Mobile Services

New Use Cases for Mobile Payment and Guidelines for Implementing Them

Mobile services are defined as functions or "applications" (or "apps" for short) that can be consumed on mobile devices, such as smartphones, tablets or even wearables (computer technologies worn on the body). In contrast to stationary devices, such as the traditional desktop computer, you can be reached anytime and anywhere via mobile devices and are also constantly connected to the Internet.

In the area of banking, a distinction is usually drawn between online banking (browser based) and mobile banking (mobile apps – i.e. mobile services). Although the functions are similar, thanks to their technology, mobile services offer enhanced capabilities such as utilizing integrated hardware, a camera, location services (GPS) or connections with other apps. The fact that the device is available at all times creates new use cases relating to transparency, flexibility and constant access to information. Figuratively speaking, the user has their bank or payment means in their pants pocket or on their wrist.

Acceptance of Mobile Services and New Providers

The use and spread of mobile devices is proceeding steadily across all generations, as is the use and acceptance of mobile services. Having previously talked about "mobile first," today we are already talking about "mobile only." This means that younger generations prefer smartphones to a desktop PC or laptop. Generation Z (born between 1997 and 2012) uses hardly any desktop applications now, and for Generation Alpha (born after 2012), smartphones and tablets are seen as the dominant devices.

It is therefore not surprising that digital financial institutes are pushing into the financial market, creating new customer needs and increasing the acceptance of mobile-only solutions. Digital financial institutes, also known as disruptor banks or neobanks, are either mobile only (app-based banks without a physical presence) or financial institutes that, in addition to their main business, offer a separate mobile solution with a smaller range of functions that is based on the main bank's infrastructure. Given that the overheads associated with operating a digital business are lower, these financial institutes can offer lower fees, higher interest rates and other benefits such as cashback or rewards. The digital financial sector is creating customer needs, which will challenge the market share of traditional financial institutes in the long term.
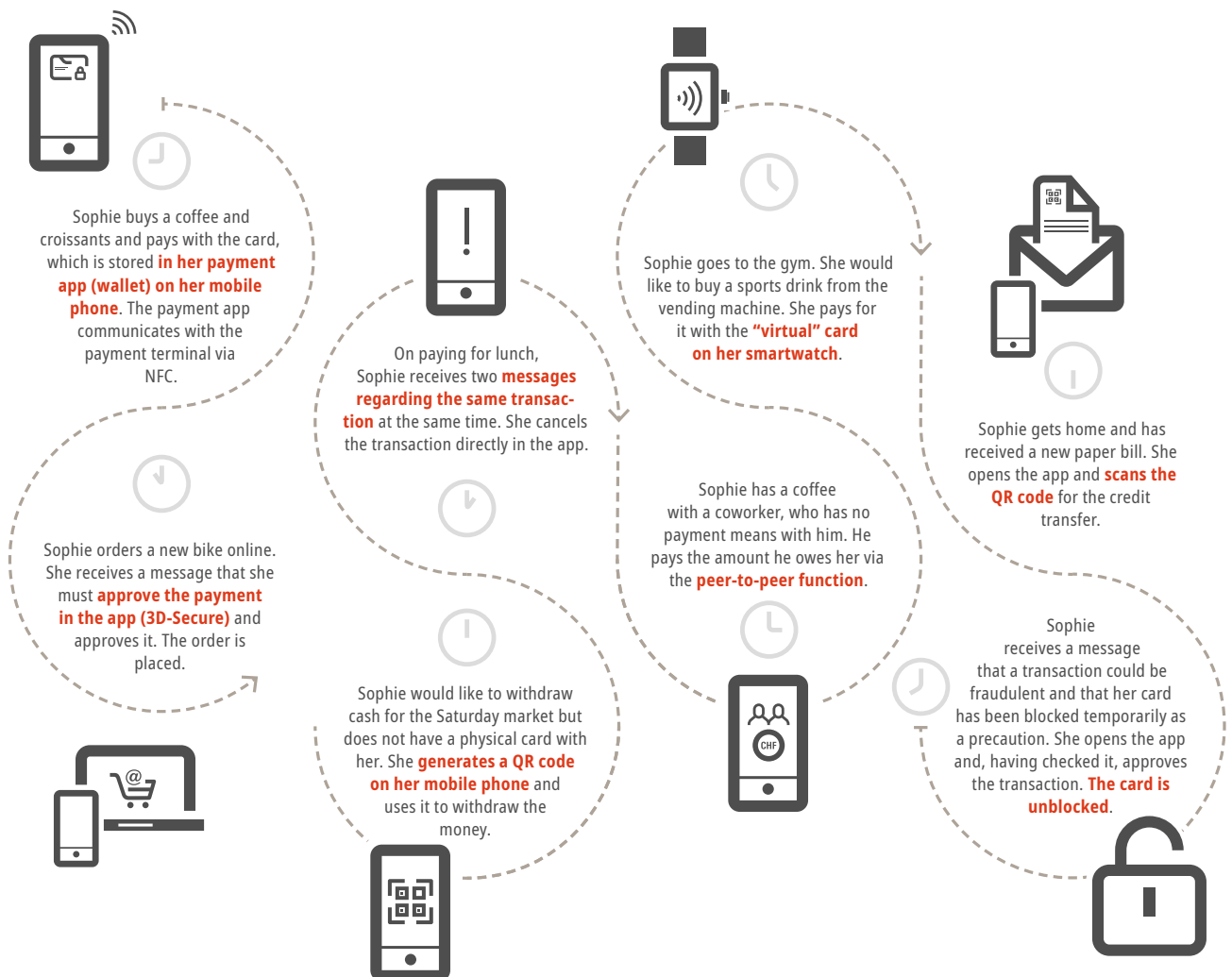
Influence of Mobile Services on Payment Behavior

The shift to mobile channels also affects consumption and the payment behavior of goods and services. This is reflected in the example of mobile commerce, which has overtaken online commerce. This can be explained by the interaction of more people using mobile devices and an increase in digital payment options.

Payment by plastic card is not yet outdated among all generations but younger generations increasingly prefer digital payment methods. A shift is taking place from cards as the most important payment means to a vast array of options. Here, the "debit card" with access to the bank account and the "credit card" with a credit account via "credit card" provide the foundation. This opens up

new user journeys, such as storing cards in electronic wallets. Peer-to-peer payments using your mobile phone number as the account identifier are also very popular. QR payments are optimized for electronic processing and are replacing the orange and the red payment slips. There is already the option of withdrawing cash from ATMs by means of a QR code on your smartphone. The following graphic visualizes some examples of payment methods. To sum up, the smartphone is becoming the bank counter and payment means when you're on the go.

A Day in Sophie's Life

Sophie buys a coffee and croissants and pays with the card, which is stored **in her payment app (wallet) on her mobile phone**. The payment app communicates with the payment terminal via NFC.

On paying for lunch, Sophie receives two **messages regarding the same transaction** at the same time. She cancels the transaction directly in the app.

Sophie goes to the gym. She would like to buy a sports drink from the vending machine. She pays for it with the **"virtual" card on her smartwatch**.

Sophie gets home and has received a new paper bill. She opens the app and **scans the QR code** for the credit transfer.

Sophie orders a new bike online. She receives a message that she must **approve the payment in the app (3D-Secure)** and approves it. The order is placed.

Sophie has a coffee with a coworker, who has no payment means with him. He pays the amount he owes her via the **peer-to-peer function**.

Sophie would like to withdraw cash for the Saturday market but does not have a physical card with her. She **generates a QR code on her mobile phone** and uses it to withdraw the money.

Sophie receives a message that a transaction could be fraudulent and that her card has been blocked temporarily as a precaution. She opens the app and, having checked it, approves the transaction. **The card is unblocked**.

Aspects of Mobile Software Development

If participating financial institutes do not wish to miss the trend towards mobile banking and mobile payment, they have to invest more in the development of mobile services. The cost–benefits calculation is a key factor here. This will be affected by the strategy chosen for mobile software development.

In-House Development vs. Purchased Software Solution

Participating financial institutes are faced with the strategic question of whether they are expected to develop and operate mobile services themselves (in-house development), or whether they are purchased from third parties – a distinction is made between vendor solutions and white-label solutions here.

Larger financial institutes in particular prefer in-house developments. This option allows independence and the greatest degree of freedom and facilitates a one-app strategy. In addition to the development costs, internal expertise for development and operation must be built up. In some instances, there is the option of purchasing previously developed, specific mobile services from partners via software development kits (SDKs) and integrating them within the in-house solution – e.g. a QR code reader.

In the case of a strategic partnership with software companies (vendor solution), an existing external application is purchased, which can ideally be tailored to the individual bank-specific customer needs. The aim is to purchase the partner's expertise and consequently avoid first-mover mistakes. It also means that initial investment costs can be reduced. The same is true of white-label solutions. However, these are standardized options; bank-specific adjustments are usually limited to colors, logo, module specification and individual text parameters, such as telephone numbers or terms and conditions. This means implementation and operating costs can be kept correspondingly low. The individual solutions' transitions can be fluid here. However, the crucial factor for each bank is that the customer interface remains in its hands.

	In-house development	Vendor solution	White-label solution
AVAILABILITY	Depending on the workload	Immediately if no individualization is required	Can be used immediately
RANGE OF FUNCTIONS	Bespoke individual solution	Standard solution with few options for customization	Standard solution with very few options for customization
EXPERTISE	Developed internally	Specialists provided by the provider	Specialists provided by the provider
COSTS	One-time implementation costs and recurring operating costs, which can be substantial to keep pace with constantly increasing security requirements.	Recurring license and servicing costs, which ensure the standard of security.	Use-based costs (and possibly license costs) that ensure the standard of security. Long-term savings.

Native vs. Web App

A distinction is usually drawn between native apps and Web apps. A native app offers the best UX and the most extensive range of functionality since it makes full use of the device's programming language and can take account of its particular characteristics. This means that an app is programmed for each operating system (iOS and Android), resulting in more significant development costs. Web-based apps offer a more cost-effective option. These are Web applications (e.g. HTML) disguised as an app. This alternative is less closely interlinked with the operating system, which can make the UX poorer and result in fewer functions. Development has the advantage that expertise resulting from Web development can be reused. Between them there are also hybrid alternatives; i.e. only one application for different operating systems. Although this may seem simpler at first glance (as there is only one version), this alternative often makes implementation more complex and compromises must be made in the UX.

One App vs. Multiple Apps

The following three factors play a crucial role in whether an app is considered relevant by users: Does the app provide a simple solution for a problem? Is the purpose fulfilled? Do users save time as a result? In this context, of course, the question also arises as to whether one app with all functions is better than five different apps with different functions. The overall context must be considered to define the right strategy.

A one-app strategy is defined as one app for one brand. This means different products and services are combined in one mobile application. This has the advantage that new functionalities can be easily promoted, essentially cross-sold, in the existing app. Few marketing measures are therefore needed to encourage users to install another app. With regard to UX, there is the greatest leverage for consistency here. However, development capacity must be taken into account, as the workload involved in developing the app is significantly greater because the architecture of the app as a whole must be constantly scrutinized and considered. It is also more difficult for users to identify the actual purpose. Unfortunately such a solution also holds the risk that certain functions will be virtually impossible to find since they will be hidden somewhere in a submenu.

There is also the multi-app strategy. This is defined as a collection of applications that belong to a company or a brand (i.e. different apps for different purposes) – of which Google is a prominent example. This has the advantage that the purpose of the app drives product development. Usually, this makes the user experience more focused and navigation easier. This means that users usually reach their objective more rapidly. It also has the advantage that in addition to an in-house development, white-label solutions can also be used for dedicated use cases. However, this strategy requires somewhat more marketing and coordination to promote a new app and bring it to users.

Focus on the User

Nowadays, users of mobile devices have several dozen apps installed on average. But only a fraction of them are used intensively. The existence of mobile devices and apps changes behavior and expectations decisively and continuously. Relevance and a positive response is vital to the success of an app. In principle, a positive UX can be achieved by meeting users' expectations. This is achieved if the app can be used intuitively (=usability), is attractively designed and is easily comprehensible in terms of content. Unfortunately, it is not always easy to understand the expectations of all users and meet their needs.

With a user-centered design approach, the focus is concentrated on the end user from the beginning. This means that the target group is defined early in the design process, their needs and expectations are surveyed (through focus groups or 1:1 interviews for example) and corresponding personas are defined. Depending on the

heterogeneity of the target group, 3–5 personas are defined to describe it. Using demographic characteristics, affinities (to technology for example), objectives, needs and expectations, model users are created. These also help with the recruitment of users for user tests (also known as UX labs). To generate an optimal user experience, it is important to carry out such user tests on a regular basis from early in the design process. It becomes a challenge if users do not yet have any expectations regarding an unknown function or only know a little about it. Here, it is particularly important to make users aware of the functions via various paths in the app or even via different channels. Patterns of behavior with which one is familiar, a logical and forgiving structure, and simple, comprehensible language can help here.

SUMMARY

To sum up, there is no "right or wrong" as far as app development strategy is concerned. It is important that the overall context is considered and the advantages and disadvantages of the respective strategy options are weighed up. The most important factor is to involve the end users early in the development and subsequently show them clearly why an app is to be downloaded to ensure that it is relevant.

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