases of uncertainty. Defining meanings while carrying out interviews was challenging at times, as the opinions differed in some cases and were expressed in a simplified way. Overlapping meanings, that could easily be mixed were formulated by the participants. For example, interviewees mentioned as a reason for their personal usage of a mobile payment app that the payment process is "easy". "Easy" in this regard sometimes meant for example a quick payment process or the decreased sacrifice of pulling out a wallet. Among those, there have been other meanings and therefore it was crucial to become aware of certain possible wordings beforehand and develop possible meanings and possible generalizations to be able to "dig" deeper and discover the exact reasons.

5.5 Further research directions

In this research, there were limitations concerning the number of participants and the overall volume of data. Although the data was more than sufficient for uncovering the meanings of mobile payment methods for millennial consumers, this meant that there were restrictions of time and a clear focus. As result, there are various areas that future research could explore, as there is still a big lack of research on mobile payments in Germany.

One particular research direction future research could investigate is gender, in particular females, and their perception of mobile payment. Beutin & Harmsen found out, that in Germany men are much more likely to use mobile payment technology than women (2019, p. 16). While I was approaching potential interviewees, I made similar experiences. While finding male participants was rather easy, finding female participants meeting the criteria was a challenge. The purposive sampling methods needed to be asked several times and my network expanded to find female participants. Yet still, even though I made a great effort I only found two women using mobile payment. Also, answers, explanation patterns, and emphasis on the different meanings were set slightly different than by the male counterparts, without going into further detail. Exploring the reasons for this gender gap in payment usage, discovering specific meanings for women and non-binary people, as well as finding ideas to make mobile payment more appealing to them are interesting areas to look at in the upcoming years.

Another subject to having further research carried out into is other age groups. As this study was about millennials as the potentially most important customer group for mobile payment growth and usage, there was a specific focus on this group. Thus, as there is an age divide in payment usage future research could explore meanings of i.e. the baby boomer generation, and figure out, what their biggest concerns towards the payment technology are and how they could possibly be convinced to use it. I believe, as stated before, that millennials are the most important group for the short- to mid-term growth of mobile payment. If the technology is supposed to have a long-lasting impact and challenge cash and card payments, changing the minds of the majority of older generations will be crucial. Research is not only needed to promote digitalization but foremost to understand the pillars of this wicked problem and serve the societal purpose of clarification.

Also, the broader sustainability dimensions of mobile payments are a further research direction. Globally and locally, mobile payment is increasingly adopted and with sustainability being a pressing topic, the payment area as an important everyday routine is in needs to be researched. This could provide useful indications for possible change and facilitate the

adaption of new technologies and practices. Research should also look into energy consumption. The mining process of cryptocurrencies, for example, is using a lot of energy (Li et al., 2019, p. 160; Gallersdörfer, Klaaßen & Stoll, 2020, p. 1843). Besides the previously mentioned reduction of paper and plastic waste, all of the above-stated areas should be measured in exact quantities. Social and economic sustainability, as well as the issues concerning privacy, are further related and need to be studied as part of this large category.

In an attempt to drive equality through research another area of focus should be education and poverty in relation to mobile payment usage. Beutin & Harmsen (2019, p. 16) have found out, that university graduates use mobile payment methods more often than the national average and about twice as much as individuals leaving school early. Thinking about the education and general wealth level of my interviewees, although I put an emphasis on having a diverse group to represent millennials as a whole and accomplished this, the participants still tend to be rather wealthy for their age group and better educated than the average. My general feeling is therefore to agree with the findings of Beutin & Harmsen. Finding out if the expensive setup is the only reason for this divide or if other information campaigns need to be spread, are therefore topical suggestions for research. Lastly, the meanings found in this research could be compared to association networks of other mobile services currently existing or emerging in the future, as the meanings provide a basis to expand on.

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APPENDICES

Appendix 1: Invitation message and preparation guide for the interview participants

Liebe/r Befragte/r,

Im Rahmen meiner Masterarbeit im Fachbereich Wirtschaftswissenschaften der Universität Tampere beschäftige ich mich mit dem Thema „Mobile Payment in Deutschland". Mit „Mobile Payment" beziehe ich mich auf den Zahlvorgang an einer stationären Ladenkasse (kein Online-Shopping) mit deinem Smartphone oder deiner Smartwatch mithilfe von Apps wie Google Pay, Apple Pay, PayPal o. Ä.

Ich schreibe dir dieses E-Mail bezüglich der Interviews mit Benutzern von Mobile Payment, die einige persönliche Erfahrungen und Gedanken über diese Zahlmethode haben. Fachspezifische Kenntnisse aus dem Bereich Banking/Finance sind nicht erforderlich, da ich nur Verbraucher befrage und mich interessiert, was sie über diese konsumierten Services denken, welche Motivation und Beweggründe zur Nutzung von Mobile Payment geführt haben und welche Attribute sie mit dem Service verbinden. Daher möchte ich dir zunächst einmal meinen tiefsten Dank aussprechen, dass du an diesem Interview teilnimmst und bereit bist, mir deine Sichtweise zu schildern.

Ich werde mich zwischen dem 21.12.2020 und dem 04.01.2021 im Rhein-Main-Gebiet aufhalten. Ich bin zeitlich sehr flexibel, so dass wir Zeit und Ort so wählen können, wie es für dich am besten passt. Die einzige Voraussetzung ist, dass wir uns an einem ruhigen Ort treffen z.B. in einem Café in der Nähe deines Büros, deiner Wohnung oder in meinem Elternhaus (in Friedrichsdorf). Das Gespräch wird etwa 1-1,5 Stunden dauern. Welches Zeitfenster und welcher Ort passen für dich am besten?

Nun möchte ich dich über die Interview-Methode informieren, die ich anwenden werde. Es handelt sich dabei um eine qualitative Marktforschungsmethode namens ZMET (Zaltman Metaphor Elicitation Technique), deren Ergebnisse zur Erstellung von Assoziationsnetzwerken genutzt werden, indem sie die nicht-wörtlichen oder metaphorischen Ausdrücke der Verbraucher mit Hilfe von Bildern erforscht.

Um unser Treffen vorzubereiten, bitte ich dich, etwa 8-10 Bilder zu sammeln, die darstellen, wie du über Mobile Payment denkst. Das bedeutet nicht, dass die 10 Bilder die verschiedenen (Logos der) Apps abbilden sollen. Es geht vielmehr darum, was dir in den Sinn kommt, wenn du über Mobile Payment und dessen Benutzung nachdenkst. Bei der Untersuchung über den Einzelhandel der Zukunft gab es beispielsweise Bilder über die Natur, über Hightech und über Menschen. Das waren u.a. Reflexionen darüber, was sich die Menschen von der zukünftigen Einzelhandelsszene erhoffen. Du kannst diese Fotos aus Zeitschriften oder aus dem Internet sammeln oder selbst Fotos machen. Das sollte nicht zu viel Zeit in Anspruch nehmen, also sind auch weniger als 10 Bilder in Ordnung. Das Interview wird auf einem Gespräch über diese Bilder basieren, das ich über mein (Handy-)Mikrophon aufnehme, und sich an meinen Fragen orientiert. Normalerweise wird diese Methode auch aus der Sicht der Befragten als sehr interessant und lehrreich empfunden.

Nochmals vielen Dank für deine Teilnahme an dieser Studie und an dieser Stelle möchte ich die Tatsache betonen, dass alle Interviews anonym bleiben. Bitte schlag mir 2-3 geeignete Zeitfenster vor, damit wir das Treffen arrangieren können. Ich freue mich darauf, bald von dir zu hören!

Beste Grüße,

Marc Wolsztynski

Appendix 2: Examples of the images and quotes in ZMET interviews

"This picture shows many cards, which are summarized in a cell phone. Having so little with you is in style and space-saving! I would also like to digitize my ID card and the entire wallet in the future." (C)

"I'll move on to the next picture, and it fits well with the theme of Millennials. This is a group of younger people who are all hooked on smartphones or iPads. This is to emphasize the topic of technology and innovation. Being among like-minded people and keeping up with the times. That's why mobile payment stands for young, modern people and also for innovation for me." (H)

"Mobile payment is already an international standard and thus I do not have to worry about paying at all with it. I can simply pay so I do not have to get foreign money, no need to change currencies. I don't have the transaction fees either." (I)

"Stress-free is the keyword here. As mentioned before, if you want to pay with card you have many detours. You have to do this and that. It's stress-free [referring to mobile payment], for example when I go out with my dog. I just realize I need milk but I don't have my wallet with me, it's not a problem, I pay for everything with my phone. So, I don't need my card physically, it's really stress-free." (A)

"Sofa. Metaphorically speaking, I can just do everything from home from the sofa, lying, sitting just whenever and whenever I want. So totally comfortable. I don't have to go to the bank, I don't have to put myself in queues, instead, I can do everything in total comfort. I make a simple, chilled life for myself. It is not so complicated." (F)

"The picture with the Formula 1 car driving in front of an airplane represents in this sense an acceleration, an enormous speed in my eyes, and that the whole payment process is accelerated. No unnecessary small change is picked out, no return money, you cannot have too little money with you, i.e. you always have the exact amount available that is needed. There are no unnecessary money transactions such as too large bills that cannot be changed. Above all, the speed of the car also shows the speed of the transaction itself. The speed also clearly brings across how quickly the payment is done; the next customer can be served and each customer can leave the premises of the store quickly. That's what mobile payment represents for me. Quickly picking up the watch or phone and then leaving the store again." (G)

"Yes, I googled 'Big Brother is watching you' because someone theoretically takes a look at the transaction. If I now pay with cash that is very difficult to trace. If you pay mobile and then receive a push message, uh no idea, bill of 15€ at REWE [German supermarket chain] 5 seconds after I made a purchase it gives me a weird feeling. So I know that it's kind of encrypted, but still. You always have this feeling, if you want to buy something weird sometimes. Then I would just prefer to pay cash somehow rather than mobile." (E)

"About contactless payment, I would like to mention, that mobile payment exchanges money practically virtually, i.e. I hold my phone to the terminal and do not have to touch anything. Therefore, especially in these difficult times of Corona but also before I saw it as a possibility to not transfer bacteria. This is expressed exactly in these two pictures. The two payment devices offer a little possibility for the transmission of viruses. There is no contact and therefore the possibility of transmission is minimized." (G)

"Well the hand shows security; the butterfly represents freedom in the picture. Therefore, mobile payment is the hand, I am the freedom. I need the hand to be able to be free." (F)

The first image I have searched for is this lock. Its meaning for me is safety. Besides speed, this is just the greatest advantage of mobile payment. Even though with the payment card you can also pay with this chip relatively quickly, it is restricted to a fixed amount to be able to pay without a password or signature. It's only small amounts with the payment cards, but there's still a bit of the security aspect that I'm missing. And with mobile payment, it's always that when I use Apple Pay I unlock a payment with the fingerprint or depending on how you have with you the face ID. That's why I have to say that the security aspect is much higher than with the card and small amounts being paid without a password. (E)
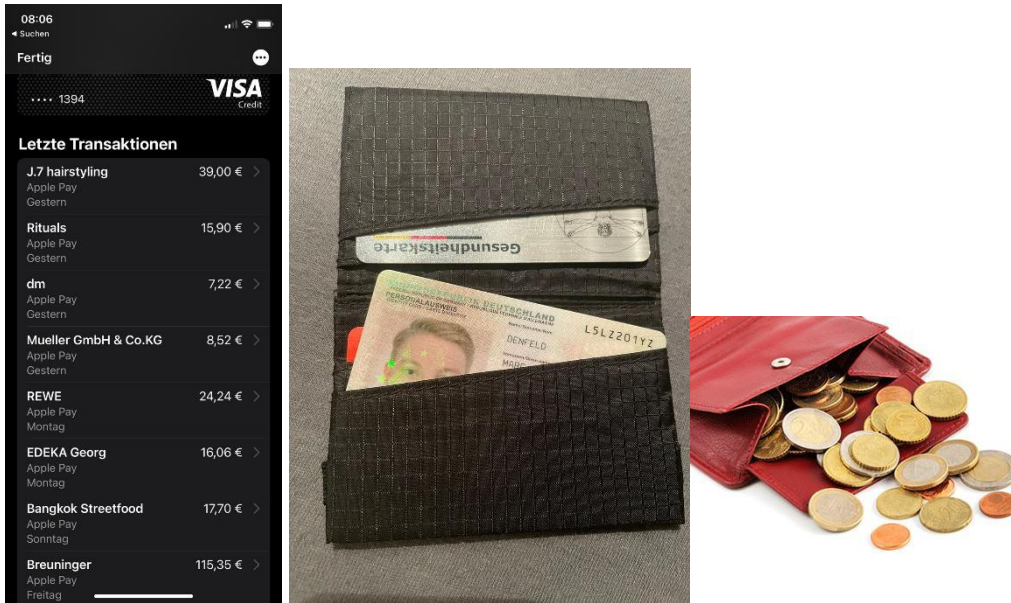
"Because it is easily looked over, well arranged, clear. That's why I have these pictures. So, when I spend cash, I have a completely different overview. Yes, that's also a way to determine what I spend in a month. When using cash, you have to write down on your phone what you've spent. Before using mobile payment, I wrote down every purchase on my phone and also forgot purchases. You always have to get a receipt right away, which I also forgot to do at times, and then I did not get the exact result. If you pay with mobile payment, then you just look in your app, pay the exact amount and so I could switch to a small and thin wallet. Every expense on the dot. That was actually the biggest reason I set that up. To get a better overview." (D)

Appendix 3: Example of the mental map resulting from one ZMET interview
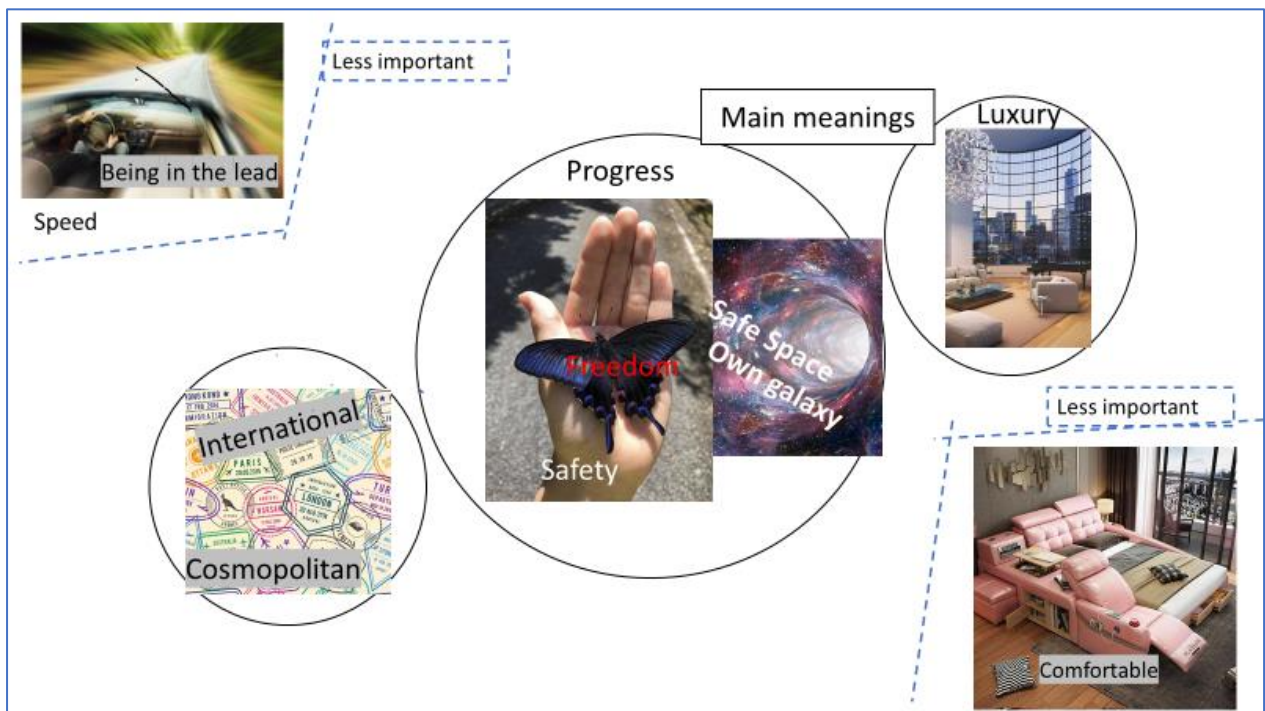
Appendix 4: Example of supermarket recommending to pay contactless

Appendix 5: Documentation of in-vivo coding process in Atlas.ti