Leibniz Universität Hannover

Impact of Apple and Google´s Automotive Market Entry

Masterarbeit

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1. Introduction

”I don't believe all the new ones to be successful, but neither will all the old ones survive.” (Zetsche, p. 20) was the answer of Daimler´s CEO, Dieter Zetsche, when he was asked about the impacts of Apple Inc. (Apple) and Google Inc.´s (Google) automotive market entry. Zetsche´s reaction highlights the high **relevance** and **explosive nature** of this topic. Today, the automotive industry[1] is facing **radical changes**, where existing technologies as well as structures are questioned and new players such as Tesla Motors Inc. (Tesla) or Uber enter the market. Firstly, this is a result of the higher interest of societies, governments, and companies in promoting more **sustainable mobility**, which has also driven the development of e-mobility (cf. Schade et al., 2014, p. 219-222). The diesel-emissions scandal of Volkswagen further increased the public doubts about the traditional fuel-engines and the requirement for more sustainable electric engine solutions in the automotive industry (cf. Time, 2016). Secondly, the demands and **preferences of the consumers** are changing such as the mentality of sharing a car instead of owning it or the shift of status symbols from cars to smartphones and travelling. Due to the extreme penetration of smartphones worldwide, consumers expect that their vehicles are able to connect with their most important mobile devices (cf. Capgemini, 2015, p. 34). Thirdly, it can be observed that **digitalization and technological advancement** affect many areas of the automotive industry. One result of this progress is that the development of assistance systems and the research into self-driving car technologies are now widely spread.

These mentioned trends in the automotive industry cause the automotive players to rethink their traditional business models. Furthermore, these trends provide completely new mobility concepts as well as business opportunities. These opportunities exist not only for incumbent companies of the industry, but also for new market players such as **Apple and Google**. In the beginning of 2015, The Wall Street Journal (2015) announced that Apple employees are working on the **“Project Titan”** to develop an electric vehicle (EV) and release it no later than 2020. Especially during the first months after the publication of this article, many rumors about the potential Apple car were widely spread. However, Google´s automotive approach in comparison is much more official. In 2010, **Google** announced first

[1] The terms automotive or automobile industry, automobile or automotive market are used synonymously in this thesis.

details about **their self-driving car project** with the objectives of freeing up people's time, reducing traffic emissions, and most importantly making driving safer. However, Google founder, Sergey Brin, stated that **Google does not want to build a car and will focus on working with partners** (cf. Brin, 2015). So far Google has been installing its software, sensors, and cameras in cars of other manufacturers only to test the self-driving car technology. Nevertheless, Google also introduced the development of an own car prototype without a steering wheel and pedals to test its self-driving car technology on public streets (cf. Google SDCP, 2014; Google SDCP FAQ; n.y.).

Despite of the fact that Google officially declared not to aim at building a car and Apple never confirmed wanting to enter the automotive market, the potential impacts of an automotive market entry were widely discussed in the media. Major automotive companies such as Continental or Fiat even made themselves available for partnerships already (cf. Bloomberg, 2015; Reuters, 2015). The reason for this attention is the financial and innovative strength of Apple and Google. They are known for being amongst the **most innovative and valuable** companies worldwide (cf. Boston Consulting Group, 2015; Statista, 2015a). Furthermore, Apple and Google were able to revolutionize many industries and squeeze out many incumbent competitors (cf. chapter 4). Moreover, taking into consideration that the automotive industry – as one of the most important industries in Europe, America, or Asia – is facing the biggest changes towards more connected vehicles, e-mobility, self-driving cars, new mobility concepts, it becomes clear how relevant this topic is for the automotive industry.

Because this topic is still considerably new there are hardly any scientific sources, which analyze the impacts of Apple or Google on the automotive industry. Therefore, the **main objective of this thesis** is to provide a **basic scientific foundation,** which can be used for further research in this field. Hence, the objective of this thesis is not to highlight every detail about the market entry of Apple and Google into the automotive industry. Instead, this thesis should provide an overview about the crucial questions which result from a market entry of Apple and Google. These crucial questions are mainly based on the **paradigm of planning a market entry by Remmerbach** (1988). This is also where the three research questions of this thesis are based on:

1. *RQ: Why do Apple and Google want to enter the automotive market?*
2. *RQ: How will Apple and Google enter the automotive market?*
3. *RQ: What are the impacts of Apple and Google´s market entry for the automotive industry?*

This thesis will start with describing the **background and observations** around the automotive industry in chapter 2, in order to underline the relevance of this topic. First, a basic understanding about the automotive industry will be provided in chapter 2.1. Alongside conceptual distinctions, the current developments and trends in the automotive industry will be pointed out here. Subsequently, chapter 2.2 will give an overview about the current facts and rumors around Apple and Google´s automotive approach. The status quo is important because the reader needs to know how advanced Apple and Google are in order to understand assumptions about possible future steps of Apple and Google in the automotive industry.

In chapter 3 the applied **research designs and methodologies** will be described. Every step of the thesis and the methodologies will be presented. Furthermore, in this chapter it will be outlined in more detail from what the research questions were derived. Due to the mentioned lack of information, this thesis will mainly generate its information from a **qualitative research approach in terms of expert interviews** in order to answer the three research questions. The interviews will be evaluated with the qualitative content analysis by Mayring. However, according to Porter (2013, p. 88-90) and Aaker (1989, p. 76-78), it is necessary to analyze the current business strategies in order to be able to establish future steps from current actions. Therefore, Apple and Google´s business models will be analyzed with the **Business Model Canvas** approach by Osterwalder in chapter 4 so that the first results can support the qualitative research findings in chapter 5. Here, all three research questions will be analyzed, answered and discussed by presenting the insights of the qualitative research method. In this context comparisons will be drawn to Tesla's market entry into the automotive industry. The end **results** of the qualitative research approach will be presented in chapter 6. Furthermore, also the **recommendations,** which result from this thesis and were made by the experts in the interviews will be demonstrated. Afterwards, the limitations of this research are outlined to show further research opportunities in chapter 7. This part is important because, as already mentioned, the objective of this thesis is to provide a basic scientific foundation,

which can be used for further research. Finally, this thesis ends with a conclusion and outlook.

8. Conclusion

The automotive industry is changing. Not only new products are developed but also the customer demands, technologies as well as the competitive environment are constantly evolving. This thesis was about **why** and **how Apple and Google** would potentially enter the automotive industry and **what** impacts that could have on the incumbent players in the market. During the research it became clear that both companies have quite **different approaches**. While on the one hand side Apple publishes hardly any information about its automotive project, on the other hand side Google talks quite openly about it. Both companies have a certain dependence from their income source. With regards to Apple it is the iPhone and for Google it is the advertising revenues. It became clear that Apple wants to reduce the dependence from the iPhone. However, Google actually wants to increase its advertising revenues and therefore its dependence from them even further. Apple is known as a premium design manufacturer who likes to build products and also sees its strengths in that. But the manufacturing of a car doesn't seem to make sense out of Apple's perspective. It would need a multi-billion Dollar investment in order to overcome the entry barriers of the automotive industry. The impact of Apple entering the automotive market is considered to be rather low by the experts. However, based on the results of the qualitative research Google primarily focuses on providing the operating system for self-driving car technology with the OEMs. A market entry by Google especially with its operating systems for self-driving cars does have the potential to change the automotive landscape entirely and is therefore seen as a major threat by the incumbents who have already started to protect themselves by founding the Nokia Here cooperation. The second possibility for Google would be the offering of a cheaper or even freely available ridesharing platform with its own fleet. In this context, an interesting scenario came up because even a free ridesharing service could generate revenues because of the additional advertising opportunities.

Nevertheless, the approach by the technology firms is also welcomed because it has fastened up the development on electric mobility and self-driving car concepts as governments seem to be more open to these topics that are now more in the public interest. Finally, the various challenges around long product life cycles and high market barriers highlighted that a market entry by neither of the two companies will happen in the near future.

The objective of this thesis was to create a basis that would enable further research to be conducted in the future. In this regards the expert interviews definitely helped to set the scene and understand more about the current situation in the automotive industry. Furthermore, the Business Model Canvas helped to understand the strategic background of these two highly successful technology companies in order to can analyze their future steps. Concerning a future outlook, it will not only be very interesting to see how Google and Apple continue with their approach towards entering the automotive industry but also how other technology companies such as Amazon or Uber will react to that. This thesis certainly showed that there is some high potential for change in the automotive industry but as confirmed by the experts this will take a bit more time. So when going back to Dieter Zetsche´s comment at the beginning of this thesis, it remains to be seen who will survive and be successful in the future of the automotive industry.