

Mobile Payment Report 2017

What customers really want

This report analyzes customer acceptance of mobile payment in Germany. It explores success factors that can help achieve a breakthrough and mass market acceptance.



Mobile Payment Report 2017

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The report is based on a Master's Thesis authored by Dagmar Schadbach and submitted to Prof. Dr. Jürgen Moormann, Frankfurt School of Finance & Management, in February 2017.

Introduction

Smartphones have become an indispensable and virtually irreplaceable part of many people's increasingly digital lifestyles. In fact, most of us cannot imagine living without their smartphone as their daily companion, organizer, communicator and entertainer any more. Just as they disrupted photography and displaced private film and photo cameras, they have a disruptive potential of displacing people's wallets so that they no longer need to carry cash nor a multitude of different cards in their pockets. This is the theory. The reality looks different: In view of many smartphone owners' almost 'permanent' use of their device, it seems rather surprising that smartphones are not yet widely used for payments in Germany. Instead, Germans still prefer cash over any other payment method and even today, mobile payment is eking out a niche existence – in contrast to other European countries.

The present report aims to analyze what really matters to customers with regard to mobile payment. It seeks to explore factors that are highly relevant for mobile payment adoption in Germany, a country with a highly fragmented mobile payment market and a great variety of providers.

In this report, mobile payment is defined as a payment for goods or services with a smartphone and without cash. Mobile payment can occur in the following situations:

- At a stationary point of sale (POS), such as shops, gas stations or drug stores;
- At a (vending or ticketing) machine;
- On a mobile website;
- In a smartphone app with an integrated payment function.

A special case of payment with a smartphone is the transfer of money between people, also called person-to-person (P2P) payments.

The report is based on a representative survey of over 1,000 consumers in Germany done by market research institute Kantar EMNID in Q4 2016 and Q1 2017.

We believe that the future looks promising for mobile payment acceptance in Germany and that mass market acceptance will come as an evolution – not revolution.

Please reach out to us for a discussion about the results of this report.

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A Executive summary

High potential for mobile payment in Germany?

The results of our comprehensive mobile payment report reveal that mobile payment has potential in Germany: Over half of all respondents already use or intend to use mobile payment (55%). At the same time, the majority of the survey participants also confirm that they are satisfied with the existing payment methods and need no mobile payment. These opinions point at the strong competition in the market for payment solutions, with cash still being the preferred payment method and a multitude of other payment options. In fact, Germany has a very fragmented mobile payment market that has seen many initiatives coming and going. Several technologies required for mobile payment are available for use, but no standard has been established. Such fragmentation only leaves consumers confused and unwilling to change their payment behavior to adopt mobile payment.

Market infrastructure: customers want standards

Standards are what customers want: over half of the survey respondents think that there should be a nationwide solution for mobile payment in Germany similar to girocards and credit cards, and that the involved providers of mobile payment should collaborate more and develop a joint solution for mobile payment.

Mobile commerce and in-app payments can become a catalyst for customer acceptance of mobile payment

If mobile payment is part of an attractive product or service offering, customers will increasingly use it. Over 40% of respondents agree that mobile payment is useful if it is embedded in an app offering products or services, the so-called “in-app payment”.

Incentives and other additional services can help increase the use of mobile payment

Over 40% of respondents think that various additional services like incentives or invoice services should be offered so that they would use mobile payment (more often).

Attractive product or service offering, superior user experience and a seamless customer journey are key success factors

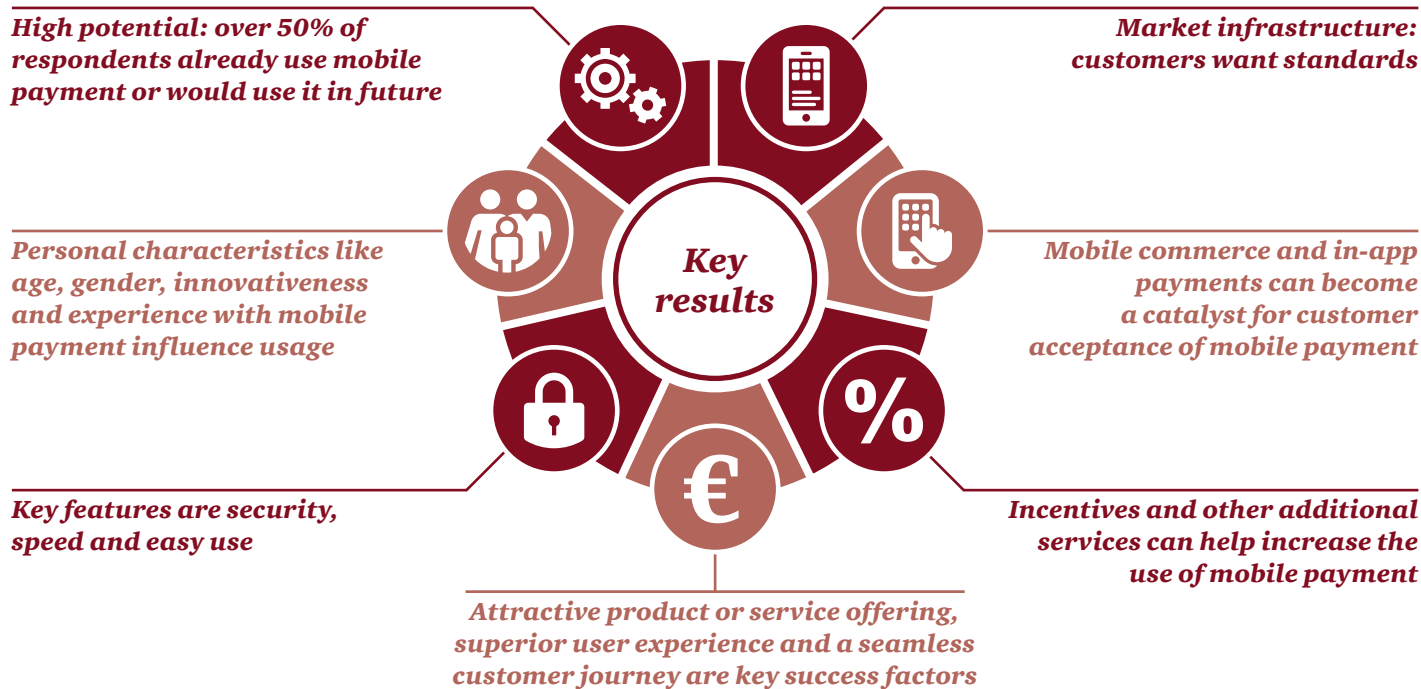
As the market maturity regarding in-app payments or additional services is still relatively low in Germany, mobile payment is not yet widely used. However, mobile commerce, which embeds payments in mobile apps or websites, has the potential to increase. Consequently, if the value proposition, the user experience and the related customer journey met or exceeded consumers' demand, the acceptance of mobile payment is likely to be much higher.

Key features are security, speed and easy use

Security and data protection rank among the top three criteria for 79% of respondents to increase mobile payment acceptance. Easy and fast use also ranks among the top three criteria for 57% of all respondents to make mobile payment attractive: A mobile payment service that is speedy and easy to use without unnecessary obstacles, with short registration and payment processes, is indispensable to increase customers' mobile payment adoption.

Personal characteristics like age, gender, innovativeness and experience with mobile payment can increase usage

It is especially the respondents' innovativeness – their openness towards new technologies – and experience with mobile payment that were found to be important factors supporting mobile payment adoption, besides gender and age.

Fig. 1 Mobile payment trends

Our report highlights a number of specific measures that can be deducted from the results. They affect areas which mean investments on the supply side of the market, be it the point of sale or the web infrastructure, product or service development. Yet the higher the perceived value for the customer, the more these investments will pay off and the more likely mobile payment acceptance will occur.

B The potential for mobile payment in Germany

There is significant potential for mobile payment in Germany: A total of 13% of respondents state that they already use mobile payment (“users”), compared with 42% of respondents who state that they do not yet pay with their smartphone but would like to do so in future (“potential users”). Consequently over half of respondents already use or would use mobile payment in future. A total of 44% of those surveyed said they did not use mobile payment and would not do so in future (“non-users”). Figure 2 shows their distribution across age groups.

Fig. 2 High potential for mobile payment: Over half of respondents are users or potential users

Do you already pay with your smartphone?
n = 1,015 (all respondents)

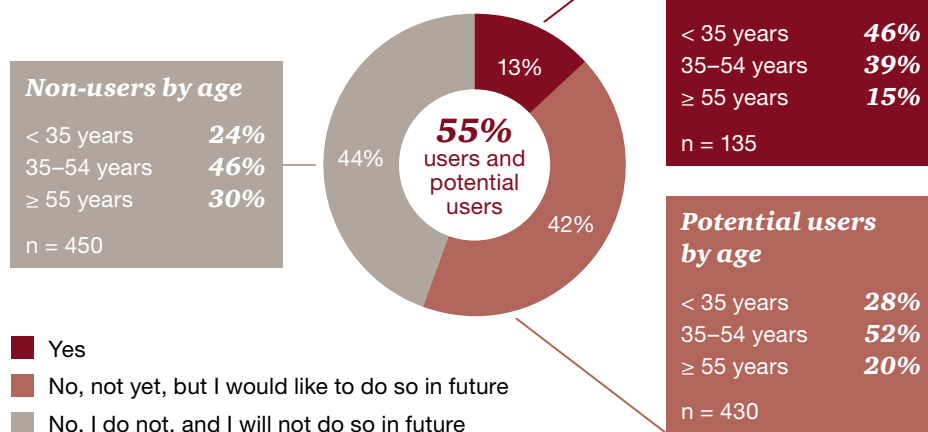
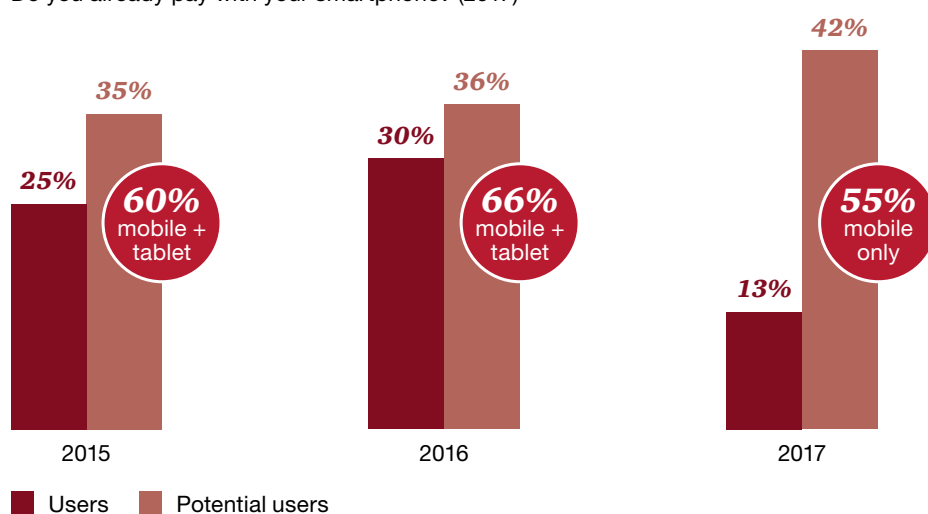


Figure 3 shows the development of the mobile payment potential since 2015 when we published our first mobile payment survey. In 2017 we excluded mobile payment via tablets to focus on payments with smartphones. With 55% smartphone users and potential users, the market potential for mobile payment continues to be very high.

Fig. 3 Mobile payment potential since 2015

Do you already pay with your smartphone/tablet? (2015/2016)
Do you already pay with your smartphone? (2017)



Payment preferences: Cash is king – but innovations are catching up

The respondents were asked about their payment preferences in two ways:

a. their current top three preferred payment methods (“reality”), and

b. their top three preferred payment methods if they were given all technological possibilities of paying at any time (“wish”), as Figure 4 shows.

Fig. 4 Cash is the preferred payment method, but innovations are on the rise

How do you currently prefer to pay? Please prioritize your preferences.

If you were given all technological possibilities of paying at any time, which three payment methods would you prefer?

n = 1,015 (all respondents)

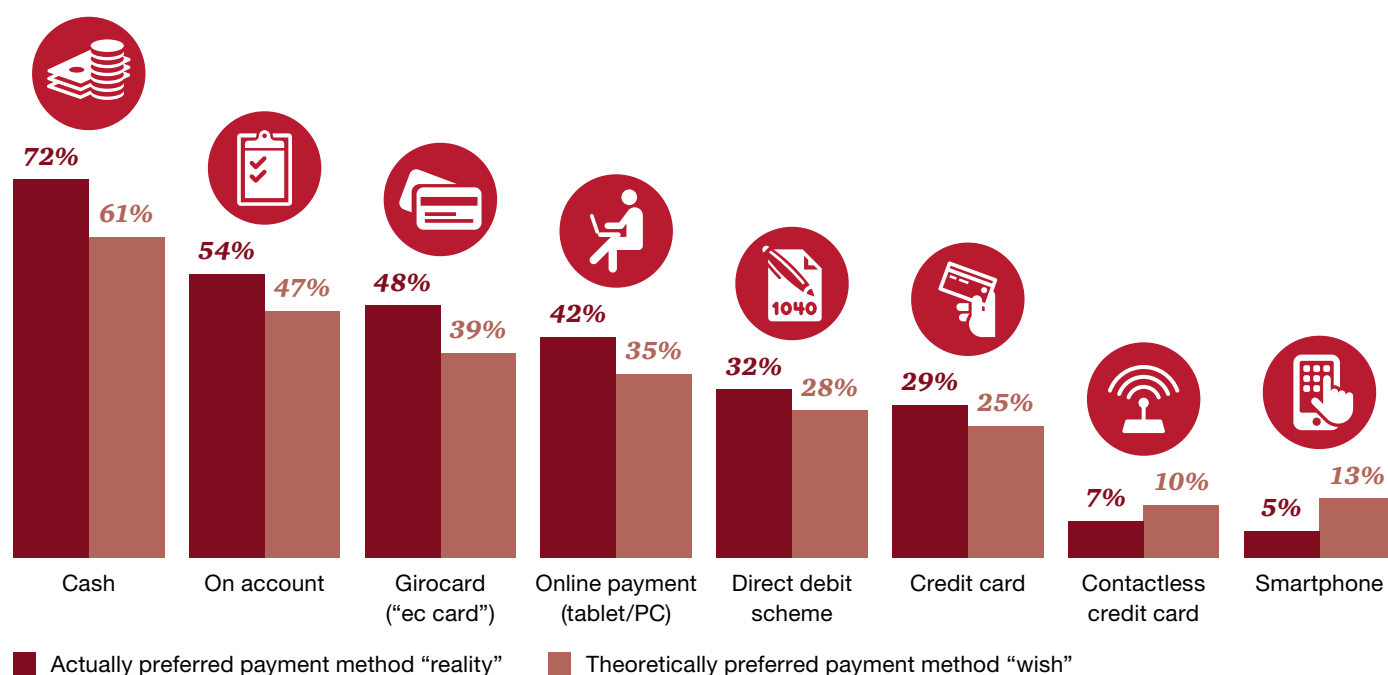


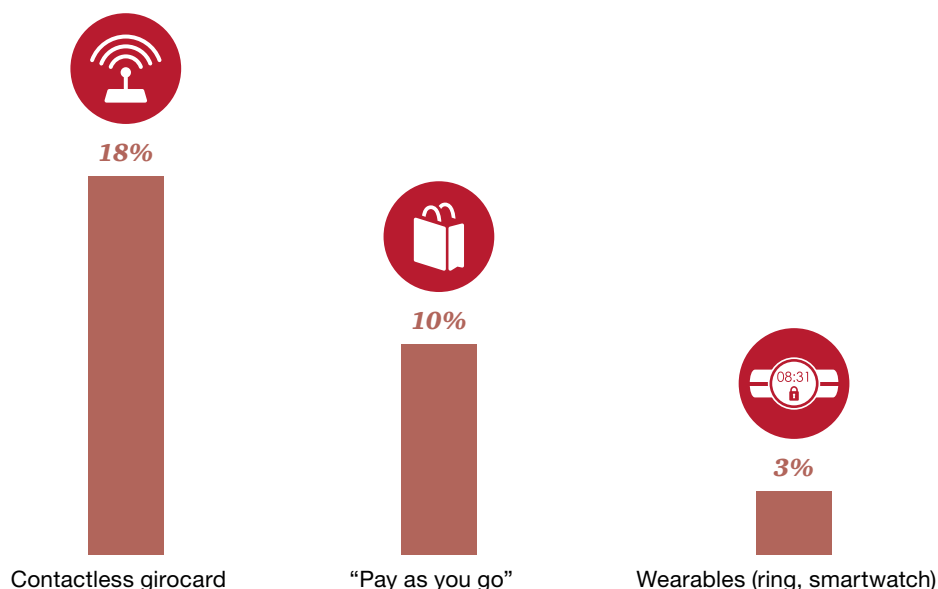
Figure 4 shows that the respondents in Germany prefer cash over any other payment method, which was expected. But the data also shows that the respondents are also interested in innovative payment methods and that

mobile payment, contactless girocards and solutions like “pay as you go” would be used more frequently if all technological possibilities were given anytime (see Figure 5).

Fig. 5 Innovative payment methods

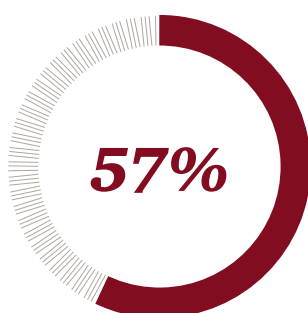
If you were given all technological possibilities of paying at any time, which three payment methods would you prefer? Please prioritize your preferences.

n = 1,015 (all respondents)



The demand for and value of mobile payment: Customers do not need mobile payment

The respondents were asked to evaluate their need for mobile payment. As a result, 57% of them agree with the statement "I am satisfied with the existing payment methods and need no mobile payment". In fact, 44% of the mobile payment users agree, as do 42% of the potential users and 76% of the non-users.



of all respondents are satisfied with the existing payment methods and need no mobile payment.

The survey participants were also asked to assess the value of mobile payment as follows: "Compared with other payment methods, I do not see any added value in mobile payment". As a result, 46% of them agree to the statement, 22% of them disagree. 43% of the users agree, compared with 27% of the potential users and 64% of the non-users.

Our report will explore the factors that may cause the respondents to agree to this statement and also shed light on what may prevent them from doing so in future.

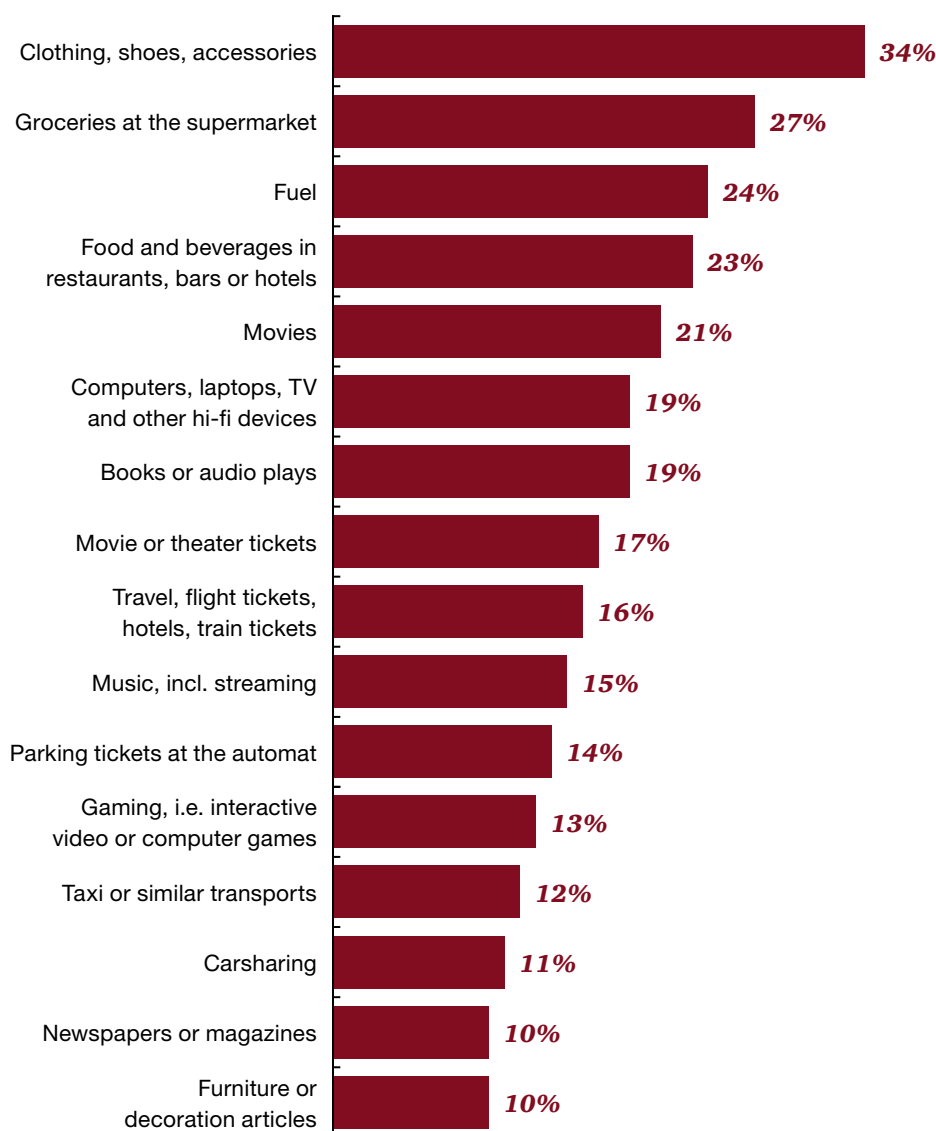
Product preferences: Mobile payment is used most often to buy clothes, groceries and fuel

The users of mobile payment were asked which types of products or services they preferred to buy with their smartphone, with clothes, shoes and accessories preferred by most respondents, followed by food and fuel, as Figure 6 shows.

Fig. 6 Mobile payment is mostly used to buy clothes, food and fuel

Which products or services do you pay with your smartphone?

n = 135 (mobile payment users)



The high potential for mobile payment in Germany underlines the interest that consumers have in this innovative payment method. It also demonstrates that a breakthrough may still be possible from the customer perspective. Simultaneously, the majority of the survey participants also confirm that they are satisfied with the existing payment

methods and need no mobile payment, and 46% of them do not see any benefit in mobile payment compared with other payment methods. These opinions point at the strong competition in the market for payment solutions, with cash still being the preferred payment method and a multitude of other payment options. Moreover, this contradiction reflects

the current market situation for mobile payment in Germany, as the analysis of the mobile payment ecosystem below shows: There are offerings, but no standards in place; consumers are interested in mobile payment, but do not use it as much as would be necessary for a real breakthrough and mass market adoption.

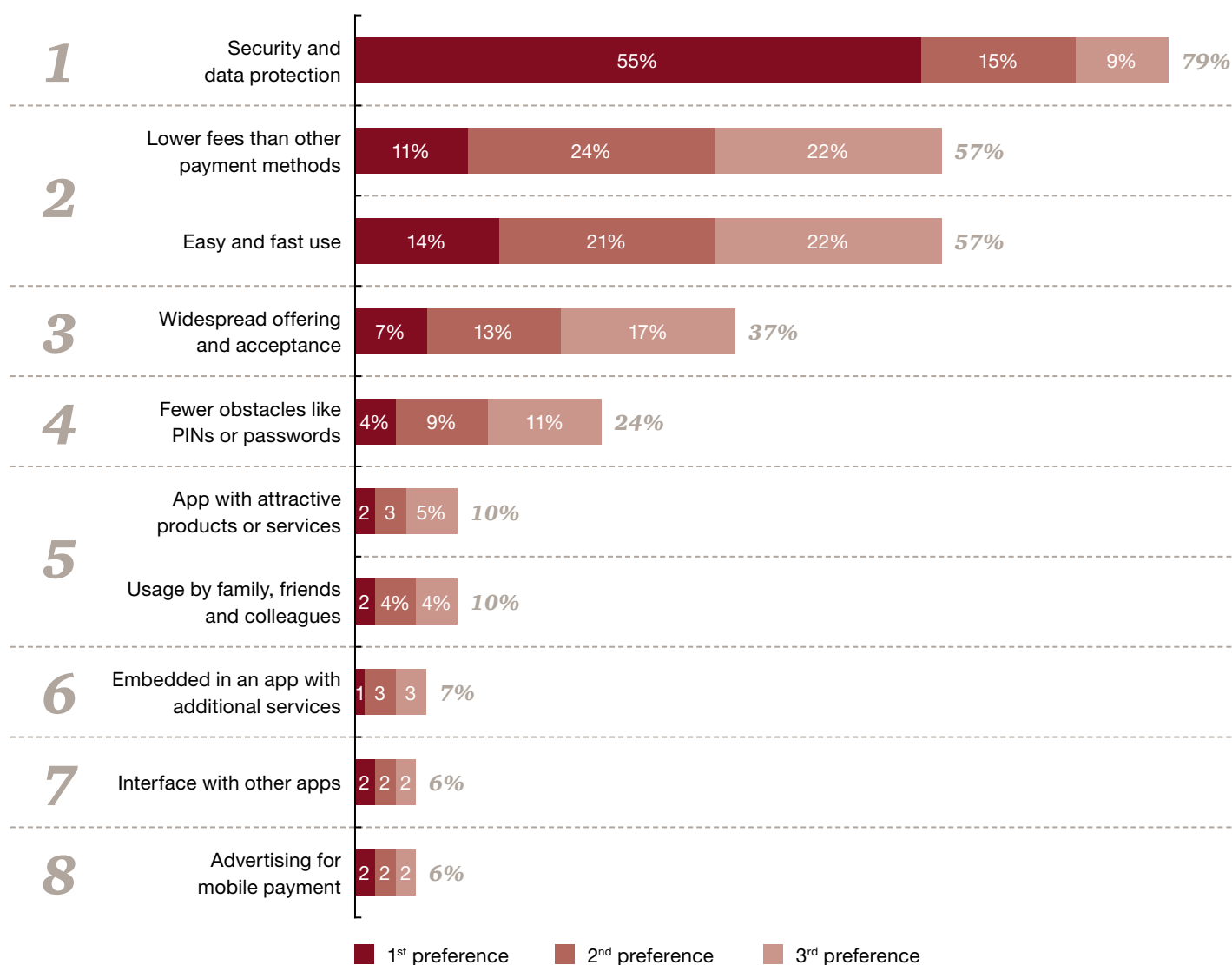


C Success factors for increasing mobile payment acceptance in Germany

Respondents were asked to rank the criteria for making mobile payment a success in Germany by naming the top three factors. The results are shown in Figure 7.

Fig. 7 Success factors to make mobile payment attractive

Which are the most important factors for you in order to make mobile payment attractive?
n = 1,015 (all respondents)



D Mobile payment ecosystem

Market development

Since the launch of the first mobile payment service in 2000, the market has seen many new entrants coming and going, which is a sign of market consolidation. Reasons for terminating the payment services include strong competition and a lack of growth on the customer side. An analysis of the failed mobile payment procedures shows that all of them offered apps or wallets that focused mostly or solely on mobile payment.

On the other hand, the market has also seen the launch of innovative solutions. The payment services launched more recently distinguish themselves from earlier mobile payment apps and offerings in that the payment function is embedded in a comprehensive service offering that is not focused on the payment itself, but on mobility services, financial services or customer loyalty, for example.

Market participants

The participants on the mobile payment market can be grouped as follows:

a) Providers

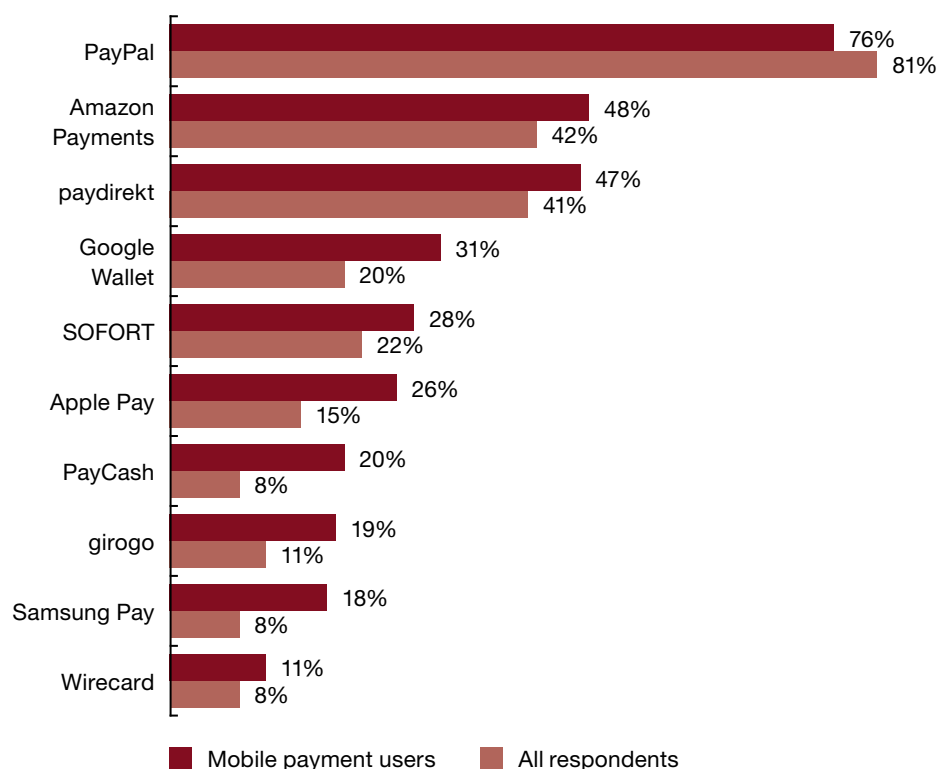
On the provider side, there are:

- mobile network operators
- smartphone manufacturers
- credit card organizations
- banks
- online payment providers
- specialised payment providers
- internet companies
- manufacturers of POS terminals and
- basically any company offering products or services via mobile commerce and embedded payment.

Figure 8 shows the respondents' awareness of some of the mobile and online payment providers.

Fig. 8 Awareness of mobile and online payment providers

Which of the following payment providers do you know, and even if it is only the name?
n = 1,015 (all respondents); n = 135 (mobile payment users)



b) Merchants

Merchants can offer the technology as key enablers of mobile payment. However, this technology offering is also fragmented as different merchants often accept different mobile payment methods and technologies. This stands in marked contrast to the wide and standardized acceptance of girocards and credit cards. Girocards, for example, are issued by all banks for use at the 800,000 POS terminals in Germany.

Merchant acceptance of mobile payment also manifests itself in the number of payment terminals at the POS and their performance. Near-field communication (NFC) is a key technology for mobile

payment. Approximately 80,000 terminals were NFC ready at the end of 2015, which corresponds to about 10% of all terminals in Germany. The number of NFC-ready cashiers is growing¹. However, for mass adoption of mobile payment, 10% is too little. To further increase NFC penetration, merchants that accept certain credit cards are required to have terminals using NFC technology by 2020. This requirement can help promote mobile payment usage in Germany, but NFC is no standard for in-store payments. Other technologies available for consumers include, for example, QR codes, Infrared (IR) or Bluetooth Low Energy (BLE).

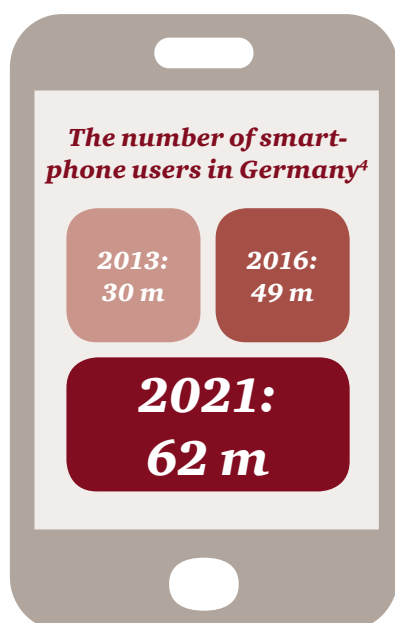
¹ Cf. Bitkom (2016): Bezahlen mit dem Smartphone funktioniert, aber kaum jemand weiß wie.

c) Customers

Customers in Germany prefer cash over any other payment method at the POS, as was shown above. According to the latest data by EHI Retail Institute, German customers preferred to pay most of their purchases (78%) in cash last year. Cash payments amounted to approximately half of total retail revenues (51%) in 2016, compared with 62% in 2015 and over 80% ten years ago². In Sweden, by comparison, only approximately 20% of all payments in shops were made with cash³.

The following data gives an overview of changing consumer trends in Germany which can potentially favor the development of mobile payment:

- The number of smartphone users in Germany increased from 30 million in 2013 to 49 million in 2016 and is forecast to increase further to 62 million by 2021⁴.
- The potential of mobile commerce and the increasing turnover with mobile applications (apps) in Germany can be seen as an important driver of mobile payment. 2015 was the first year when turnover with mobile apps in Germany was expected to be in excess of one billion euros (see also page 21).



Customers want standards

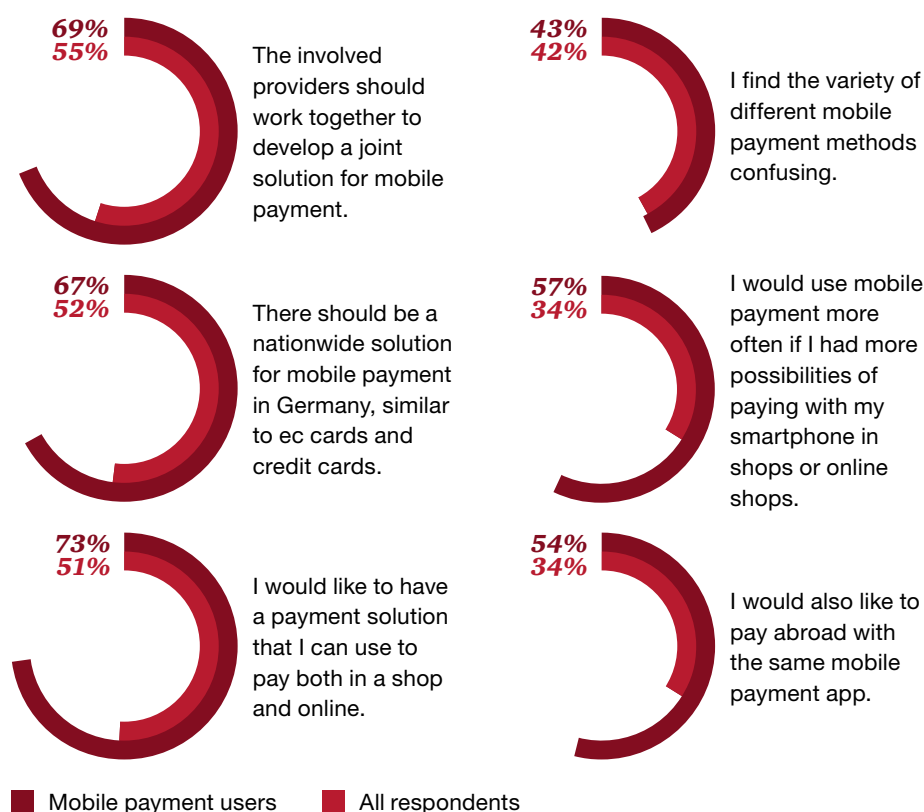
The widespread offering and acceptance of mobile payment as shown in Figure 7 on page 12 refer to the market infrastructure for mobile payment, especially in stores at the POS. The market infrastructure is particularly important for 43% of the potential users (compared with 29% of the users and 33% of the non-users).

Figure 9 gives an overview of the results regarding market infrastructure obtained from the survey.

Fig. 9 Most respondents demand a nationwide solution for mobile payment

Let us now look at the current possibilities of paying with a smartphone. Please evaluate the following statements.

n = 1,015 (all respondents); n = 135 (mobile payment users)



² Cf. EHI Retail Institute (2017): Kartenzahlung wächst, Bargeld bleibt.

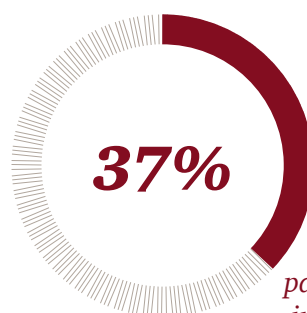
³ Cf. EHI Retail Institute (2016): Mehr Mut zu Mobile-Payment.

⁴ Cf. Sveriges Riksbank (2016): IT-friendly Swedes like to pay digitally.

⁵ Cf. Statista (2016): Number of smartphone users in Germany from 2013 to 2021 (in millions).

The results suggest that, from the customers' perspective, the market fragmentation is a major impediment to customers' mobile payment acceptance in Germany. The design of the market infrastructure lies primarily in the providers' hands, and the customers ask them to collaborate more and develop a nationwide solution for mobile payment. It is worth noting that fewer respondents agree to the statement "I would use mobile payment (more often) if I had more possibilities of paying with my smartphone in shops or online shops". This implies that it is not so much a matter of giving them more opportunities to pay, such as more NFC terminals. Rather, the respondents are dissatisfied with the existing offering, i.e. the rich variety of different mobile payment solutions and the fragmented market. In particular, they want standards and not just the technology that enables the use of (too) many different mobile payment solutions.

Such collaboration is hard if not impossible to achieve due to the rich variety of different market participants, ranging from mobile network operators (MNOs), smartphone manufacturers, credit card organizations, banks, online payment providers, specialized payment providers, internet companies and various companies offering products or services backed by mobile payment.



of respondents consider the widespread offering and acceptance of mobile payment to be one of the most important criteria for mobile payment acceptance.

The customers also want a seamless mobile payment offering, as their high level of agreement to a payment solution that they can use "to pay both in a shop and online" shows. A seamless offering points to the desire for an integrated customer journey that includes a shopping experience with embedded mobile payment across the online and more traditional (in-store) channels. The respondents' request also calls for a simplification of the customer journey and to one and the same mobile payment method in shops and online. It will be further discussed as part of the integrated service offering below.

To sum up, the mobile payment market in Germany is characterized by a high degree of fragmentation and little collaboration among the vast number of different participants, both within the provider and merchant groups, and across these groups. Apart from a few exceptions, providers have started their own initiative with different technologies, but no single standard so far. Researchers confirm that a breakthrough requires standards⁵. If there is no real standard or a proper infrastructure in place, mobile payment is not likely to achieve widespread customer acceptance in Germany and will remain a niche offering. It represents

no real alternative to competing payment methods like cash or girocards that offer a high degree of convenience for consumers and are standardized through widespread merchant acceptance.



The present rich variety of different mobile payment apps and services in Germany is likely to confuse the customer, which can be a major impediment to mobile payment adoption. Conversely, if the mobile payment infrastructure is designed in a way that it is attractive for customers to use mobile payment, they are more likely to use it.

⁵ Cf. Moormann, J. (2016): Mobile Payment – der Kampf um den Kundenkontakt, in: AnlegerLand 2016, p. 40.

E Key features of mobile payment

Speed, easy use and convenience

The speed of the mobile payment process refers to the benefits that using mobile payment has for consumers. If consumers do not see any advantages in using it compared with other alternatives, they are likely to reject it. In contrast, if they perceive a greater advantage of mobile payment over other payment methods, they are likely to accept it. The speed and efficiency of the payment process would be such an advantage: If mobile payment is perceived as faster and more efficient than other payment methods, customers are likely to prefer it over other payment methods.

Likewise, easy use and convenience form part of the service offering for mobile payment. With regard to increasing mobile payment acceptance, the offering and process should be easy to understand and learn as well as simple to use. If this is not the case, customer acceptance will be difficult to achieve, especially compared with other payment methods that may be easier to understand and learn as well as more simple to use. The removal of perceived “obstacles” like PINs is considered one of the three most important factors by 24% of those surveyed.

Easy and fast use ranks among the top three criteria for 57% of all respondents to make mobile payment attractive.

A comparison of mobile payment with other payment methods which can be seen as strong competitors is indispensable to assess the customer's acceptance or rejection of mobile payment.

Two thirds of the mobile payment users and over 46% of all respondents think that mobile payment is faster, easier to use and more convenient than other payment methods.

The figures show a very strong commitment by the respondents to these features of the mobile payment value proposition which can be seen as important determinants for customers in their decision to use or reject mobile payment.

Nevertheless, the low adoption rate in Germany indicates that these factors alone do not make people change their

payment habits, nor do they help increase the adoption of the payment method. Consequently, these features of mobile payment can be seen as *sine qua-non*, as indispensable prerequisites, without which people would not even consider mobile payment. However, they cannot be regarded as the main drivers of mobile payment adoption.



Security

The security of mobile payment technology is of high importance to customers. In fact, it is by far the number one criterion named by 55% of all respondents. As IT security and data protection are generally very important for Germans, this is also reflected in the answers given by the survey participants regarding mobile payment shown in Figure 10.

Mobile payment users:

67%

*“Mobile payment is
- faster
- easier to use
- more convenient
because I need no purse any more.”*

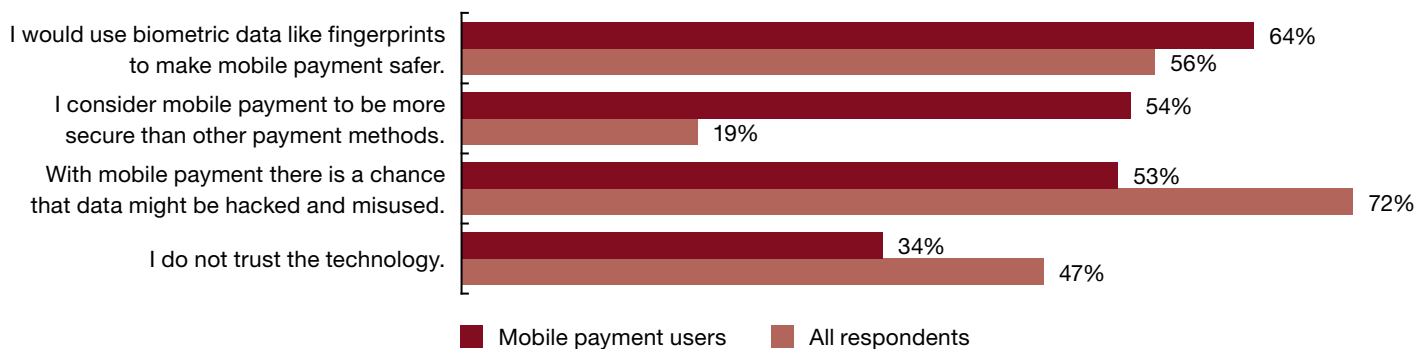
55%

*of all respondents consider
security and data protection
to be their number one
criterion to make mobile
payment more attractive.*

Fig. 10 Users are less concerned about security

How do you evaluate the security concerning mobile payment?

n = 1,015 (all respondents); n = 135 (mobile payment users)



Almost three quarters of all respondents (72%) agree that with mobile payment there is a chance that data might be hacked and misused. Almost half of respondents do not trust the technology. When asked whether they would use biometric data (fingerprints, voice, face recognition or iris scans) to make mobile payment safer, 56% of all respondents agree. As Figure 10 shows, those who have experience with mobile payment, the users, are much less concerned about its security than the whole group of respondents that also includes non-users and potential users.

As a complimentary item to investigate security, the respondents were asked to assess their trust in the providers of mobile payment, such as banks, online payment providers and credit card organizations. The majority of all respondents (56%) named banks and savings banks to be the most trusted providers. Figure 11 shows the results for all respondents and the users of mobile payment.

Fig. 11 Banks are the most trusted providers of mobile payment

Which of the following providers do you trust?

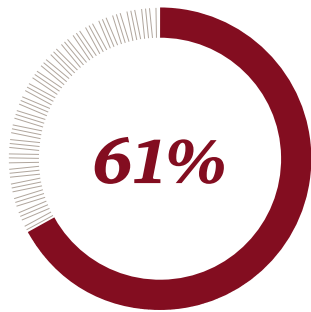
n = 1,015 (all respondents); n = 135 (mobile payment users)



The survey results suggest that strong subjective security concerns can be regarded as a major impediment to mobile payment acceptance. On the one hand, the importance of subjective security is an indispensable prerequisite for mobile payment adoption in Germany. This can help to partly explain the low adoption of mobile payment in Germany: Most people simply do not think it is safe – even though it may actually be safe with regard to the technology. On the other hand, a mobile payment offering that is (objectively) proven to be secure and even (subjectively) recognized by the users to be secure is unlikely to increase mobile payment acceptance by itself: Just like speed, easy use and convenience, the mere existence of (objective and subjective) security is a “hygiene factor” but no real driver of mobile payment.



F Comprehensive mobile payment offering



of mobile payment users consider mobile payment to be useful if it is embedded in an app offering products or services

Besides key features like speed, easy use and security, the mobile payment offering also describes the nature of the mobile payment services offered to and available for consumers. It relates to the way mobile payment is embedded within the purchase process and entire customer journey.

Mobile payment in isolation is not necessarily what the customer wants, as has been noted above. Instead, mobile payment initiatives launched more recently in Germany and other countries suggest that mobile payment should become part of a comprehensive service offering that puts the customer's needs at the center to generate superior value for customers and create a truly innovative customer experience. Mobile payment can be integrated with other products or services in two ways:

- a. A mobile payment offering or smartphone application (app) can include additional services like a merchant's loyalty program, coupons or discounts.
- b. Mobile payment can also be embedded in a product or service offering on the internet or in an app, thereby being just one part of a comprehensive offering. In contrast to a., the payment or loyalty function is not the focus here, but rather the respective product or service is.

The potential of mobile commerce and the increasing turnover with mobile apps in Germany can be seen as important drivers of mobile payment. Therefore, apps integrating mobile payment, which are also described as "in-app payment", are likely to be a further leverage for mobile payment acceptance. In this way, mobile payment

becomes but one small part of a comprehensive customer journey. If the customers' needs regarding a particular product or service are fulfilled, mobile payment as part of a seamless and valuable customer journey has a very good chance of being used by customers.

Incentives and other additional services can help increase the use of mobile payment

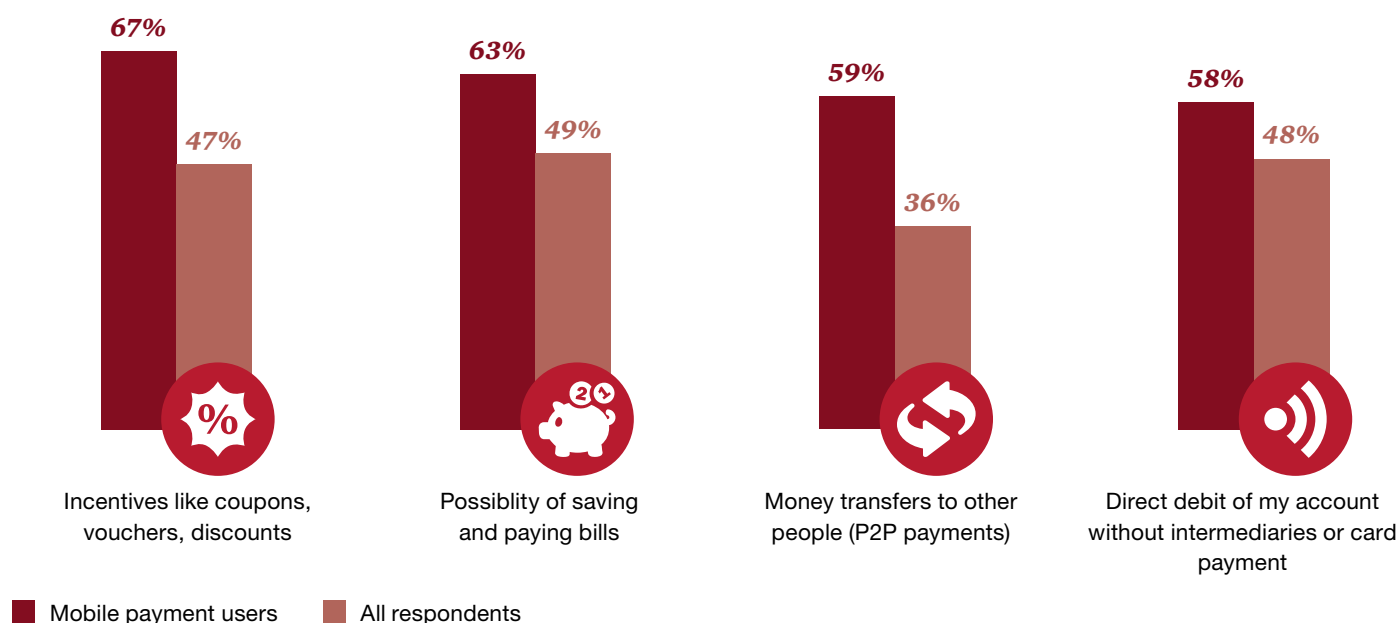
In the market situation analysis described in Chapter D on page 13, it was noted that a number of mobile payment apps or wallets that focused mostly or solely on mobile payment failed to succeed in Germany. When asked to give an evaluation of the statement "I do not need one or even several pure payment apps", over half of the respondents (54%) agreed. Half of the mobile payment users also agreed, compared with 39% of potential users and 70% of non-users.

As Figure 7 on page 12 has shown, a mobile payment solution that is embedded in an app with additional services only ranks among the top three criteria for 7% of the respondents. However, with the exception of one item, over 40% of the respondents agree that various additional services should be offered so that they would use mobile payment (more often), as Figure 12 shows.

Fig. 12 Customers want additional services

In your opinion, what else should be offered so that you would use mobile payment (more often)?

n = 1,015 (all respondents); n = 135 (mobile payment users)



Almost half of respondents (47%) want to be offered incentives like coupons, vouchers, discounts, digital bonus cards and special offers, and even two thirds of the mobile payment users. Just under half of the respondents (49%) would use mobile payment (more often) if they were given the possibility of saving and paying bills as well. Money transfers between people, the person-to-person (P2P) payments, are not much in demand to increase mobile payment usage: Only 36% of respondents agree – very much in contrast to the users, 59% of whom agree.

The results have also shown that users and potential users of mobile payment are interested in the possibility of saving and paying bills. The process of settling invoices can be perceived as being rather administrative and the respondents' feedback implies that it can be improved. Therefore, a feature that offers them an overview of their bills and the opportunity to automatically pay them with their smartphone would clearly meet their demand and help increase mobile payment acceptance.

As with invoices, the respondents agree to a direct debit of their account without intermediaries or card payments, which further underlines the request for a simplification of the payment

and money transfer processes. The new payment services directive, PSD2, allows for such direct access to accounts by third parties⁶. It will also stimulate the development of new business models and new banking services⁷.

What is striking is the fact that money transfers between people, the P2P payments, are not much in demand to increase mobile payment usage. Any mobile payment offering that starts by enabling customers to lend or transfer money to other people is not likely to succeed in Germany for the time being, unless it offers a wider spectrum of services, as indicated above.

⁶ Cf. European Commission (2015): Payment Services Directive: frequently asked questions, fact sheet, 8 October 2015.

⁷ Cf. Strategy& (2016): Catalyst or threat? The strategic implications of PSD2 for Europe's banks, p. 4.

The results suggest that mobile payment offerings that provide nothing but mobile payment (apps or wallets) are not what customers want. Instead, the results clearly imply that customers want to be offered additional services, such as incentives, or special functions like the possibility of saving and paying bills – services from which they gain an extra benefit and that positively strengthen their customer loyalty.

Only 7% of all respondents consider a mobile payment solution that is embedded in an app to be one of the top three criteria to make mobile payment more attractive. This may be explained by the fact that mobile payment apps

with additional services are not (yet) widespread in Germany and people are still relatively unfamiliar with such offerings, as the low number of mobile payment users in the survey suggests. On the other hand, the items used to ask the respondents for their opinion on various additional services shows that such an enriched mobile payment solution positively influences customer acceptance of mobile payment.

In fact, it is incentives like discounts, coupons or special offers that customers find attractive: They want to be offered added value. If mobile payment is able to offer such value, it can gain a clear advantage over other payment methods.

The customers' demand for superior value is also supported by the fact that the respondents want one solution to pay both in a shop and online, as the analysis of the market infrastructure above has shown. This seamless and at the same time simple mobile payment process points to a truly digitized customer journey integrating an innovative payment method. Consequently, a mobile payment offering that includes such incentives may well be able to tap the above-mentioned potential that mobile payment has to offer.



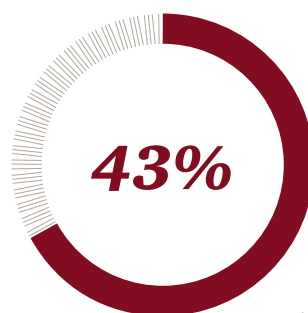
Mobile commerce and in-app payments can become a catalyst for customer acceptance of mobile payment

As Figure 7 on page 12 has shown, apps with attractive products or services rank among the top three criteria to make mobile payment attractive for only 10% of respondents. On the other hand, 36% of all respondents agree that without the combination with products or services they would not use mobile payment. 40% of the users agreed. The survey participants were asked to evaluate a number of statements regarding the potential benefits of mobile payment, as Figure 13 shows.

When asked whether apps that offer products that they need would increase their intention to use and their actual use of mobile payment, only 32% of all respondents agree, compared over half of the users of mobile payment (56%).

As with product apps, only 32% of respondents agree that service apps (e.g. for travels, transport or hotel bookings) should be offered so that they would use mobile payment more often. This again stands in contrast to over half of the users of mobile payment who agree to this offering.

A total of 40% of respondents consider a mobile banking app with account information, bank transfers and asset management functions like equity business to be helpful to increase their use of mobile payment, compared with 61% of the users.



of mobile payment users think that mobile payment should be as automatic as possible without the user noticing it.

42% of respondents agree that the combination of mobile payment with offerings like online order, payment and delivery service or online order and pick up would increase their use of mobile payment, compared with two thirds of the users.

Surprisingly, there is no clear signal from the respondents as to whether apps offering products or services that they need would help increase their usage of mobile payment. The data shows that those who have gained knowledge about mobile payment because they use it or would use it see the value of an integrated mobile payment service embedded in product or service apps.

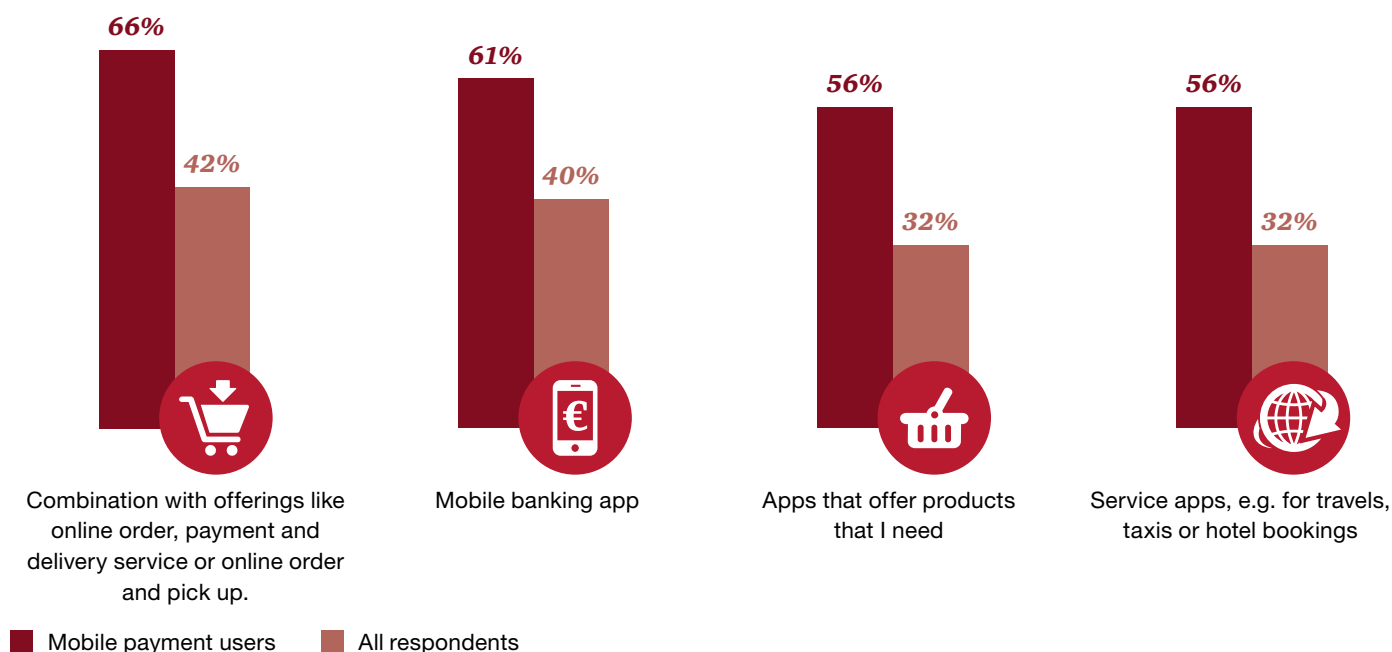
It always depends on the respective product or service offered and the value it provides in the eyes of the customers. Merely developing a product or service app with embedded mobile payment will not lead to success; instead, it is all about adding value in the eyes of the customers, as will be shown below. Therefore, the respondents' feedback suggests that no generalization regarding such apps is possible.

Product or service apps integrating mobile payment as part of m-commerce can still be regarded as relatively new in the market: 2015 was the first year when turnover with mobile apps in Germany was expected to be in excess of one billion euros, which is still low compared with e-commerce turnover in Germany estimated at approximately €44 billion in 2016⁸. The figures reveal that it is still early days for m-commerce and mobile payment, but they also indicate that there is vast potential for both. In fact, m-commerce has the chance to become a main driver of mobile payment in future: If smartphones are increasingly used for shopping in Germany as outlined above and if mobile apps gain in popularity, they are very likely to almost automatically further the use of mobile payment as well.



Fig. 13 Mobile payment should be embedded in product or service apps

In your opinion, what else should be offered so that you would use mobile payment (more often)?
n = 1,015 (all respondents); n = 135 (mobile payment users)



⁸ Cf. Statista (2015): Umsatz mit mobilen Apps in Deutschland in den Jahren 2009 bis 2014 sowie eine Prognose für 2015 (in Millionen Euro).

Against this background, it is worth noting that 40% of the survey respondents think that mobile banking apps with an integrated mobile payment function and account information, bank transfer and asset management functions can help increase mobile payment usage. Such an integrated offering is clearly perceived as adding value. What is more, the results have also shown that banks are the providers that the majority of respondents place trust in. Combining these results implies that banks can be regarded as preferred providers of mobile payment, thereby playing a key role in increasing mobile payment acceptance. Consequently, the importance that customers ascribe to banks stands in some contrast to the lack of mobile payment offerings by banks to date, with mobile payment not being implemented as a feature of most mobile banking apps so far.

There are developments on the supply side that are likely to further the mobile payment market development as well: In January 2017, the Federal Ministry of Transport and Digital Infrastructure in Germany published plans to replace paper tickets in local public transport with electronic chip cards or smartphone tickets by 2019, the latter to be provided by an app. There are other initiatives in the automotive and transportation industries that integrate mobile payment into a wider mobility service offering. Mobile payment can also support the development of e-mobility in Germany. In the US, there are examples of “pay-as-you-go” offerings in supermarkets that also integrate mobile payment. Such a seamless mobile experience is what customers want, as the survey results suggest.

Mobile customer journeys can be characterized by the following features that can turn the mobile customer journey into a positive and enjoyable customer experience:



- **Speed** – the products and services can be ordered and paid for by smartphone within seconds, without waiting time. Time savings can especially be seen as a major improvement for people’s increasingly busy lifestyles, and the reduction or elimination of (administrative) processes will be perceived as being a real benefit – whether it is time saved when ordering and paying a taxi, when ordering coffee or food with food delivery within a short period of time. It is the integrated payment function that makes this possible;



- **Location data** – if users activate the location data on their smartphone, the products or services offered in their surroundings can become visible, such as restaurants, coffee shops, rental cars or taxis, connecting both online and offline worlds, making the mobile offering and payment “seamless”;



- **Data storage** – payment records and invoices can be stored electronically, reducing paper waste and supporting environmental protection, in addition to automatic filing and structured overviews of payment information.

Consequently, the more superior a mobile customer journey is designed, the more popular the respective offering with embedded mobile payment is likely to be and the higher the customer acceptance.

G Targeting mobile payment users

Who is using or would use mobile payment in Germany? The following section outlines the target groups for mobile payment.

Age

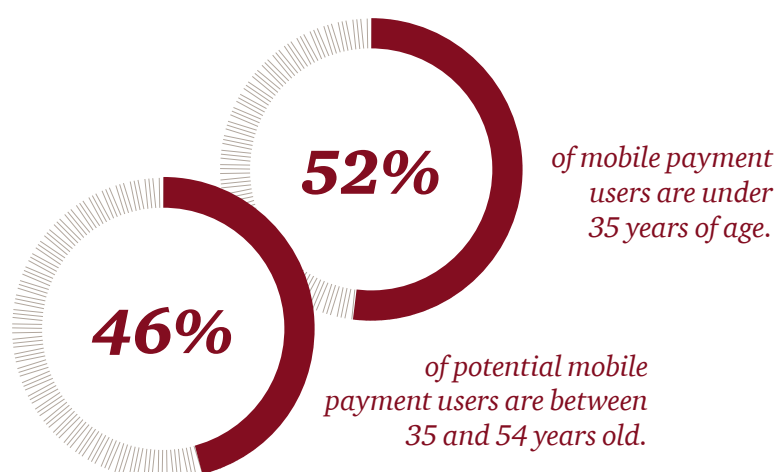
In their forecast for payment behavior in Germany, the Deutsche Bundesbank expects the value proportion of cash payments to fall below 50% in the medium term, arguing that the young generation with technological affinity and openness towards innovative payment methods could drive changes in payment behavior⁹.

As Figure 2 on page 8 has shown, the actual users of mobile payment are made up of 46% of young respondents aged under 35 years, the “early adopters”. The potential users are mostly comprised of those aged 35 to 54 years (52%). So any profiling of target groups should focus on the 35 to 54 year-olds: It is they who show the greatest interest in using mobile payment, many more than the other two groups. The majority of representatives from this age group also consider themselves to be open to new technologies, as our data shows. It can therefore be concluded that the group is an important driver of mobile payment acceptance in Germany.

The data obtained from the survey also reveals that the younger the respondents, the less concerned they are regarding the (negative) influence of the market infrastructure on mobile payment acceptance. Moreover, the younger the respondents, the higher the number of people in that age group who consider mobile payment to be faster, more efficient and easier to use and learn. A smaller proportion of respondents aged 55 and above, by contrast, consider mobile payment to be more efficient and easier to use and learn than other payment methods, which points at potential (subjective or objective) difficulties that elderly people have with such new technologies. Furthermore, many more respondents in the young age group than in the other two groups consider an integrated service offering for mobile payment to be conducive to mobile payment acceptance.

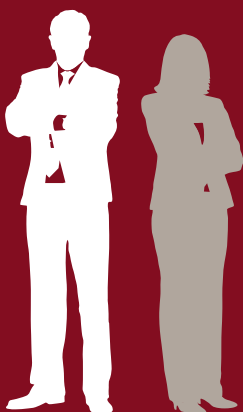
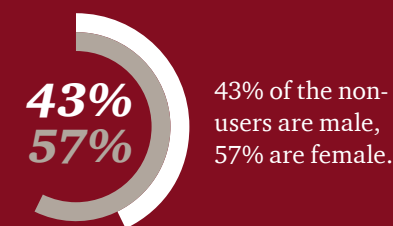
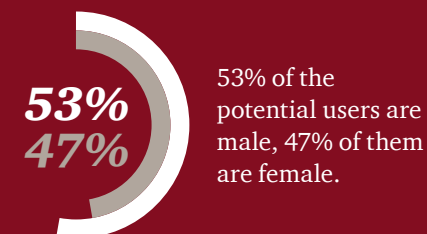
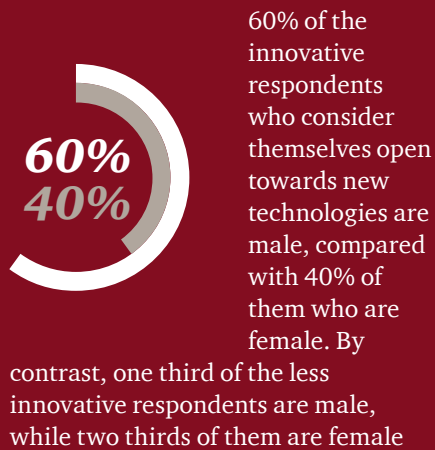
Gender

Across all items in the survey, the differences between the opinions of the male and the female respondents were less than 10 percentage points. However, the percentage of male respondents who agree to factors leading to higher mobile payment acceptance is higher across all items than the respective percentage of female respondents. The figures therefore show that a higher percentage of men is in favor of a proper market infrastructure for mobile payment and believes in the speed and efficiency of mobile payment as well as its ease of use. A higher percentage of men favors the advantages of an integrated service offering (additional services to mobile payment and embedded mobile payment in apps).



⁹ Cf. Deutsche Bundesbank (2015): Zahlungsverhalten in Deutschland 2014, Dritte Studie über die Verwendung von Bargeld und unbaren Zahlungsinstrumenten, p. 10.

A possible explanation is provided by the survey data as well:



These cross-references suggest that men have a higher affinity towards technological innovations like mobile payment and can therefore be seen as a slightly stronger driver of mobile payment than women.

Innovativeness

Personal innovativeness refers to a person's openness towards new technologies. It can be assumed that consumers that are open towards new technologies are also more compatible with mobile payment. The results show that the respondents' innovativeness is a factor that clearly influences the constructs used to study mobile payment acceptance. The differences between the more innovative and the less innovative respondents are very high, amounting to over 40 percentage points for most items. Therefore, the innovative or technologically open respondents consider the market infrastructure to be of high importance for mobile payment acceptance; they place great expectations on the speed, efficiency and easy use of mobile payment, and they are in favor of an integrated service offering.

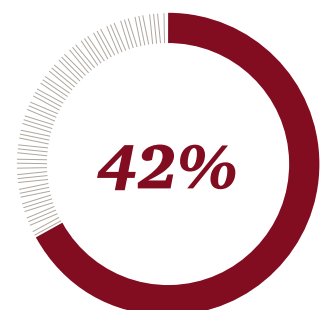
That the more innovative respondents are also in favor of innovative payment methods like mobile payment is therefore not surprising. Mobile payment as a relatively new technology fits in with the "tech-savvy" respondents' lifestyles and offers them opportunities to demonstrate their innovativeness as well as experimenting with the many facets that mobile payment has to offer – from in-store payments to in-app payments, offline and online.

Experience

If innovations can be tried out, they are likely to be adopted more quickly than those that cannot be tried out. With regard to mobile payment adoption, a distinction should therefore be made between users and potential users of mobile payment and non-users who have never tried it.

Three levels of experience with mobile payment were distinguished as a result of the survey: the users of mobile payment, the potential users and the non-users. The opinions of each of these groups were analyzed with regard to the factors potentially influencing mobile payment acceptance, and the differences between the users and potential users on the one hand and the non-users on the other hand became visible. While the differences between the users and potential users amounted to only seven percentage points on average regarding their agreement to the items, the differences to the non-users were much higher – on average between 36 and 39 percentage points when comparing the highest with the lowest differences between the three groups across all items.

It is not surprising that the non-users who do not use mobile payment now and do not plan to do so in future are much less in favor of a proper market infrastructure than the (potential) users. They also place much less confidence in the speed, efficiency and ease of use of mobile payment. They are also much more mistrustful with regard to the security of mobile payment than the (potential) users. An integrated service offering is also more appealing to the (potential) users than to the non-users.



of all respondents do not think of payment when buying products with their smartphone.

H Conclusion and recommendations

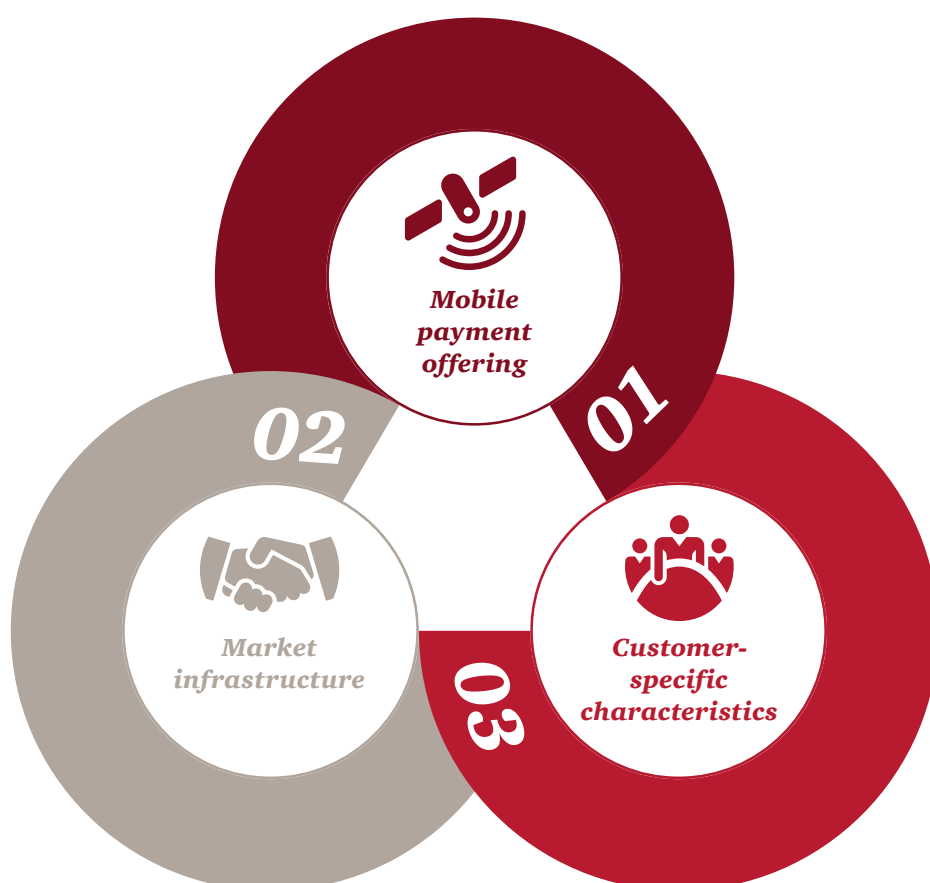
This report aims to contribute to a better understanding of what really matters to consumers with regard to mobile payment acceptance. The hurdles of mobile payment acceptance are high and the competition with other payment methods is tough. What is more, customers do not need mobile payment and see no added value in it. It goes without saying that in-depth knowledge of customer needs is essential for merchants, mobile payment providers and basically any consumer-oriented company to succeed in the market and create value. They need to develop a solution to a problem that the customer has, and this is where mobile payment gets the chance of being used. If there is no problem, acceptance is unlikely to occur.

The results obtained can be grouped according to three main areas that influence the acceptance or rejection of mobile payment by consumers:

01 Mobile payment offering: a focus on the customer journey and added value is indispensable

The basic and at the same time indispensable pre-requisites are data security, speed and easy use. Yet these factors alone do not guarantee success. They only help to distinguish mobile payment from other payment methods. What is more, providers and merchants offering mobile payment solutions should focus on additional services like discounts, special offers or bonuses as part of a comprehensive loyalty program. Many people still carry a great number of different customer cards, bonus or loyalty cards, e.g. from coffee

Fig. 14 Key aspects influencing mobile payment usage



shops, restaurants, clothing or furniture stores. An offer that manages to digitize and integrate all of these cards, as well as combining them with mobile payment, is likely to be perceived as adding value for the customers. The data that customers allow the providers to use, will prove invaluable for increasing the knowledge about their customers' preferences and further tailor their services to their customers' needs in order to add superior value.

Companies designing products or services for smartphone apps should focus on the value that their offer really delivers for their customers. Those that have not fully digitized the customer journey should think about how they can create a truly seamless online and in-store experience. Such offerings could include an integration of in-store and in-app purchases and payments with innovative solutions like mobile order, mobile payment and in-store pick-up (“mobile order and pick-up”), automatic payment upon ordering a product or service (“1-click order”) or when leaving a shop (“pay as you go”). Customers want to be positively surprised. The value they perceive should be clearly recognizable and even measurable, e.g. by helping them save time, making their life easier, taking away administrative burdens or by connecting people, products or services that had been unconnected before. The more attractive a product or service is for consumers and the higher the value it creates, the more likely they will buy it. Consequently, mobile payment which is seamlessly embedded in the entire mobile customer journey has very good chances of being accepted.

According to the survey data, the products or services that are currently most popular among the users of mobile payment are clothes, shoes, accessories, food and fuel, but also, to a lesser extent, entertainment of various kinds, travel and other mobility services. In this context, the importance of the “app economy” and mobile commerce as important drivers of mobile payment acceptance was underlined.



02 **Market infrastructure: Mobile payment providers should collaborate, not compete**

The existing market infrastructure can be regarded as a major impediment to mobile payment acceptance. It is advisable for the mobile payment providers and merchants to collaborate more for the customers' benefit, i.e. putting the customer first and not their particular business interests. Initiatives from other countries have shown that this is possible, for example, with banks working together to offer a single mobile payment solution. Merchants as key players in the market should also be involved. In addition, the establishment of a single technological standard from the various options for POS payments is desirable.

If the market provides a standardized solution for mobile payment, mobile payment acceptance is expected to increase. The current high fragmentation in the market, by contrast, leads to customer rejection.

The role of banks as potential key drivers of mobile payment was supported by the survey data. It is the banks whom the respondents place the most trust in. Combining the key acceptance factors of a market standard, security and service offering, it is the banks that would be predestined to design an attractive mobile payment offering to meet or exceed the customers' demands: they have sizable customer (and data) bases to reach the critical mass required for mass market adoption of mobile payment; they are also perceived as highly trustworthy, and mobile banking apps are what customers want in combination with mobile payment. In fact, banking apps with their multiple services have great potential with regard to the mobile customer journey. It is therefore advisable for banks to engage or stay engaged in mobile banking solutions with embedded payment functions, helping their customers to experience seamless online and offline banking.

03 Customer-specific characteristics: innovative 35 to 54 year-olds should be targeted

Especially innovativeness and experience with mobile payment were found to be important determinants supporting mobile payment adoption and, to a lesser extent, gender and age.

Regarding the right target group for increasing mobile payment acceptance, providers and merchants should focus on the 35 to 54 year-olds. They show the greatest interest in mobile payment, making up half of the potential users of mobile payment. They consider themselves to be very innovative and open towards new technologies. They are the ones that need to be motivated to actually start using mobile payment and to develop the same enthusiasm that the youngest age group has regarding mobile payment. This motivation can come from an attractive offering as described above.

The above recommendations imply that all necessary measures should be taken in order to increase mobile payment acceptance in the German market. The measures touch a number of areas which mean investments on the supply side of the market, be it the POS or web infrastructure, product or service development. Yet the higher the perceived value for the customer, the more these investments will pay off and the more likely mobile payment acceptance will occur.

Customer adoption of new technologies is a process which, in the case of mobile payment, is an evolution, not a revolution. With the increasing digitization of life, a breakthrough of mobile payment on the mass market seems possible, most likely driven by the app economy and mobile commerce, but also by new regulations regarding instant payments. This will still take a few years, however, given the complexity of the market and the fact that customers in Germany change their payment habits only slowly.



Methodology

The data used for the analysis was gained from an online survey of 1,015 smartphone owners in Germany aged between 18 and 64 years which was conducted in Q4 2016 and Q1 2017. Figures are rounded and may not add up to 100%. For most items answering the questions, a five-point Likert scale was used, ranging from “fully disagree” to “fully agree”. The answers given by the respondents for “fully agree” and “partly agree” were defined as “yes”/“agreement”; the answers given as “partly disagree” and “fully disagree” were defined as “no”/“disagreement”. The figures in the report only show the respondents’ level of agreement.

Fig. 15 Key facts

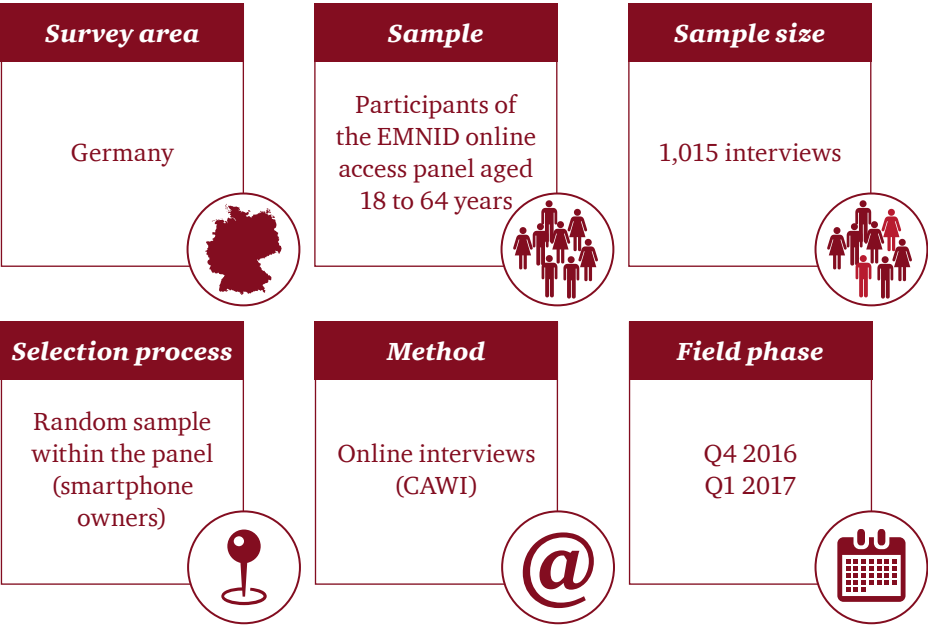
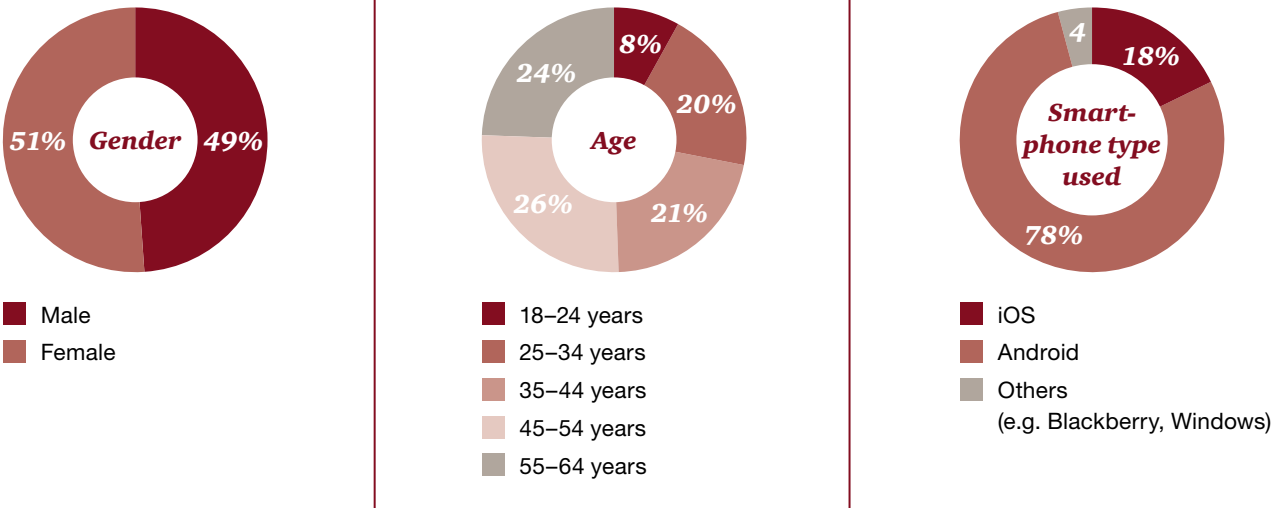


Fig. 16 Sample data



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