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## Platform Thinking is the Future of Aftersales Business in the Automotive Industry

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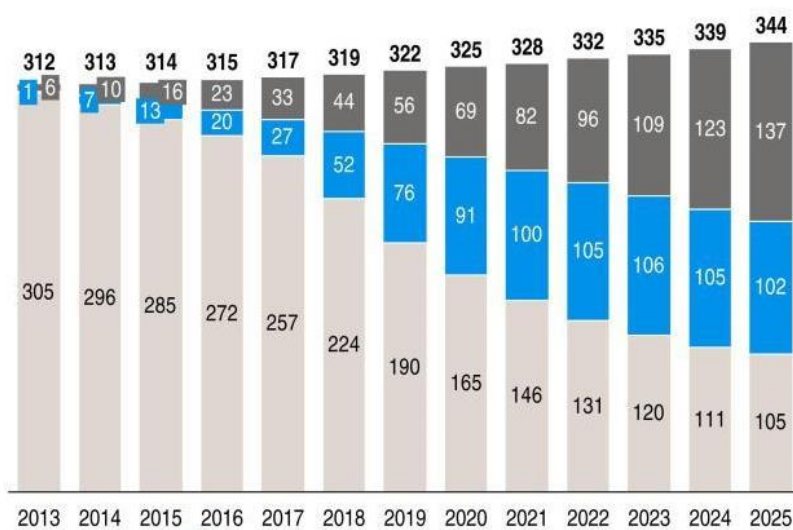
# Platform Thinking is the Future of Aftersales Business in the Automotive Industry

(by Dr.-Ing. Joffrey Mabuma, TEAMWILLE GmbH, Munich, Germany)

## 1. Introduction

Pipeline businesses are commonly defined as the linear creation of value throughout the supply chain processes (e.g. transforming of matter from its creation, processing, storage and selling to the end customer) [1,2,4]. These businesses still mainly dominate the existing business models of connected services in automotive aftersales. Indeed, most connected services such as fleet management services or electronic drivers' logbooks proposed by Original Equipment Manufacturers (OEMs) deliver vehicle-related data services via mobile applications or web services focussing on the customers of their respective brands via B2B or B2C. Since OEMs „own“ the vehicle data, one might believe that the market of data services in automotive industry still belongs to the OEMs.

Interestingly, a study performed by the global strategy consulting firm Roland Berger shows the possible evolution of this market in Europe between 2013 and 2025 in the diagram below [3]:



As one can see, the overall number of European vehicles (expressed in millions) is subdivided into three categories: those not equipped with telematics represented by the white columns, the vehicles equipped with connected product packages from OEMs, which rely on vehicle data directly extracted from Electronic Control Units (ECU) depicted by the dark grey columns, and the vehicles using external telematics solutions displayed by blue bars. This latter category relates to the multitude of external providers of connected services on the market, which extract vehicle data via On-Board-Diagnostic (OBD) systems [3].

Now, let us assume that the highly fragmented market of the connected services provided by external companies would be aggregated and dominated by a single platform which I will hereafter name the „platform disrupter“. This platform disrupter could potentially be a threat for the OEMs as it could easily take over more than half of the data-based aftersales market share, as depicted by the aggregation of the blue bars in the diagram above.

Markets and industries, originally dominated by old-fashioned and traditional key players providing products or services based on pipeline businesses, have been disrupted over the last decade by platform businesses [1,2,4-6]. For instance, US-American Airbnb could eventually take over the hotel industry without owning any rooms. Similarly, Chinese platform disrupter Alibaba is dominating the retail industry without owning any consumer goods. Could also a hypothetical platform disrupter win over the data-based aftersales automotive business in the same fashion without owning any vehicle data? If so, how would such a platform disrupter look like? How can an OEM prevent the threat of a platform disrupter and which platform-thinking strategy has to be implemented to face it?

In order to propose a solution for these questions I will first go through the general definition of platform businesses. This definition will be useful to lay down the key aspects required to establish a platform-thinking strategy. The

addressed key aspects will be systematically adapted and challenged by our understanding of the reality of the data-based aftersales business in automotive industry.

In the next step, I will roughly describe the main features of the hypothetical, futuristic platform disrupter in automotive aftersales based on an adaption of platform-thinking strategy to the automotive aftersales context. The viral potential of the described platform disrupter but also its intrinsic weaknesses and limitations will be addressed as well.

Finally, I will briefly summarize the presented platform-thinking method and its practicality based on the described use cases. The potentials as well as the limitations of the presented method will also be addressed before concluding this contribution.

## **2. General definition of platform businesses**

Platform business models are nowadays broadly used in their digital form in many industry sectors such as telecommunication, transport, finances and advertising, even though they have been introduced centuries ago in the form of market places and physical matchmakers [2].

A platform business is a business, which creates value by bringing at least two different types of stakeholders together and facilitating interactions between them which will indirectly create value for these stakeholders. Besides creating value for the stakeholders, platform business solves a transaction-cost- and search-cost-problem that makes it difficult or impossible for the different stakeholders to interact before the creation of a platform [1,2,4,6].

A classic challenge for creating a successful platform, which brings together different stakeholders is to first identify the stakeholders which need to be brought together and then define the core interaction as part of the platform building strategy. Besides, the building and the launch of a platform should create positive network effects in addition to economies of scales, i.e., through combined interaction between stakeholders the platform will become more attractive, which will subsequently increase the overall number of platform users [2,4,5].

After this general definition of platform businesses, let us consider and adapt current and generic platform strategies to aftersales in automotive industry.

## **3. Platform-strategy thinking adapted to aftersales in automotive industry**

Platform building in automotive aftersales has to be framed by platform building strategies or platform thinking methods. The goal of this section is to adapt existing platform building strategies to the special case of aftersales in automotive industry.

To build a successful platform, many authors define a couple of major points to take into account [1,4,5,7,8]. In our automotive aftersales context, I will modify these major points as follows:

1. Evaluate the competitors and the market potential for platform building
2. Identify possible stakeholder groups to further interaction among them
3. Define your core interaction
4. Solve the “chicken-egg” problem
5. Create network effects between users
6. Benchmark the value of the network effects with respect to the competitors and fix the price

At first, I believe that the reason for building a platform should be investigated as well as the capacity of the new platform to dominate the existing market. This justifies why I first evaluate the platform capacity before taking the next step.

In general, platform businesses have to be considered when moving on a highly fragmented market, not entirely regulated by institutional or governmental laws and prone to create matchmakers or efficient matching functionalities between stakeholder groups by means of well-thought technologies. In other words, a market which is highly regulated by laws and mostly dominated by a few strong competitors is eventually not prone to be disrupted by platform businesses [1,2,4].

Under the assumption that the necessity of building a platform has been positively evaluated, the potential stakeholder groups, which need to be brought together, have then to be defined. In order to do that, the question to answer is “how

high are the barriers for interaction between the different stakeholders?” The higher the existing impediments for interaction during the information exchange between these stakeholders, the higher the chance to create a successful platform.

Next, let us address the core interaction, i.e. the nature of information exchanged between stakeholder groups. To define the core interaction, one can either decide to lean on existing data exchange successfully proposed by other platforms or to think about alternative data to exchange which might be more attractive to stakeholder groups than already provided data by existing aftersales businesses in automotive.

After framing stakeholder groups and the information to be exchanged between them, a specific problem to platform business has to be approached. Unlike pipe-line business the “chicken-egg” problem has to be solved. This problem should give an answer to the question “which stakeholder group should I start building my business with in order to attract the other group”. This question is fundamental in particular when a broad customer or producer base on the platform is not given from the very beginning.

Once stakeholder groups, core interaction and “egg-and-chicken” problem have been addressed, the platform owner has to make sure that through positive network effects the platform’s interest and value keeps increasing. Positive network effects can for instance be triggered or regulated by removing aftersales business providers, which do not deliver qualitative product or services to potential customers. A well-known regulation tool is given by rating systems in form of giving stars (e.g. one star is a bad rating while 5 stars is a good rating from customers) [2].

The network effects combined with created value for multiple stakeholder groups on the platform can then be monetized. The monetization of a platform business generally bases on a complex pricing model since the calculation depends on more factors than in the case of pipeline business models [1,2,4]. The pricing model might have consequences on the perception of the platform by the different stakeholders and, in particular, on the ecosystem describing the interactions between the stakeholders of the platform. To establish a strong pricing model for the platform at least two fundamental questions need to be answered.

The first is concerned with which stakeholder(s) is/are supposed to pay for accessing and/or using the platform. This decision mostly depends on the art of core interaction and the need to create an incentive to balance the number of platform users from the different stakeholder groups. For instance, a free access to the platform will motivate a price-sensitive stakeholder group to use the platform or at least not to leave it.

The second question is how to make the chosen stakeholder group pay for accessing and/or using the platform. Different approaches for pricing can be pinpointed. An access-based fee can be required in particular when the platform “loses” control of the transaction between stakeholder groups after the interaction has taken place. Another possibility is to require a fee based on the number of information or interactions between stakeholder groups. It is also possible to conceive a “Freemium”-based access for which only selected features provided by the platform are fee-based [2]. As an alternative or as additional measure, one can also think about payment for attention in the form of ads or banners on the platform.

It appears obvious at this point that a decision related to pricing will always have relevant impact on the platform ecosystem. A way to benchmark the potential impact of this decision is to evaluate the reaction of the platform community after other platform businesses in the same market applied one of the above described pricing measures. However, I will not address this topic in more details in this contribution. Instead, I will apply the five key factors described above to design a futuristic, disruptive platform for connected services in automotive aftersales.

#### **4. Towards a disruptive platform in aftersales in automotive industry**

First of all, does a disruptive platform have the potential to succeed in automotive aftersales?

I believe so, even though aftersales business in automotive is more and more under the supervision of local and continental laws, for instance in the field of transfer and ownership of private and vehicle-based data. For instance a recent European Law for data privacy (General Data Protection Regulation or GDPR) is coming into effect on May 25<sup>th</sup> 2018 and is about to shape the automotive industry, in particular the data-driven aftersales business. Automotive

companies will have to review the way data is collected from vehicles. Data held for marketing purposes is an area of particular importance for automotive aftersales, which typically maintain large CRM databases of potential and existing customers. Even if the data-driven aftersales business is compliant with all current data protection legislation, it may not be GDPR-compliant. Technical changes and financial investment needed to enable GDPR data compliancy will have to be considered when discussing the market potential of data-driven aftersales business.

Aftersales business and in particular vehicle-data provided by connected services bases on the transfer of data in automotive electronics from electronic control units (ECUs) to via telematics control units (TCUs) before sending this data to large-scale IT infrastructures and storing it in servers within backend-systems in environments covered by mobile network. The stored data is interpreted by the backend-systems and, after interpretation, transferred to front-end systems, from which data is accessible to the end customer via web-services or mobile applications. Eventually, the data extracted from automotive electronics can be directly transmitted via Bluetooth technologies to mobile applications including intermediate short storage on external servers.

This generic data-transfer scheme is not only valid for connected services provided by OEMs but also by external providers. The difference here lies in the amount and quality of data, which can be obtained from vehicles. Indeed, external connected services providers do not have full access to the vehicle data from the control units in automotive electronics like OEMs does, but only to a fraction of it extracted by means of an OBD connector. This difference will be considered in the following as one technical limitation regarding external connected services providers.

Regardless of this technical limitation for external providers, let us now assume that the disruptive platform has appeared on the automotive aftersales market. This disruptive platform brings together all the external connected services providers with potential buyers, i.e. drivers of car belonging to an arbitrary brand, and their respective individual car-insurance companies. These three groups are from here on the chosen stakeholders.

Next, the core interaction between these groups is exemplary defined as the exchange of information related to mileage and runtime. This information is a great deal for car insurance companies since it helps them to customize car insurance contracts for their customer base. Knowledge about mileage and runtime is also an important information for the car-driver, e.g. to keep track on his personal fuel expenses over time.

Mileage and runtime are valuable information for customers, external connected services providers and car insurance companies but how to make sure that, only based on this fact, the disruptive platform takes off and becomes profitable? To answer this question, the “chicken-egg” problem has to be solved. Since I believe that a wide variety of connected services providers will attract potential customers on the platform, they have to be the first stakeholder group to acquire for the platform – at least for our approach. As soon as a reasonable number of such providers are plugged in the platform, community managers will be able to incentivize potential customers to use the platform [2]. In the following step, car insurance companies should follow quickly on the platform to gain insight about the information exchanged between connected services providers and their customers.

After defining the stakeholder groups and the core interaction, network effects and value creation have to be addressed. A way to do so is to design relevant matchmaker-functions for the platform to build. For instance, options to filter the database enable the potential customer, i.e. car-driver, to choose which information he needs (here mileage and/or runtime), related to selectable specific brand and car characteristics, and which price range he is ready to pay for getting this information on which device (mobile and/or web application). These search criteria should lead to the best possible connected services provider for the customer. To even leverage the customer experience and provide curating measures to the customer, a rating feature based on “stars” could be created as well [1,2,4].

This platform would basically serve as a global comparison portal for external connected services providers which will provide transparency for the customer on the highly-fragmented market as well as comparability between the actual offers proposed by the various connected services providers. Since I believe that connected services providers have the highest interest to access this comparison portal and that the transaction with the potential customers will take place outside of the platform, it seems logical to create an access-based fee for connected services providers after ending the pilot phase. Due to the high price-sensitivity of the potential customer, the grant of a free access on the platform would be a reasonable choice. The car-insurance companies could also have free access on the platform as long as the

customer does not interact with car-insurance companies. If so, the mileage- and/or runtime-data, which the customer accepts to transfer to its car-insurance company through the platform, would have to be remunerated by the specific car-insurance company.

## **5. Outlook**

The disruptive wave is on its way. Aftersales automotive will see a significant transformation soon or later, as other industries. The features of the futuristic, disruptive platform might be very similar to the ones I presented in this contribution by means of an adapted platform-thinking strategy.

The impact and the viral potential of such disrupted platform in data-based automotive aftersales will, however, depend on a few technical solutions and global regulations.

The technical improvement needed for the platform to become viral is the guarantee of full availability of vehicle-data extracted from ODBs by external providers plugged on the platform. As previously mentioned, I consider this factor a limitation for the offer provided by external providers. If full data availability is not guaranteed, OEMs might tactically use this limitation to provide themselves value-adding data to their end customers using pipe-line models or they might build their own platform as a reaction. Besides this technical limitation, global regulation laws will also play an important role during an eventual duel between OEMs and the platform disrupter.

On the one hand, if governmental or local laws drastically restrict the transfer of private data (as it might happen soon in Europe), external providers will not have enough capital to ensure full data compliancy of their IT-structure and might not be able to invest any further in this market. If so, only a few financial potent, external providers might try to overcome the high market entry barriers to provide their services and products as pipe-line business directly to potential end customers. A new platform in automotive aftersales in its early stage might then not be able to englobe these external key providers.

One the other hand, if governmental or local laws require OEMs to guarantee full vehicle-data access free of charge for external providers (as soon as the end customer is contractually bound to an external provider), the trend might swing in the opposite direction, i.e. in favour of external providers and, indirectly, of potential platform disrupters.

## **6. Information about the author**

As a former doctoral/Ph.D. student and scientific employee, Dr. Mabuma has been working on a fundamental research project together with University of Stuttgart, RWTH Aachen University and Leibniz Hannover University as well as industrial R&D projects with Robert Bosch GmbH and German Aerospace Center (DLR) in the fields of computational engineering and simulation techniques.

Dr. Mabuma is now working at TEAMWILLE GmbH on multiple projects as project management consultant in German Automotive Aftersales, key account manager and technical leader with focus on business-related topics at the interface with IT-departments.

Dr. Mabuma has been invited as speaker to various conferences in Rom, Seoul, Las Vegas, Edinburgh, Helsinki and Duisburg amongst others, to share his views and ideas about the Future of Automotive Aftersales and Hybrid Project Management Methods in Research.

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