



Payment solutions for digital business models in the automobile industry

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1. Overview

In an interconnected world with extensive, innovative digital services throughout all industry sectors – especially in the sector of interconnected mobility – the question of appropriate “payment solutions” keeps gaining on significance.

Exemplary applications are:

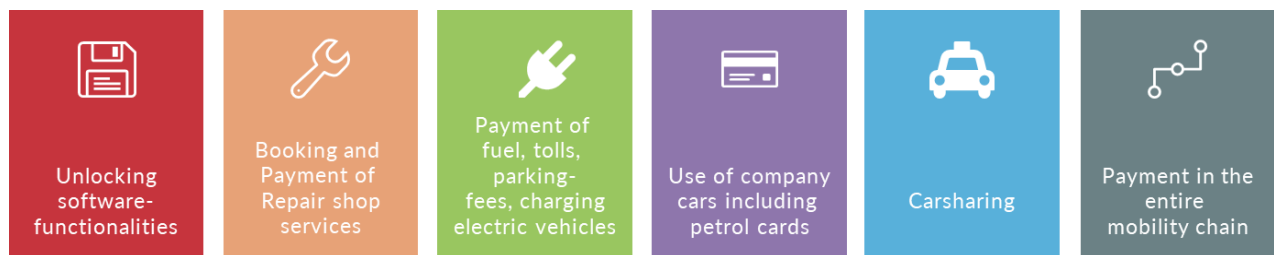


Figure 1: typical applications of payment solutions concerning the topic “mobility”

Suitable payment solutions have to be modern, highly scalable and secure as well as need to connect all required Customer Touch Points (Car, Online, Mobile, Vending Machine, Shop). Therefore, in the following, we will talk about multi-channel compatible payment solutions.

From a payment expert’s perspective, scalable and user-friendly payment solutions are a “missing link” in the usability of digital mobility services, that could be used for the realization of

- a. ID-Management
- b. Personalisation
- c. Loyalty and Advertising

instead of proprietary solutions.

The regulatory and market specific barriers for the success of proprietary payment solutions are quite high. On the market, successful payment solutions have always arisen from a combination of user mobilization, simple use and concrete additional values for the purchasing process. Furthermore, as of 2018, new EU-guidelines strengthen the requirements concerning the security of personal data and the accountability for unauthorised transfer of this type of data.

A promising approach for coping with initial difficulties regarding the rollout of payment solutions for digital offerings and business models can be a cross manufacturer approach. This enables automobile manufacturers to focus on the individual configuration of the important Customer Front Ends (Online, Mobil, Auto, Shop). The actual payment solution – including the connection to these Front Ends and all functionalities – fades into the background, as a scalable “solution for everyone”.

Even though the effort for the design and implementation of such a solution is higher, there are significant advantages regarding economies of scale as well as managing regulatory requirements. Particularly when developing overall mobility solutions, such an approach offers strategic advantages.

2. Observations from the users' point of view

Compared to typical offers from the online or mobile commerce, there are few multi-channel compatible offers and services in the automobile industry. Furthermore, those offers and services show explicit weaknesses in the handling of registration- and payment processes compared to other branches.

On the other hand, automobile manufacturers have already invested a lot of money and effort in the development of proprietary payment methods – without visible success. Additionally, there are far more technical possibilities available that are not yet used. Why?

Looking at the available payment solutions offered by automobile manufacturers on the market for the previously mentioned applications, clear weaknesses regarding the “usability” of these uses can generally be derived, in particular:

- a. Circuitous registration processes
- b. No consistent interface
- c. Many media discontinuities
- d. No consistent or missing non-cash payment methods
- e. Simple “additional order” often not possible

Typical user requirements can easily be derived from comparable applications in other fields, such as online trade. This concerns not only the “user experience” regarding the execution of payment processes, but also

- a. Consistent user interfaces for all “touch points” (mobile, online, vending machines, car)
- b. Immediately usable multi-channel offers
- c. The usage of consistent identification characteristics
- d. Protective mechanisms for personal data.

Both these fundamental user requirements and the experiences made with digital payment solutions in other fields give important insights for the basic architecture of payment solutions.

Payment is a means to an end. The focus must lay on the “consumption” of digital services. Nobody likes to pay.

Therefore, for a payment infrastructure to be attractive to users, it needs to include the following characteristics:

- a. ID-Management and connections with payment types and functions

- b. Connection of all booking, ordering and payment processes to multi-channel compatible payment means
- c. Usage of one ID for the entire “mobility environment”
- d. Strong data privacy according to the new EU-guidelines

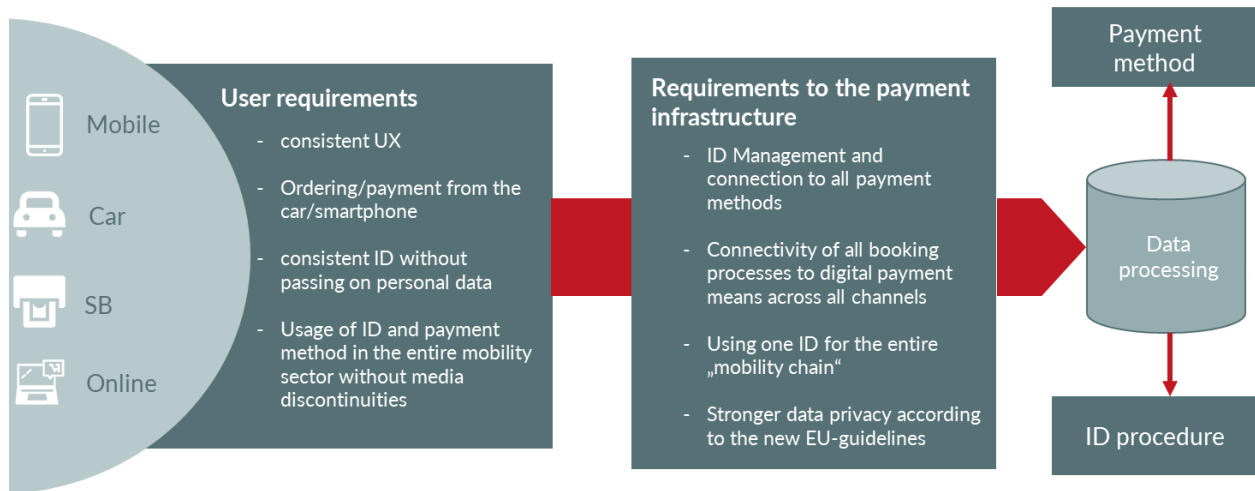


Figure 2: Typical user requirements and requirements to the payment-infrastructure

The technical implementation of such an architecture is already possible, since the basic partial applications have already been introduced to the market. When purchasing and integrating such partial applications, the strategic question of “build, buy or partner” comes up for important fundamental solutions (e.g. payment gateway).

The decisive success factor though is less the IT-architecture, as the business architecture of a highly scalable payment solution. Finding „successful role models in the payment industry and understanding the predominant market conditions and success factors are of significant importance.

3. Payment – an “individual” world

“Paying” is an individual world with its own rules and success factors. The most important ones are:

- a. User experience
- b. User mobilisation
- c. Scaling

New entrants in the payment industry are facing various obstacles and challenges when it comes to the design, implementation and the successful rollout of their own, proprietary payment solutions:

- a. Regulation and licensing requirements for providers, processors, payment methods and acceptance solutions are strong market entry barriers (time, knowhow, costs)
- b. Nationally varying legal requirements and a variety of proprietary, national payment solutions (e.g. Girocard or Varte Bleue)
- c. The few available solutions on the market, that enable data processing for all customer touchpoints (Shop, vending machine, Online, Mobile).

Furthermore, the market is saturated with payment methods. There is only a very small need for entirely new payment methods. But the need for payment solutions that fulfil the mentioned requirements is even higher.

After analysing the world's most successful payment methods, one can clearly derive that they all arose from a combination of the following success factors.

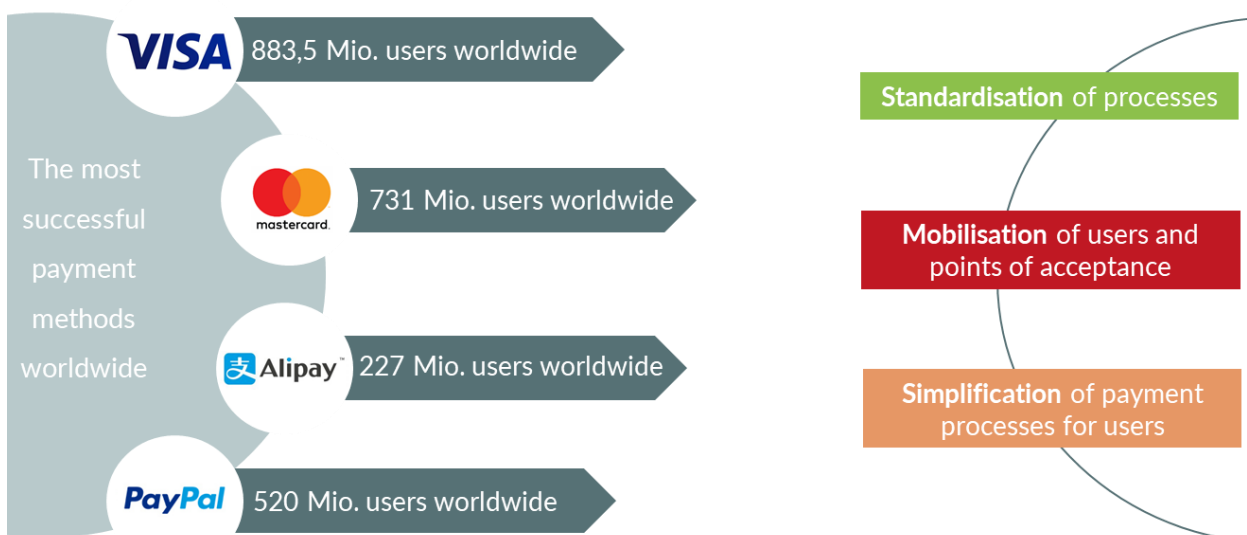


Figure 3: worldwide most successful payment methods and basic success factors

The diffusion of already existing solutions in the automobile industry is additionally impeded by new EU-guidelines for relevant payment and loyalty solutions.

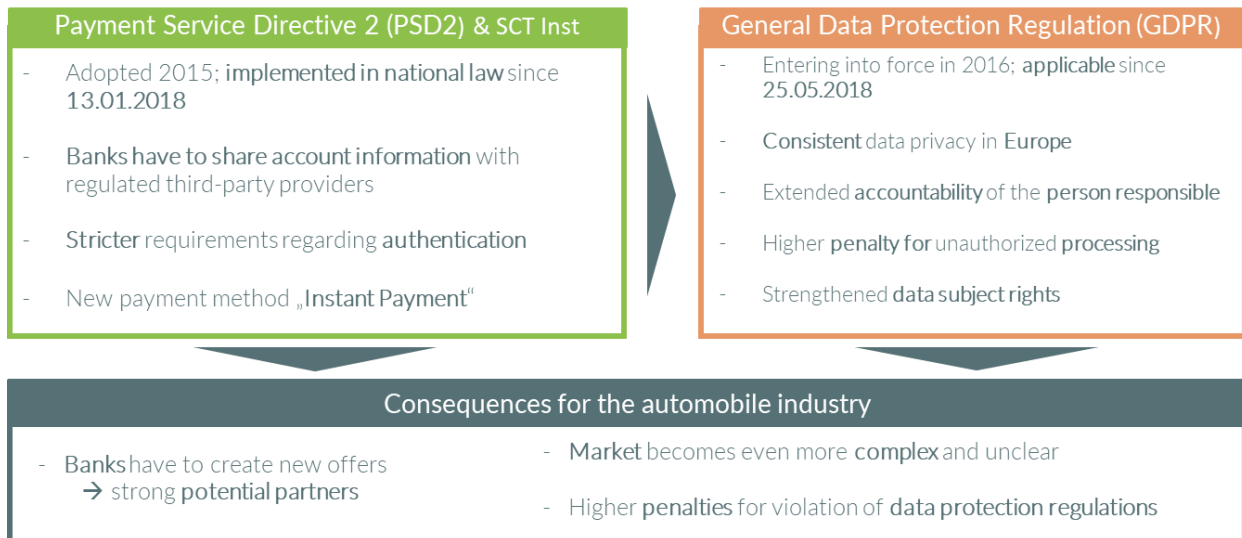


Figure 4: New EU-guidelines for payment methods and data privacy in 2018

With these new guidelines becoming legally binding in 2018, the complexity and liability risk for providers of proprietary payment solutions increases significantly.

4. From proprietary solutions to highly scalable mobility platforms

Derived from the use cases mentioned above, the user requirements and the characteristics of successful payment solutions, a basic business architecture for highly scalable payment solutions for automobile manufacturers can be created. Most important criteria are:

- A clear separation of tasks between automobile manufacturers (design and integration of front ends and digital content) and
- A centrally conducted payment platform (backend and integration of payment processes, or respectively ID-methods, that are available to everyone involved)
- The integration of both solution elements through multi-channel compatible interfaces (payment gateways). Those interfaces need to enable the processing of all types of transactions throughout all front ends.

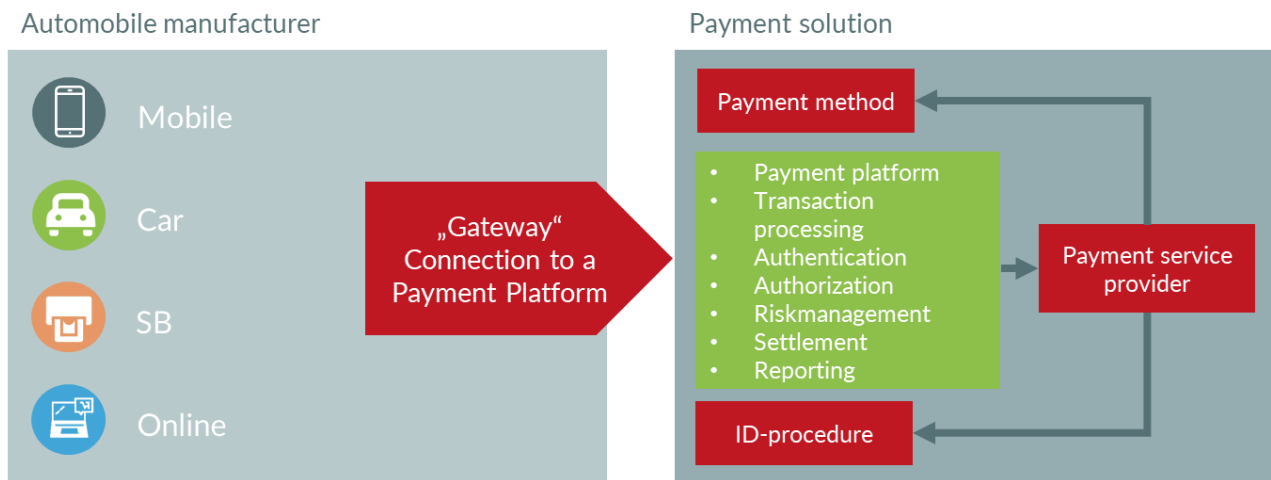


Figure 5: Basic architecture of a consistent payment platform in the automobile industry

Even if at first sight the creation of a consistent payment-platform for multiple automobile manufacturers considering already existing, manufacturer-specific payment solutions does not necessarily seem meaningful, a joint development and usage of a central payment platform offers large middle- and long-term synergy- and scaling effects.

When valuation standards typical for the payment industry are applied, an intensive, cross manufacturer analysis of this concept seems necessary.



Figure 6: Advantages of cross-manufacturer and cross-industry payment platforms compared to proprietary payment solutions

Particularly cross-industry solutions for mobility applications across the entire mobility chain lead to significant synergy effects for all involved providers, since joint registration-, identification- and payment processes allow to mobilize the greatest number of users.

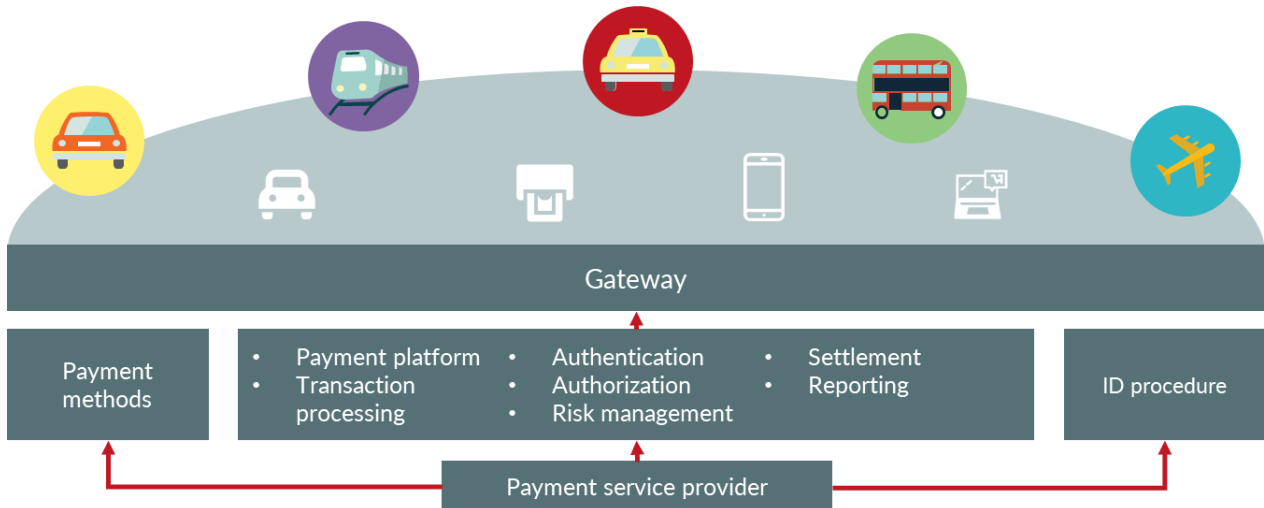


Figure 7: Structure and mode of action of a payment platform for integrated mobility solutions

5. Conclusion

A joint, company-wide development of important foundations and standards for payment processes concerning “everything about the car” promises strategic advantages as well as the protection of future investments for all companies involved, particularly smaller development costs and a faster time-to-market.

Such a network could include automobile manufacturers, parking space managers, service station operators, rail transport, fuel card providers and service providers for modern payment methods.

The value of such solutions for end users is determined by simple handling and avoiding media discontinuity.



About SHC

SHC GmbH & Co. KG (www.stolleundheinz.com) located in Augsburg is an independent, internationally active consulting company with a network of partners all over Europe.

Since 2007, SHC has been supporting banks, financial service providers as well as industry- and trading companies with the strategic development, the realization and operation of innovative business areas as well as the optimization of their portfolio business. Our key competences lie especially in the fields of payments and eHealth.

Over the past 5 years, SHC employees have been successfully involved in the most important European innovation projects within the payments sector.

SHC stands for persons with excellent knowledge regarding transactions and interconnectedness in the sectors of payment and eHealth as well as the knowledge enabling them to develop and implement individual solutions in cooperation with customers.

For several years, SHC has been successfully working with companies that are known as “key players” in the “mobility chain” in Germany. This includes for example the areas of rail transportation, fuel cards, parking management, service stations at highways and public transportation. SHC expands the companies’ value chain by concentrating on design and implementation of special solutions that seamlessly fit in with strategic initiatives or system infrastructures.