

The Automobile Industry

How Strategy Affects Globalization

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Abstract

This thesis studies which strategies that increase and decrease the level of globalization for companies in the automobile industry. This is done by mapping the strategies and updating the GERPISA globalization index for five selected companies: Renault, BMW, Geely, General Motors and Toyota. We update the GERPISA-index by extending it with the years 2006 – 2012 by calculations based on company reports. The updated index is then used to show how different strategies have affected the level of globalization. In our conclusion we present the theory that a differentiation leader strategy or a differentiation focuser strategy decrease globalization in the automobile industry. We also argue that a cost leadership strategy or a cost focuser strategy increases globalization in the automobile industry.

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1. Introduction

1.1 The Problem

The automobile industry has during over hundred years developed in to a highly competitive and technologically advanced industry. Regional characteristics and differences in demand over the world created different prerequisites for automobile manufactures to develop a competitive strategy that worked fine on their regional market. The automobile industry was in earlier days characterized by regional competition, but has started to develop into a market with more and more global competition. Companies with different strategies have reached different level of globalization, implying that a company's strategy may affect the level of globalization.

The international automobile network GERPISA has developed an index to measure globalization in the automobile industry. The GERPISA-index shows that the globalization has increased between 1995 – 2006, which can be explained by the development of the emerging markets, especially China (Jetin, 2009). We find it thus interesting to investigate how this globalization has developed during 2006 – 2012 and how the companies' strategies have affected the level of globalization.

1.2 Purpose and Research Questions

The purpose and overall research question of this study is to investigate which strategies that increase and decrease the level of globalization for companies in the automobile industry. We will do this by updating the GERPISA-index with the years 2006 – 2012 for five selected companies. Our aim is to investigate how the globalization of the automobile industry has developed during the last 7 years. By evaluating this, we hope to better understand the globalization of the automobile industry and how different car manufactures strategies affect the level of globalization.

1.3 Prior Research

We have considered three levels of theory for this thesis. First we have studied Globalization in general, secondly we have studied Innovation Strategy and thirdly we have studied Strategy and Globalization in the automobile industry.

Globalization

Prior research on the subject of globalization of multinational enterprises have shown that the vast majority of the Fortune 500 companies only have fully penetrated their home market. One of the explanation's for this reality is that very few companies can standardize their product and services in such way that they suits all markets. Products and services have to be adapted to fit the needs of customers in local markets in order to benefit of the full advantages of global-scale economies. The study has analysed the Fortune 500 companies sales in three different regions, Europe, North America and Asia-Pacific. Only companies with more than 20% of their sales in all the regions and with less than 50% of their sales in their home market were considered truly global. Out of the 320 studied companies with sufficient data 84,2% were so called home region oriented, with more than 50% of their sales in their home market and less than 20% of their sales in any of the other markets. Only 2,8% of the studied companies fulfilled the criteria's for a true global company. One argument for this pattern has been found to be that most multinational enterprises sell what is called engineered commodities. Engineered commodities lose their monopoly status quickly despite being innovative and well-engineered products that require large investments. Despite being protected by patents and brand names competitors can quickly copy the distribution networks needed to sell these products. Since setting up distribution networks in all markets is very expensive the risk is too great for most companies. The outcome is that most multinational companies only can sell their products in one of the three markets mentioned above. (Rugman and Verbeke, 2004)

Prior research on the subject of global competition have tried to explain the contradiction between the improved possibility to transfer resources, capital, technology and other resources in an efficient way and a reality where clusters seems to become more important. The conclusion is that clusters drive competition which creates knowledge and skills not only within the companies, but also in-between thanks to spill over effects. The outcome is a whole is greater than the sum of its parts. (Porter, 2000)

Business strategy

In order to achieve superior performance companies have to create a competitive advantage compared to its rivals. A competitive advantage is only truly viable if the consumers value the advantage and the consumer's willingness to pay for the advantage exceeds the cost for producing the advantage. A sustainable competitive advantages creates long-term profitability, something all companies tries to obtain.

Michael E. Porter have developed a widely spread framework for analysing generic strategies used by companies with the aim to create a sustainable competitive advantage (Porter, M.E., 1985). According to the model a firm can achieve a competitive advantage either by differentiation of the product or offering. A differentiation strategy often implies a higher price than the average product. Delivering low costs is the other way to create a competitive advantage but as opposed to a differentiation strategy the price is lower than average where large. With a low-cost strategy the aim is to achieve high sales volumes pushing down the production price. A low production price and large quantities of sold products enables long-term profitability. The differentiation focus and the low-cost focus can be implemented either on a broad scope or a narrow scope, creating four different competitive strategies. Differentiation Leadership; where the company target a large group of customers within an industry with a differentiation strategy. Cost Leadership; targeting many segments in the market with a low-cost strategy. Differentiation Focus; targeting one or few segments within an industry with a differentiated product, one example of this is Ferrari. Cost Focus; targeting one or few segments within an industry with the cheapest product. (Jobber, D., 2010)

The most important part when choosing a competitive advantage is not to become "stuck in the middle" where the company tries to combine all the different strategies into one. We have used Michael E. Porter's model Competitive strategy options when evaluating the strategies of the studied companies. (Jobber, D., 2010)

Strategy and Globalization in the Automobile Industry

GERPISA is a French network that has conducted research within the globalization of the automobile industry since 1992. The network has developed its own globalization index that measures automobile companies' degree of globalization in a quantitative way (GERPISA's website, 7 May 2014). GERPISA's way of analysing different automobile companies' business strategy through a globalization index suited our idea about combining accounting and strategy (marketing) very well. That is why we have chosen to use a lot of GERPISA's publications in the book "The Second Automobile Revolution" as a starting point for our thesis.

In their research GERPISA has concluded that there have been a path of globalization amongst the majority of firms in the automobile industry between 1995-1999 and 2000-2006. The development of emerging countries, China in particular, was found to be the driving force behind the development of increasing globalization. (Jetin, 2009)

2. Method

2.1 General design and methodological perspective

We have chosen to do a qualitative study to investigate which strategies that increase and decrease the level of globalization. To explain the differences between the companies' strategies and to be able to improve our analysis we have also chosen to include a quantitative part, the global index. This implies that our study is a combination study, combining both a qualitative and a quantitative part as discussed by Bryman (2011).

The research design could be explained as a multiple case study (Bryman, 2011), a variant that includes two or more observations of the same phenomenon, in our case five different companies. By using multiple cases we aim to independently confirm emerging constructs and propositions, to increase the possibility for generalizability.

Our research approach could be explained as an inductive method as discussed in Bryman (2011). We investigate which strategies the five companies have and show the level of globalization by updating the GERPISA index and then by analyzing this observed data, we aim to generate theories in our conclusion.

To give an explanation of how the market looks today and to explain the different strategies used by the selected companies, we have used written articles, company reports, books and a documentary.

To be able to investigate how car manufactures strategies affect the level of globalization we will update the GERPISA index which is calculated for the years 2000 – 2005. We will update it by adding the years 2006 – 2012 through our own data collection and calculations. The index is calculated as an average of proportion of revenues, production, workforce and assets outside the home market, which is more thoroughly explained under *2.4 Index*. The goal is to replicate the calculations made in the GERPISA index as good as possible, to be able to compare our index to the GERPISA index. The source of data for the calculation is mainly annual reports, but also other company reports which can be seen in the references in the end of the thesis.

2.2 Generalizability, validity and reliability

We have tried to increase generalizability by choosing five companies for this thesis that represent the market as good as possible, and in that way we try to provide conclusions that could indicate the market situation as a whole. But since we just investigate five companies' strategies, and the industry consists of a lot of manufactures, it could be hard to reach to completely generalizable conclusions. Our aim though, is to generate hypotheses of how the reality is ordered, which later can be tested to achieve generalizability (Ryan et al, 2002).

We believe that the overall validity of our findings is high. We update an index that is developed by the international automobile network GERPISA to measure globalization, which support the fact that this index really measures the level of globalization. One can though question if a company's strategy choice really is the best explanation for the level of globalization, it may exist several other factors that also affects the level of globalization. We tried to minimize the problem by structuring the data transparently and being clear when making interpretations in the analysis.

Our opinion is that the reliability of this research is high, which means that the study can be replicated with the same results by someone else. To make sure this is the case, we provide exactly how we calculated the index and variables in *2.4 Index*. We also provide the numbers in the calculation in the *Appendix 1*. This makes it easy for an outside person to do exactly the same calculations as we have done and end up with same result.

2.3 Selection Issues

There are a lot of car manufactures around the world and we have chosen to limit this thesis to five of those companies; Renault, BMW, Geely, General Motors and Toyota. The main reason for the choice of these companies is that these companies represent the all the different automobile markets. We have Renault and BMW representing the European market, General Motors representing the North American market, Toyota representing the Japanese market and Geely representing emerging markets. Another reason is that they have clear strategies. When studying which strategies that increase or decrease the level of globalization for companies, a clear strategy enable us to better see and understand the effect on level of globalization.

The chosen car companies are huge multinational companies with thousands of employees and often hundreds of subsidiaries. We have therefore chosen to limit our calculations to subsidiaries that are more than 50% owned by the group. The only exception is that Volvo Cars. Li Shu Fu is the largest owner of both the publicly traded Geely Automobile Holdings Limited and Volvo Cars (Orbis website, 2014). Combined with Li Shu Fu's role as the chairman of both companies we have considered Geely and Volvo Cars to be under collective interest and therefore regarded the two companies as a combined group. This relationship is further reinforced with the companies close cooperation between the two companies according to Geely's annual report (2013).

The chosen time period for calculations is 2006 – 2012. To be able to put these calculations in a larger perspective we have chosen to use a larger time period when explaining the markets and the different strategies. We also compare our index with the GERPISA index, which is calculated for the years 2000 – 2005.

What we mean with globalization in this thesis is how large part of the company that is outside the home market. Home market can be either the country of origin (Japan, Kina, France, and Germany) or a continent (North America). The part of the company that is outside the home market refers to the amount of revenues, assets, production and employees that is located outside the home market.

Our focus when analyzing strategies and globalization of the different automobile companies has been automobiles. That means we have not included trucks, commercial vehicles or motorcycles. However in our calculations those vehicles have not been excluded. The reason why we have not excluded is first of all that GERPISA used the combined figures for the

whole group in most cases (Jetin, 2009, p.41). Excluding other types of vehicles and sales would have decreased the possibility to compare our updated global index with GERPISA's figures. Secondly the studied automobile companies do not present their sales, assets, production and employees both divided between different geographic regions and types of vehicles. We do not think this decision have any larger impact on our conclusions since sales and production of automobiles account for the absolute largest part of the studied companies.

2.4 Index

The global index is calculated as an average of four different variables. The variables are equally weighted in the index.

$$Global\ Index = \frac{Globalization\ of\ (Revenues + Production + Workforce + Assets)}{4}$$

Here is how the variables were calculated for the different firms. For some of the companies the numbers was not available for all the variables, and was then calculated with some assumptions.

Renault

Proportion of revenues outside France:	$\frac{Total\ Revenues - Revenues\ in\ France}{Total\ Revenues}$
Proportion of production outside France:	$\frac{Total\ Production - Production\ in\ France}{Total\ Production}$
Proportion of workforce outside France:	$\frac{Total\ Workforce - Workforce\ in\ France}{Total\ Workforce}$
Proportion of assets outside France:	$\frac{Property, Plant \& equipment and intagibles\ outside\ France}{Total\ Property, Plant \& equipment and intagibles}$

BMW

Proportion of revenues outside Germany:	$\frac{\text{Total Revenues} - \text{Revenues in Germany}}{\text{Total Revenues}}$
Proportion of production outside Germany:	$\frac{\text{Total Production} - \text{Production in Germany}}{\text{Total Production}}$
Proportion of workforce outside Germany:	$\frac{\text{Total Workforce} - \text{Workforce in Germany}}{\text{Total Workforce}}$
Proportion of assets outside Germany:	$\frac{\text{Total non current Assets} - \text{non current Assets in Germany}}{\text{Total non current Assets}}$

Geely

Assumptions:

- Volvo was fully integrated 2011
- Sales = Production
- All of Geely's employees worked in China before the Volvo acquisition
- All of Geely's assets were in China before the Volvo acquisition

Proportion of revenues outside China:	$\frac{\text{Total Revenues} - \text{Revenues in China}}{\text{Total Revenues}}$
Proportion of production outside China:	$\frac{\text{Total Production} - \text{Production in China}}{\text{Total Production}}$
Proportion of workforce outside China:	$\frac{\text{Total Workforce} - \text{Workforce in China}}{\text{Total Workforce}}$
Proportion of assets outside China:	$\frac{\text{Total Assets} - \text{Assets in China}}{\text{Total Assets}}$

General Motors

Proportion of **revenues** outside North America:

$$\frac{\text{Total Revenues} - \text{Revenues in North America}}{\text{Total Revenues}}$$

Proportion of **production** outside North America:

$$\frac{\text{Total Production} - \text{Production in North America}}{\text{Total Production}}$$

Proportion of **workforce** outside North America:

$$\frac{\text{Total Workforce} - \text{Workforce in North America}}{\text{Total Workforce}}$$

Proportion of **assets** outside North America:

$$\frac{\text{Total Assets} - \text{Assets in North America}}{\text{Total Assets}}$$

Toyota

Proportion of **revenues** outside Japan:

$$\frac{\text{Total Revenues} - \text{Revenues in Japan}}{\text{Total Revenues}}$$

Proportion of **production** outside Japan:

$$\frac{\text{Total Production} - \text{Production in Japan}}{\text{Total Production}}$$

Proportion of **workforce** outside Japan:

$$\frac{\text{Total Workforce} - \text{Workforce in Japan}}{\text{Total Workforce}}$$

Proportion of **assets** outside Japan:

$$\frac{\text{Total Assets} - \text{Assets in Japan}}{\text{Total Assets}}$$

3. The Characteristics of the Automobile Industry

3.1 Europe

As discussed by Clark and Fujimoto (1991), the European automobile manufactures have since the late 19th century focused on high-end performance with high variety and technological excellence, rather than high volume and standardization. This idea is rooted in the very foundation of Europe, with a long tradition of engineering superiority, high fuel costs, demanding customers and great demographic variation. The demographic variation has made it difficult for one single producer to control the market. That is because customers in different countries demands different kinds of functions, which for a long time has prevented the emerge of one single design idea to dominate. For example French cars need softer suspensions in response to bumpy roads, and Swedish cars need to work as well in snowstorms as in hot summers. This has resulted in that the European automobile market consists of a large number of participants, but with strong corporate identity. Clark and Fujimoto (1991) further argued that the manufactures developed different conceptions of what a good car was, and then preserved that concept over time and across their product range. This also resulted in that customers developed different expectations for cars of different manufactures, regardless of which product of the product line. A BMW customer expected to experience the BMW characteristics no matter if he was driving a BMW 3 series or a 7 series. European customers then tended to evaluate the cars through a comparison with their expectations of the particular company, rather than a direct comparison with products of other companies. So the main task for BMW was to meet the expectations of BMW customers, not to match for example Mercedes models.

The European Automobile industry grew rapidly after World War II, and companies with volume as main focus emerged. Cars as the Volkswagen Beetle became more and more popular. These mass producing companies did not manage to outcompete the high-end producers, but managed to establish themselves as independent market participants. (Clark and Fujimoto, 1991)

Strategies in Europe: Manly companies producing High-priced, high-performance luxury products (BMW, Porsche, Audi, Jaguar, Mercedes, Volvo etc.) and cost leaders (Fiat, PSA, Volkswagen etc)

3.2 North America

Clark and Fujimoto (1991) argue that the US Automobile market started to grow with the launch of Henry Ford's Model T in the beginning of the 20th century. Ford focused on assembly lines and produced standardized cars for the mass market. In the 1920s customers started to demand greater variety in both design and performance, and General Motors Corporation (GM), founded in 1908, introduced the Chevrolet. The Chevrolet offered customers different choices of colors and design. This changed the car from just a utility vehicle, to something that offered more than just transportation. The typical American car had attributes as a powerful engine, comfortable interior, long hood and large trunk. Driving factors as a low fuel price and power-demanding customers lead to less focus on technology improvement or refining vehicle performance.

Clark and Fujimoto (1991) further write that the US Automobile started out with hundreds of companies, but had by the end of the 1920s developed into an oligopoly dominated by "the big three": GM, Ford and Chrysler. Prospering from economies of scale, these companies offered similar product concepts for any given segment or category, which resulted in that customers compared models from different companies. The rivalry was more intense than in Europe, but less intense than in Japan. Volume production was dominating the market and none of the high-end producers survived as independent firms. Firms as Cadillac, Duesenberg and Lincoln either disappeared or merged into one of the big three. High-end cars became an extension to the companies' product lines and began to share components with the volume products. (Clark and Fujimoto, 1991)

Strategies in North America: Mainly volume producers (GM, Ford & Chrysler)

3.3 Japan

According to Clark and Fujimoto (1991) the Japanese car manufactures based their models on European and American models in the first part of the 20th century. Japanese manufactures were catching up technically until the 1970s. Many of the customers were encountering a car for the first time, which made their preferences diverse and difficult to predict. The result was a mix of both European and American inspired cars with a lack of conceptual continuity across the companies. This made it difficult for the manufactures to develop a company identity and the customers tended to be attracted to whatever was new, rather than be loyal to a specific company. Customer loyalty was instead directed at car dealers. The demand for

innovation and change made introductions of new models very important. The sales jumped with the launch of a new model, and then quickly decreased until the sequel was launched. This created a market where the Japanese car manufactures often updated their models every four years with radical changes. Unlike the European market where for example BMW tried to refine the classic BMW characteristics with every new model, the Japanese manufactures wanted to show that the new model was really something new.

Clark and Fujimoto (1991) also write that a large number of competitors were competing on the small and unstable domestic market, which resulted in a market with high rivalry amongst the firms. Comparisons between models of different manufacturers were direct, for example between Toyota Corona and Nissan Bluebird throughout the -1960s, 1970s and 1980s. To adapt to the market environment these also underwent major changes every four year.

The view on production of high-end cars was similar to the one in USA; high-end cars were an integral part of the company's product line. The idea was that if a company offered cars in different segment, they could seek to make sure that customers always drove their brand, even though if someone's financial position changed. (Clark and Fujimoto, 1991)

Strategies in Japan: Mainly volume producers (Toyota, Nissan, Honda etc)

3.4 Emerging markets

Balcet et al (2012) write that the emerging markets car production started from the 1950th and onwards. Most countries in the emerging markets started with heavy regulation and have then successively liberalized their automobile industry. The regulations in countries like Asian countries, south American countries and central European countries have included subsidies for cars produced within the country and high custom and taxes for cars produced outside, different typed of license agreements with technology transfers and so called TRIM's with regulations regarding foreign investments.

Balcet et al (2012) also write that despite the heavy regulation some countries have still attracted foreign investments mostly due to the large potential in markets like China, India and Brazil. But still as a result of the heavy regulations automobile companies have struggled to achieve sufficient scale even in large countries like China and India, which means the return on investments have been poor. The cars that have been produced are often old outdated European or American cars in produced in relatively small quantities, despite the

outdated technology demand have been strong in the domestic markets and the producers have been struggling to keep up with the demand.

The success of the heavy regulation can be questioned but industry output has increased rapidly in many countries and local companies have accumulated technological know-how. Local government has more recently tried to create so called “local champions” by focusing their efforts on one single player. Regardless of all the actions taken by local governments not one single carmaker have been competitive outside the domestic markets except from Hyundai/Kia. The most successful carmakers in these countries are the large global automobile companies like Volkswagen, Fiat, GM etc. (Balcet et al, 2012)

3.5 Platforms

Platforms is one of the core parts in automobile construction, every car is built on a platform which sets the limits for what kind of technologies, performance and design that can be used for the specific model. Sehgal and Gorai (2012) argue that the platforms often account for nearly 50% of the development costs when a new model is designed. With this in mind shared platforms between both manufacturers and models are becoming more and more common since it is both cost saving as well as time saving.

According to estimations made by Sehgal and Gorai (2012) the number of platforms used for passenger car manufacturing will be reduced with one third by 2020 compared to 2010. Today the top 20 platforms produce about 40% of the passenger cars in the world.

Sehgal and Gorai (2012) write that platform sharing impacts the automobile industry since it demands a lot of collaboration and compromises. When developing an entire platform, the users have to consider e.g. their goals, product portfolios and technology. For suppliers platforms gives the opportunity to increase sales since most platforms only use one supplier for a specific part used for vehicles produced on that platform. However more cars produced on one platform and less platforms reduces the number of suppliers that can operate on the market. There is also a possibility that smaller suppliers will be unable to produce in sufficient quantities.

Shared platforms creates the possibility for automobile companies to expand their model range but that implies that each model will be sold in a smaller quantity and actually compromising one of the base ideas behind platforms strategies, economies of scale. If more cars are produced on one platform faults will lead to recalls of more cars. Different markets

and different countries also have different norms and regulations that makes globally shared platforms more difficult to use. Another problem with platform strategies is that automobile companies runs the risk to not be able to implement different prices for cars produced on the same platform as consumers might find the cars too equal. And last, as discussed by Clark and Fujimoto (1991) the different regional automobile markets differs significantly which makes it difficult to e.g. share a platform between the North American market where large SUV's are common with a market in Asia where small cheap cars are in demand.

Sehgal and Gorai (2012) further explain that the large automobile companies in the world have implemented extensive platform strategies. The portion of all the passenger cars produced in the world on the top 20 platforms will reach 45-47% in 2015. There is a path of platforms becoming more and more flexible and thereby able to use over segments as shown below.

4. The Characteristics of Different Strategies among Automobile Companies

4.1 Renault

Freyssenet (2009) argue that Renault has had several challenging years since 1980's but have managed spectacular recoveries from its problems. The most recent examples of this is the creation of the alliance with Nissan, the development of the true low-cost brand Dacia and the entering into the Korean market by the acquisition of Samsung Motors.

Freyssenet (2009) also writes that Renault's was in crisis between 1983 and 1986 but managed to recover from the crisis by emphasizing quality. The higher quality cars were targeted towards the Northern European market since the willingness to pay for quality was higher in these markets. Part of this plan was also collaboration with Volvo. In 1993 the economic crisis started and Renault's sales were down by 300 000 cars. Renault saw the problems coming and implemented a new strategy emphasizing conceptual innovation rather than quality already in 1992. The rescue for Renault was the Scénic model.

The French automobile companies had a price competition during this period with severe price wars and Renault concluded that their car models were too expensive. In 1996 Carlos Ghosn was hired as Vice-president of Renault with the task to cut the costs. When a third plant was closed in Belgium, that action was the start of the first Euro-strike ever. When Renault had managed to recover from the economic crisis in Europe a new financial crisis started in Thailand and spread into many other countries in Asia. The crisis allowed Renault to create the alliance with Nissan in 1999, acquiring Dacia later the same year and Samsung motors in 2000. Carlos Ghosn now got the task to solve the problems at Nissan. Nissan was almost bankrupt and the management had low legitimacy after several failed rescue plans. Carlos Ghosn set up ambitious goals in year 2000 that were reached already in 2001, one year ahead of schedule. (Freyssenet, 2009)

According to Freyssenet (2009) was the alliance between Nissan and Renault created with a shared strategic vision but the idea was to let both Nissan and Renault keep their own identity. A cross shareholding was setup and both parties agreed to prevent hostile takeovers. At December 31 2011 Nissan owned 15% of Renault (Renault's website, 10 April 2014) and Renault owned 43,4% of Nissan (Nissan's website, 10 April 2014). A 50/50 strategic management company was setup for the Renault-Nissan alliance and a common purchasing company was started with the aim to account for at least 70% of all purchases. In 2006 the Renault Nissan Purchasing Organization made 75% of all purchases. One of the reasons why the alliance have been a success is that both parties have benefited from the relationship and neither have been seen as the weak partner. Renault has learnt about quality, productivity, logistics and problem solving from Nissan. Nissan on the other hand have used Renault's knowledge about cost control, marketing, design, platform strategy and sales finance to mention a few examples. The alliance has achieved substantial cost savings mostly thanks to the alliance's ability to put pressure on suppliers.

Renault's performance in Brazil and Russia was disappointing however the recently acquired Dacia was a success according to Freyssenet (2009). The brand was created to target the automobile markets in emerging countries, the idea came from Louis Schweitzer who at the time was CEO of Renault. He saw the need for a car that not only was cheap to purchase but also cheap to run as well as reliable. The Dacia models use little new technique but focus on technique that have been used before and proven reliable. At first Renault helped Dacia to improve their current models but quickly launched the Solenzia, which was a large success and since then Dacia's model lineup have been replaced and renewed. The brand has

continued to be successful beating the expectations, helped by a strong unexpected demand from countries in Western Europe.

Freyssenet (2009) write that Renault Vel Satis model and Renault Avantime model both emerged from the strategy about conceptual innovation in 2001, built on the same platform as the Renault Espace. The models were designed “for those who prefer Apple to Dell and Bang & Olufsen to Daewoo” but turned out to be failures. But during this period operating margins were back around 4-5% and net earnings around 6-7% of revenues. After some lessons learned with the failure of Avantime and Vel Satis and the success of Espace model, Carlos Ghosn now CEO of both Renault and Nissan said that Renault were to focus on “cars that sell themselves”. That implies focusing on consumer needs and expectations. Renault also tried to focus more on profitability rather than market share. These actions were taken to address the declining sales in the Western European markets that were supposed to be the backbone in Renault’s operations. This was important because Renault’s strong financial performance that had resulted in no debt in 2005 largely was down to the success of Volvo Trucks and Nissan, meanwhile Renault’s passenger cars had continued to perform poorly. But the acquisition of Samsung Motors certainly helped Renault to penetrate the Korean market but it sales was flat in the Korean market between 2002 and 2008. Renault has also positioned themselves to become a leader in the Russian Automobile market with the acquisition of 25% of AvtoVAZ. (Freyssenet, 2009)

Renault platform strategy

Renault and Nissan both use shared platforms in the alliance as one of the more important sources for synergies. In 2012 approximately 85% of all cars produced by Nissan and Renault were built on five core platforms. However the Renault-Nissan alliance does not have any major change in their platform strategy. According to Evaluserves estimations (Figur 1) there is still an up-going trend in the production volume for the alliance’s largest platforms. (Sehgal and Gorai, 2012)

Figure 1. Number of cars produced per platform in millions



Source: Sehgal and Gorai, 2012

4.2 BMW

Pries (2009) writes that BMW have been an incredibly successful export success for many years. BMW earns the second largest amount of money per car and grew production and sales with more than 50% between year 2000 and 2005. The decision to only produce cars within Bavaria has clearly distinguished BMW from other automobile producers for many years; it was not until 1994 production the first BMW was made outside Bavaria. The focus on engineering excellence and professional thinking combined with innovative network operations relying on long-term relations and a respect to the tradition and the employees has been the key to the success of BMW.

Pries (2009) further argue that the unique relationship between the German union IG Metall and automobile producers like BMW and Volkswagen is one of the factors strongly describing the success of the German automobile industry. The German automobile producers believe that stability for the employees and good flexibility of the internal workforce enhances the development of qualified workers and professional workers. More qualified workers acting professionally and greater stability is believed to develop highly technical products with emotions built in to them. The automobile producers and IG Metall work closely together for the good of the company. IG Metall has representatives in the boards of the many German industrial companies. This approach where the parties operate with great respect to each other, has resulted in fewer strikes and higher productivity. Examples of some measures that the automobile companies have introduced is profit sharing, individual bonuses, programs designed to reward high productivity and a rule which banes employees from reading job related emails or taking job related calls when they are not working (BBC Documentary, 2013).

Pries (2009) also write that Bayerische Motoren Werke AG (BMW) was started back in 1916 producing airplane engines and moved into motorcycles in 1923 and cars in 1929. During World War II the company produced engines for the Nazi regime. When the war was over the company resumed its car production in 1951 with a focus on high-end cars. The production of executive sedan cars was not profitable and the company was in a deep financial crisis by 1959. Takeover attempts from Daimler-Benz, General Electric, Ford and AMC were all turned down but the solution came from the Bavarian industrial family Quant who bought a majority stake in the company. Still today in 2014 the Quant family is the main owner of BMW with 46,7% (annual report 2013) of the shares. Most of BMW's current brand image was created during the 70s with the introduction of the 3-series, 5-series and the 7-series

which still today is the core of BMW's model lineup. The company grew rapidly from the 60s and onwards but kept its production within the state of Bayern even as it grew its production to meet the rising demand. The organization remained flexible compared to other automobile firms and still does so thanks to the extensive collaboration with suppliers. Especially with first-tier suppliers like ZF-transmissions relying on long-term relations and mutual technological development even at an early stage. Something that still is unique for BMW is its low share of in-house production, only accounting for 25% of the production value. With a supplier network becoming larger and BMW's management has realized that its impressive growth could not be continued unless the company became more globalized and less dependent on the Bavarian region. A new motto "made by a German company" as opposed to the former "made in Germany" motto was established in 1993 by the at the time CEO Bernhard Pischetsrieder.

According to Pries (2009) did the globalization begun during the late 70s and 80s with the establishment of long-term relationships with international suppliers and an international procurement office, this trajectory continued during the 90s. The acquisition of Rover 1994 marked a definitive change in BMW's strategy, but the deal turned out to be a catastrophe and BMW sold all the Rover and MG brand to an English consortium for the symbolic sum of £10. Land Rover and Jaguar were sold to Ford. However BMW kept the brands Mini and Rolls Royce cars. Year 1994 also included a more successful event with the production start of the BMW Z3 in the American factory Spartanburg in South Carolina. The first generation of BMW Z3 was developed in Germany but only produced in Spartanburg. In 1998 the production of the first generation, successful BMW X5 started. At an early stage the factory suffered from some quality issues and the perceived quality was lower compared to other BMW's produced in Germany. Today the Spartanburg factory produces the X3, X5 and X6 models but the engines are produced in Germany. Apart from a new factory in the US BMW also set up complete knock-down (CKD) factories in South Africa, Russia, Egypt and Thailand during this period. Complete knock-down factories receive ready cars, take them apart and then put them together again. The knock-down process is setup in order to overcome local rules about a minimum share of local parts, minimum level of added value within the country etc. In year 2000 BMW took the decision to build a new factory in Leipzig Germany, which contradicts the more international strategy to some extent. The decision was controversial compared to BMW's competitors who all have production sites in low-cost countries like Hungary or Czech Republic. BMW actually chose between Leipzig in Germany

and Kolin in Czech Republic when decide where to set up a new plant. The decision fell on Leipzig despite a 30% personnel cost advantage of Kolin. One of the main arguments of Leipzig was the access to qualified workers, something that had been proved to very important in BMW's previous adventures with Rover and the Spartanburg plant in the US. Another important elements were the superior production flexibility, language and culture in favor of Leipzig.

One important event in recent years is BMW's creation of an alliance with Toyota. The alliance first included BMW sharing their diesel engines with Toyota. The alliance has intensified since the first agreement was met in 2011 and now includes collaboration within electro mobility and Hydrogen fuel systems (Financial Times, 29 June 2012). The project has been named 360° ELECTRIC according to the BMW Annual Report (2013).

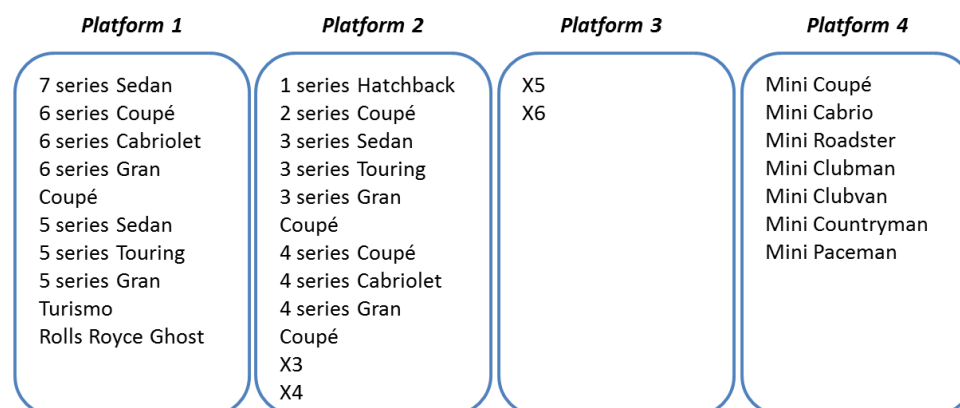
Pries (2009) further write that since 2007, BMW operates with the strategy "Number ONE" with two targets; "to be profitable and enhance long-term value in times of change". The Number ONE strategy includes the development and production of the BMW I-range with the i3 and the i8, BMW's completely new range with electric vehicles (BMW's website, 2014). The development has been made outside BMW's ordinary R&D operations to achieve true outside the box thinking. The BMW i3 that went into production in 2013 is produced using carbon reinforced plastic in order to keep the weight low. The raw-material comes from Japan and is reprocessed into carbon fiber in Moses Lake, Washington by SGL Automotive Carbon Fibers, a joint venture between BMW and SGL Group (SGLs website, 2014). The reason why is located in Moses Lake is the good access to cheap and clean electricity that is important for keeping both the costs and the carbon emissions low in the electricity intense production of carbon fiber reinforced plastic parts (Wards Auto, 19 May 2010). Those parts are then shipped to Leipzig in Germany where the rest of the car is assembled. The whole setup with in-house production for everything except the raw material has cost BMW several hundred million euros (New York Times, 5 November 2010)

BMW's platform strategy

As one can see in figure 2 BMW have implemented an extensive platform sharing between its major models, the most widely shared platforms are those used for BMW's traditional models which include the 3 series, 5 series and 7 series. There is less information about BMW's platforms compared to its competitors. BMW have recently released both the new MINI 3 door and the BMW 2 series Active Tourer based on their new UKL platform that will

underpin all the future front-wheel drive cars from both MINI and BMW. The more technology advanced platform used for BMW i3 is only being used in the Leipzig plant.

Figure 2. Models produced on the major BMW group platforms in 2014



Sources: Top Gear 10 October 2013, Motor Trend June 2012, Automotorsport 31 May 2013, Top Gear 6 March 2014

4.3 Geely

Balcet. G., Wang, H., et.al, (2012) explain that Geely is a very new company compared to the other players. Geely was not started until 1986 and the company only started to produce cars in 1998. To understand its rapid growth you have to know more about the Chinese automobile industry and the Chinese automobile market. In 1979 China started the travel towards a market economy. Most of the world's largest automobile producers were early on start joint ventures with local players and China joined the World Trade Organization (WTO) in 2001. Most of the large automobile producers launched ambitious investment plans which included locally adapted mobiles (e.g. long wheel-base versions like Audi A6L and Mercedes E-class long wheelbase (Autocar, 4 March 2014)) Between year 2000 and 2010 the Chinese automobile industry grew with an average rate of 36% per year.

Balcet. G., Wang, H., et.al, (2012) also write that as opposed to many of the automobile companies in other developing countries, many of the Chinese equivalents have managed to catch up, at least to some extent. There are three main strategies, which Chinese automobile companies have applied when expanding into new markets and new countries. First there is the so-called Reverse Engineering where technology from other producers is used without any direct connection to the owner of the technology, this strategy have resulted in many Chinese cars being similar to European cars. The second strategy is the market seeking motivations with the goal to access new markets. Strategic Asset-Seeking is the third strategy used by

many Chinese firms, which implies an acquisition of a foreign company in order to access better technology, more knowledge, stronger brands and more valuable skills.

Balcer. G., Wang, H., et.al, (2012) write that Geely is a privately owned company with some state influence. Only a couple of years after the start the company produced refrigerators, motorcycles, decoration material and operated trading, real estate, hotels, tourism and higher education. In 1997 it moved into the car making business applying the reverse engineering strategy. Their first car was the Haoqing model with 70% of all the parts being equal to those in the Charade model, which in its term was a modification of the Ulio/Meiri model dating back to the 1980s. By the years Geely accumulated internal knowledge and capabilities which resulted in the Geely Maple model which used a Citroen ZX platform with a modified Toyota engine. This quickly proved Geely's ability to rapidly build up internal know-how. The reverse engineering strategy kept the costs low and helped Geely to become the 8th largest Chinese automobile company by 2010. Despite the success in the domestic market Geely expanded into other low-end car markets in 2003, escaping from the intense competition in the Chinese market.

According to Balcer. G., Wang, H.,et al, (2012) did Geely's chairman and largest owner, Li Shufu, tell his employees in 2002 to start to look for a potential candidate for an acquisition abroad. In 2006 Geely managed to acquire London Taxi as their first move with the new strategy and in 2009 this event was followed up with the acquisition of the Australian transmission producer DSI. In 2010 the Geely made a major move by the acquisition of Volvo Cars together with two government supported companies.

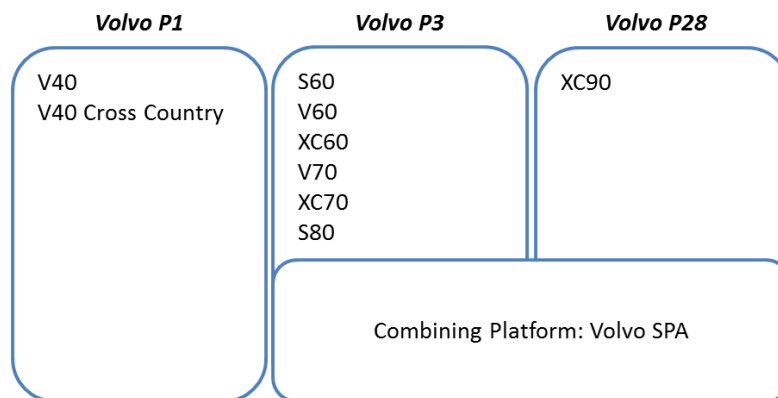
Geely and Volvo's platform strategy

There is little information about Geely's platforms we have chosen to study Volvo's platform strategy instead. Volvo and Geely comes from the same group, according to Geely's annual report (2013) technology was of the strongest arguments behind Geely's acquisition of Volvo Cars. That is why Volvo's platforms strategy represents the combined group with both Geely and Volvo Cars platform strategy in this section.

Currently Volvo uses 3 different platforms, which is demonstrated in figure 3 below. All the platforms come from Volvo's former relationship with Ford. The P3 and P28 that are used for large and medium sized vehicles will be replaced with the new Scalable Platform Architecture

(SPA) platform. In the future we will see new platforms developed jointly with Geely that will be shared by both Volvo's and Geely's models.

Figure 3. Models produced on the major BMW group platforms in 2014



Sources: New York Times 9 February 2014, Autocar 6 March 2012, Autoweek 30 March 2006

4.4 General Motors

Senter, R. Jr. and McManus, W. (2009) explain that much of General Motors success relies on the Fordist production and organization, that might seem quite contradictory as Ford is and have always been one of GM's arch-rivals. The company enjoyed great success most of the time before 1970's but have had a challenging period since then. Despite being the world's largest automobile company for many years, GM filed for chapter 11 bankruptcy protection in 2009 (Forbes, 30 October 2013). Since then the company have been reshaped and several brands have been closed down or sold. The US government spent a large role in its rescue.

Senter, R. Jr. and McManus, W. (2009) further write that the base idea of Fordist production that GM has implemented is a clear division of the labour force and economies of scale. At the same time GM also uses Sloanist production with the labour force divided into several divisions and where each division is responsible for both production and development. To support the structure GM have centralized the distribution, the financial resources and the measurement of financial performance. Full implementation of both Fordist production and Sloanist production contradicts each other, where for e.g. multiple divisions suggested by the Sloanist production reduces economies of scale. However the Sloanist structure is typical for many other large American companies and it has been copied from GM. The structure have helped GM create a successful consumer financing arm, excellent inventory management and improved its forecasts.

Senter, R. Jr. and McManus, W. (2009) write that GM held a large share of the American market between the Second World War and 1973 and reported large profits. However between 1973 and 1994 GM had a declining market share and was struggling with a bad relationship with manufacturing workers, diminished control over sales channels and resistance towards government regulations. The company remained focused on design and technology in many aspects while the European and Japanese competitors focused more on their operations manufacturing technology. GM's market share dropped from 42% in 1984 to 32% in 1994. During the 90s GM benefited from the strong economic growth in USA but some people said that the strong economy made GM to postpone the changes that had to be made in order to survive in the future. One of the persons who thought GM needed a change was the American investor Kirk Kekorian who bought a large stake in GM and tried to change the company.

In 2005 GM made \$10,4 billion in losses and despite having \$20 billion in cash the company was in great danger due to its extreme burn rate. GM took the decision to sell 51% of GMAC, GM's highly profitable financial company, to the gigantic Private Equity firm Cerbus Capital (at the time they also owned Chrysler) for \$14 billion. One of the reasons why GM lost so much money was the expensive pensions that had to be paid to former GM employees but the company also suffered from over capacity and a too large workforce. (Senter, R. Jr. and McManus, W., 2009)

Senter, R. Jr. and McManus, W. (2009) also write that some changes were made back in 1996 in order to shorten the development time for new models, a new approach was introduced where all the details the consumer could see was different on all vehicles but details the consumers did not see should be shared. GM was slow to implement the changes and models with a more experimental design like the Hummer H2 and the Chevrolet Malibu.

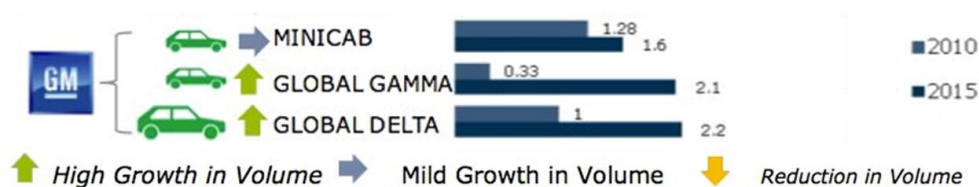
Senter, R. Jr. and McManus, W. (2009) write that GM has performed well in the Chinese market, India, Thailand and in some other Asian markets. The performance in Europe have been poor with Opel struggling but their losses have been minor compared to the \$2 billion cost for exiting the joint venture with Fiat. GM has in the more recent years focused on the more profitable light-trucks and luxury sedans on the American market after GM's exit from chapter 11 bankruptcy protection. The successful redesign of Cadillac has been a large part of that campaign. They have also accepted that the American mainstream market is shrinking and have adapted by reducing their manufacturing capacity. General motors has become more

globalized over the years but the foreign entities are still operating relatively independently, but still GM is more international than both Ford and Chrysler

General Motor's platform strategy

In 2012 GM had 30 platforms of which 8 were global. By 2018 GM's goal is to only use fourteen global platforms accounting for 90% of its total production volume. In 2010 GM produced 3,53 million passenger cars on its three largest platform, that figure is expected to grow to 5,9 million cars by 2015 according to Evaluserve's report. The change is mostly done to the large increase in the number of cars produced on GM's Global Gamma and Global Delta platform. Both the Global Gamma and the Global Delta platform have been developed to be able to use over different segments and combined they will be able to produce everything from mid-size cars, MPV's, SUV's crossovers and small cars. (Sehgal and Gorai, 2012)

Figure 4. Number of cars produced per platform in millions for GM



Source: Sehgal and Gorai, 2012

4.5 Toyota

Shimizu, K. (2009) explains that Toyota became the number one car producer in 2007 and has maintained its position since then. The company is known for producing reliable and high quality cars. One of the keys for the success is said to be the unique production system that Toyota has. The system is viewed as the father of the just-in-time production where inventories and waste is kept to a minimum level. The focus on minimum waste and high quality is what distinguishes many of the Japanese automobile producers from the competitors.

According to Shimizu, K. (2009) is the base idea to lower the costs and to improve quality with a constant learning process. The start of the production process is reversed to what many other companies do, the marketing department decides how much the consumers will have to pay for the model based on market knowledge. The finance department then decides the target profit level the Toyota wants, by knowing the retail price and the margin of the product the desired maximum cost is then calculated (see formula below).

$$\text{Desired cost} = \text{sales price} - \text{target profit}$$

Thanks' to this approach the engineers at Toyota have the costs in mind when they produce their cars and design the parts in such way that they will be as easy as possible to assemble and as cheap as possible to produce. The desired production cost is rarely met directly when a new model goes in production, normally it takes three months until the desired cost is attained. If the target is not met within a couple of months the Kaizen continuous improvement is applied. There is both a target for the cost during the design stage and during the production stage.

Shimizu, K. (2009) further writes that the system has changed due to Toyota's crisis 1988 - 1991. A large part of the employees' salaries have been based on production efficiency that has been calculated with the following formula.

$$\text{Production efficiency} = \frac{\sum \text{Standard time} * \text{Production volume}}{\text{Real working hours}}$$

Standard time is the calculated time for producing one car. The salary system enhances focus on quality, since errors are penalised twice. 1) Production volume goes down as while repairs or re work is made and 2) Real working hours goes up.

Toyotas production system is based on accumulated knowledge and collective learning which demands good long-term relations with suppliers (Reuters, 8 February 2010). The whole system is a reflection of the Japanese business community with its famous Keiretsu model where companies own small minority posts in its suppliers. The Keiretsu model encourages long-term relations but it is also a way to hinder competitors and to align incentives. Honda was for instance hindered by Toyotas and Nissan Keiretsu systems when trying to enter the Japanese automobile market. The production system was also a way to prevent the union from conflicting with the top management which in turn prevented the top management from undermining the mutual trust. (Luethge, D. J. and Byosièrè, P., 2009)

Shimizu, K. (2009) explains that Toyota after many successful years with high quality as one of its success factors begun to experience high growth in sales. Toyota went into an internal crisis with mass recalls and quality problems in the early 21st century. The problem was found to be the booming demand interrupting Toyotas production system. The System works well as long as the demand rises slowly over the years but a large change in demand interrupts the system. The problem is that the production phase is so stripped after all the refinements

meaning that the plants are run by an absolute minimum of workers. When the demand rises quickly the workforce gets stressed and starts to make errors that makes employees feel uncomfortable and also leaving the company. The solution was to ease the just-in-time production policy slightly (allowing for 5 min of inventory) and thereby make the work environment more attractive. Toyota also improved its training efforts for new employees in order to attract more young workers.

According to Shimizu, K. (2009) has Toyota had a goal to become more international for many years. One milestone in this travel was the establishment of a joint venture with GM back in 1984. The international strategy included local production on each market and more local parts. Apart from assembly plants in countries like China, France, Mexico, Russia, Turkey and USA Toyota have also set up marketing offices, design centres, production sites and engineering offices in Europe and North America in order to offer more locally adopted cars in these countries.

The Prius model marks a milestone in Toyota's history, introduced in the Japanese market in 1997 and then in the American market in 1999. Toyota became aware that they were able to produce truly high-technologically cars. Before the introduction of the Prius model, Toyota was believed by many observers to copy the other automobile companies' concepts but delivering higher quality. The Prius was developed outside Toyota's normal R&D process in order to develop a truly innovative product. The end result was not only a ground-breaking product but it also meant that Toyota now was on the forefront within Hybrid technology. Since 2011 Toyota have a relationship with BMW regarding future drivetrains. See the part about BMW for more information. (Taylor III, A.. et.al, 2006)

Toyota's platform strategy

As in the case with the other carmakers Toyota will produce more cars on its two largest platforms in 2015 compared to 2010. Taken together Toyota's MC and NBC platforms can produce both mid-size cars, MPV's, SUV's, crossovers and small cars. (Sehgal and Gorai, 2012)

Figure 5. Number of cars produced per platform in millions for Toyota



Source: Sehgal and Gorai, 2012

5. Globalization Data

Here follows our updated version of the GERPISA globalization index. The proportions are calculated for the years 2006 – 2012 and are based on numbers found in Appendix 1. The average GERPISA-indexes for 2000 – 2005 are found after the updated index for each company.

5.1 Renault

Table 1. Degree of globalization of Renault 2006 - 2012

Year	Revenues	Production	Workforce	Assets	Global Index
2006	66,2%	55,5%	47,2%	34,1%	50,7%
2007	67,8%	60,3%	51,5%	33,6%	53,3%
2008	65,6%	68,1%	53,5%	31,9%	54,8%
2009	62,9%	75,4%	54,6%	33,0%	56,5%
2010	67,4%	75,5%	55,7%	34,7%	58,3%
2011	70,8%	75,9%	57,3%	36,0%	60,0%
2012	73,6%	78,7%	58,1%	38,9%	62,3%
Average	67,9%	70,0%	54,0%	34,5%	56,6%

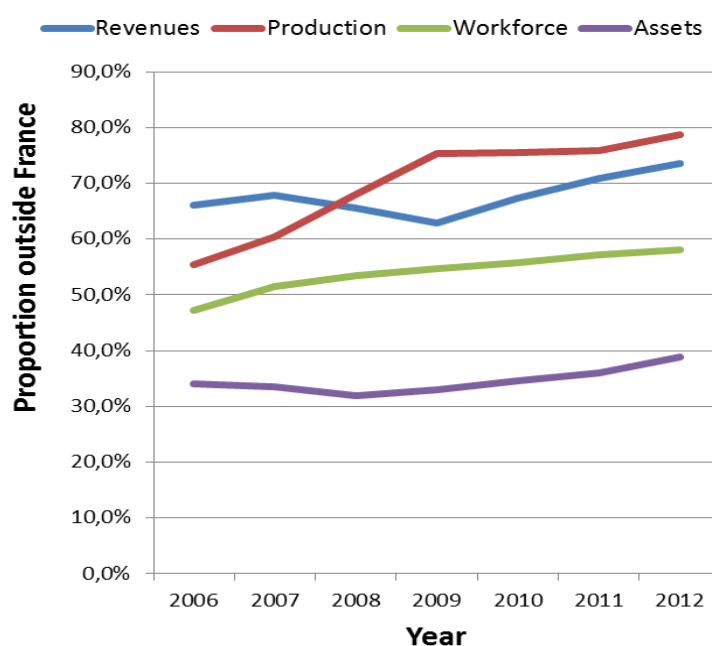
Proportions calculated with numbers from: Renault annual reports 2006 - 2012, CCFA Report 2007 - 2013, CCFA Tableaux d'année 2007-2013, Consolidated financial statements 2006-2012. See Appendix 1

Table 2. GERPISA Globalization Index of Renault 2000 - 2005

Average	63%	44%	39%	35%	45%
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Source: Jetin, B., 2009

Graph 1. Degree of Globalization of Renault



Renault shows an up-going trend for all the studied variables. A brake in the curve for revenues in 2009 is probably explained by the European financial crisis increasing the share of revenues from outside France and Europe. There is also a stagnation of the up-going trend in the production curve which also can be explained by the Euro crisis, postponing foreign investments.

The up-going trend can also be observed when comparing the average GERPISA index during 2000-2005 for all variables with the updated index. The largest increase can be observed in production going from 44% to 70%. The proportion of the workforce outside France also increased significantly meanwhile average revenues and average assets remained almost unchanged.

5.2 BMW

Table 3. Degree of globalization of BMW 2006 - 2012

Year	Revenues	Production	Workforce	Assets	Global Index
2006	78,4%	36,1%	28,3%	n.a.	n.a.
2007	78,7%	38,4%	29,2%	46,4%	48,2%
2008	79,8%	39,7%	26,1%	39,9%	46,4%
2009	77,4%	37,0%	26,0%	39,2%	44,9%
2010	81,5%	37,6%	26,7%	37,9%	45,9%
2011	81,3%	41,6%	29,3%	46,2%	49,6%
2012	84,1%	45,2%	30,5%	46,6%	51,6%
Average	80,5%	39,7%	28,1%	42,9%	47,8%

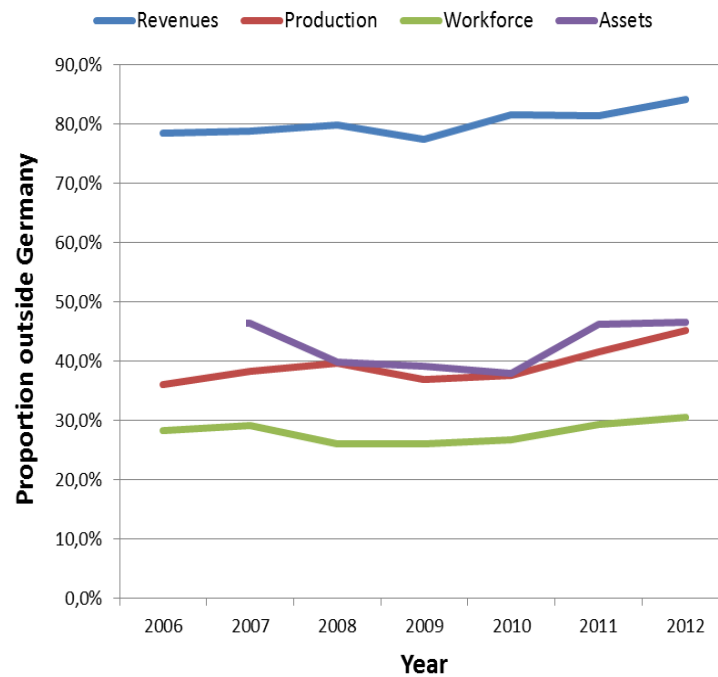
Proportions calculated with numbers from: BMW annual reports 2006 - 2012, CCFA Report 2007 - 2013, Financial Statements of BMW AG 2006 - 2012. See Appendix 1

Table 4. GERPISA Index of BMW 2000 - 2005

Average	75%	30%	25%	64%	48%
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Source: Jetin, B., 2009

Graph 2. Degree of Globalization of BMW



In the case with BMW the trend is relatively flat but there is still a small up-going trend. What distinguishes BMW from the other observed automobile companies is the revenue is an outlier compared to the other variables. This indicates that the proportion of production, workforce and assets is fairly high in Germany while the proportion of the revenues is higher outside Germany. However there is a break in the asset curve in 2011 where the curve becomes flat that is not followed by either the production or the workforce. The change indicates that either the assets within Germany have increased or that the assets have increased abroad.

There is a large difference between the GERPISA average and the updated average proportion of assets outside Germany. One explanation could be usage of different types of assets for the calculations. Another explanation could be changed assets allocations between countries. The total average index is almost unchanged (2000 – 2005: 48%, 2006 – 2012: 47,8%)

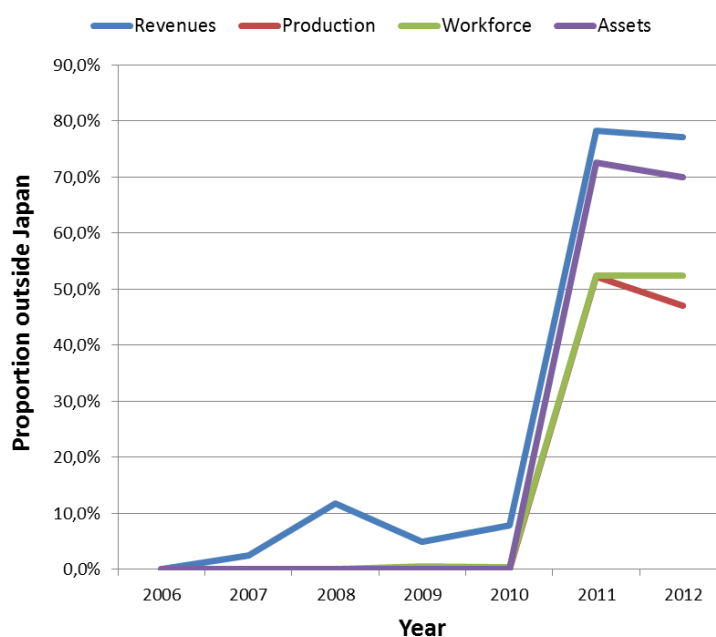
5.3 Geely

Table 5. Degree of globalization of Geely 2006 - 2012

Year	Revenues	Production	Workforce	Assets	Global Index
2006	0,0%	0,0%	0,0%	0,0%	0,0%
2007	2,5%	0,0%	0,0%	0,0%	0,6%
2008	11,8%	0,0%	0,0%	0,0%	3,0%
2009	5,0%	0,0%	0,6%	0,0%	1,4%
2010	7,9%	0,0%	0,4%	0,0%	2,1%
2011	78,3%	52,3%	52,5%	72,6%	63,9%
2012	77,1%	47,0%	52,5%	70,0%	61,7%
Average	69,3%	28,9%	30,6%	55,7%	46,1%

Proportions calculated with numbers from: Geely Sweden Holdings AB Annual Report 2011 - 2012, CCFA Report 2007 - 2013, Geely Automobile Holding Limited Annual Report 2006 - 2012. See Appendix 1

Graph 3. Degree of Globalization of Geely



Geely's trend is much more extreme than the other automobile companies. The proportion outside China is zero or close to zero for production, workforce and assets until 2010. The proportion of revenues outside China is the only variable that shows some amount, but a very low one compared to the other automobile companies. After 2010 Geely experiences a huge increase in all the variables by 50 – 73 percentage points. This can be explained by the acquisition of Volvo Cars in 2010. The average GERPISA index for the years 2000 – 2005 is not available for Geely.

5.4 General Motors

Table 6. Degree of globalization of General Motors Company 2006 - 2012

Year	Revenues	Production	Workforce	Assets	Global Index
2006	42,9%	48,7%	45,7%	32,0%	42,3%
2007	37,5%	54,5%	47,7%	35,9%	43,9%
2008	42,1%	58,4%	52,1%	30,6%	45,8%
2009	45,9%	70,7%	52,1%	42,2%	52,7%
2010	38,8%	66,9%	52,5%	45,0%	50,8%
2011	40,0%	66,7%	52,7%	42,2%	50,4%
2012	37,9%	65,9%	52,6%	41,7%	49,5%
Average	40,5%	61,3%	50,5%	38,6%	47,7%

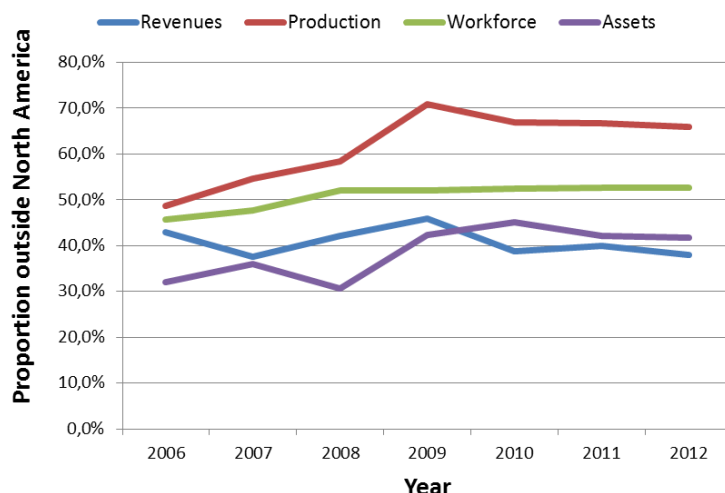
Proportions calculated with numbers from: General Motors Annual Report 2006 - 2012, CCFA Report 2007 - 2013, SEC Form 10-K 2006 - 2012. See Appendix 1

Table 7. GERPISA Index of General Motors 2000 - 2005

Average	29%	53%	47%	32%	40%
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Source: Jetin, B., 2009

Graph 4. Degree of Globalization of General Motors



The average global index for General Motors is slightly increasing over the time period 2006 – 2012, but overall flat. Both the proportion of production and the proportion of assets start to increase a lot in the year 2008. One explanation could be the financial crisis in the US starting 2008, which could have decreased the domestic production, making the foreign production a larger part of the total. Since the assets to a large extent consists of plants and equipment, the asset curve follows the curve of production.

The proportion of production and the proportion of assets outside North America have also increased when comparing the average GERPISA-index from 2000-2005 to the updated Global Index (Production: 53% - 61,3%, Assets: 32% - 38,6%). The proportion of assets does not increase as much, but is still increasing. The largest increase can be found in the average proportion of revenues outside North America. It increases from an average of 29% to 40,5%, which indicates that the sales outside North America have increased or the domestic sales have decreased.

5.5 Toyota

Table 8. Degree of globalization of Toyota 2006 - 2012

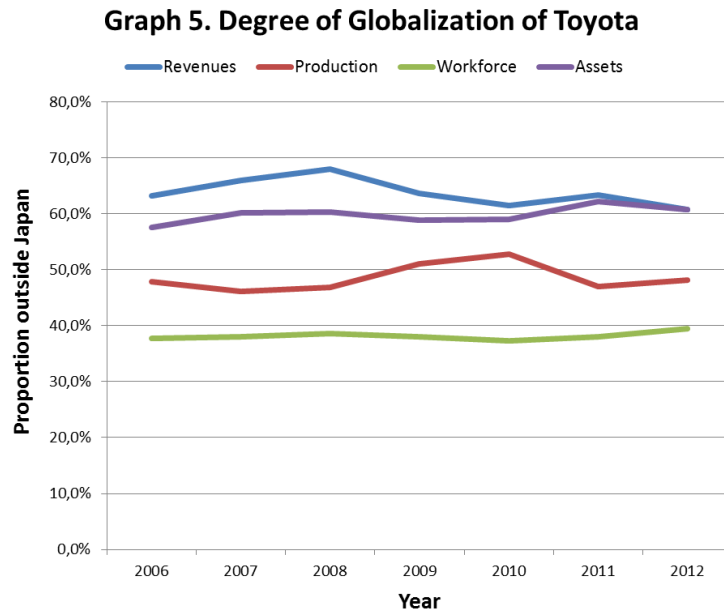
Year	Revenues	Production	Workforce	Assets	Global Index
2006	63,2%	47,8%	37,7%	57,6%	51,6%
2007	66,0%	46,1%	38,1%	60,1%	52,6%
2008	68,0%	46,8%	38,5%	60,3%	53,4%
2009	63,6%	51,0%	38,0%	58,9%	52,9%
2010	61,4%	52,7%	37,3%	58,9%	52,6%
2011	63,3%	47,0%	37,9%	62,2%	52,6%
2012	60,8%	48,1%	39,5%	60,7%	52,3%
Average	64,0%	48,4%	38,1%	59,8%	52,6%

Proportions calculated with numbers from: Toyota Annual Report 2006 - 2012, CCFA Report 2007 - 2013, SEC Form 20-F 2006 - 2012. See Appendix 1

Table 9. GERPISA Index of Toyota 2000 - 2005

Average	65%	39%	35%	50%	47%
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Source: Jetin, B., 2009



The curves for Toyota's variables are relatively flat over the observed years and do not increase much. The proportion of revenues outside Japan shows an up-going trend the first three years, but then suddenly starts to decrease in year 2009. The most likely explanation is the economic distress in the US and Europe, decreasing the demand for cars from outside of Japan.

When comparing the updated average index 2006 – 2012 to the average GERPISA index from 2000 – 2005 the proportions of revenue and workforce outside Japan have not changed much. The proportion of production has increased from an average of 39% to an average of 48,4%, which implies that the production outside Japan has increased more than the domestic production. An increase can also be observed in the average proportion of assets, increasing from 50 – 59,8%. One explanation can be that the assets increase when production outside Japan increases.

6. Analysis

6.1 Main analysis

The path of highly diversified car-markets for the world's major regions seems to continue with a clear division between the traditional car markets Europe, North America and Japan. The emerging markets are more diversified. Emerging market based automobile companies have a small share of export and emerging markets have a relatively large share of imported cars. The truth is that emerging markets is rather a selling market than a complete market. The customer needs in the different markets remains heterogeneous and there is no evidence of a car-model that can be sold with large success on all the world's car-markets. This is one of the explanations why the different automobile companies have so different strategies.

However the general prescriptions of the business community in the different automobile companies home markets and compare those to the strategies that the different automobile companies have, the relationship is very clear. It seems like the automobile companies strategies mirrors the business community in their home market very well.

In Japan for example the Keiretsu model is common, designed to enhance and reinforce long-term relations and to build high levels of trust. The Keiretsu model has influenced Toyota's pioneering within just-in-time production. Since just-in-time production builds on the idea about minimizing inventories, high levels of trust is needed in order to rely on a supplier's ability to deliver crucial parts just before they are needed, since a failure would stop the whole production and cost a lot of money. The long-term relations helps the companies to jointly develop accumulated knowledge, yet another important factor in Toyota's design and production system which is designed to eliminate mistakes and keeping costs under control called Kaizen at Toyota. The entire design and production process is the backbone in Toyota's strategy for producing high quality cars in large volumes with a low price. The keiretsu model has clearly helped Toyota to keep a low cost strategy. The fact that Toyota is the automobile company selling the largest amount of cars in the world clearly indicates that Toyota has chosen a broad scope of competition targeting most segments in the market. To conclude Toyota clearly has a cost leadership strategy according to Porters model about Generic Strategies. (Porter, M.E., 1985)

Figure 6. Strategies in The Automobile Industry

		Competitive Base	
		Differentiation	Cost
Scope	Broad	Differentiation Leader BMW	Cost Leader GM Toyota Renault
	Narrow	Differentiation Focuser	Geely Cost Focuser

For BMW the unique relationship between the unions and the management where both parties treats each other with respect, act for the good of the company and have a long-term perspective is a good example of how well the studied automobile companies reflects the characteristics of the local business communities. BMW is simply willing to pay a high price for high skilled workers that act professionally with respect to BMW's traditions. A highly skilled workforce is one of the most important factors when building high technology cars, like BMW does. Something that was well proved by BMW's decision to locate its newest factory to Leipzig in Germany, rather than locating it to any of the low-cost countries within the European Union. BMW's focus on high-technology luxury cars is a clear sign of a differentiation strategy. A broad product range with everything from small city cars, luxury sedans and luxury SUVs proves BMW's choice to be a Differentiation leader.

The pattern with a close relation between an automobile company's strategy and the local business community's characteristics continues with Geely. They have used all the three different strategies that Chinese automobile companies normally have. Geely started out with a Reverse Engineering strategy to learn how a car looks and to gather the required knowledge for producing a car. When Geely felt the competition in the Chinese market was too intense they moved on to a Market Seeking strategy by starting to sell their cars abroad. By the acquisition London Taxi Geely took their first step towards a Strategic Asset Seeking Strategy and by the acquisition of Volvo in 2010 Geely made a clear statement about their strategy. The changes shows that Geely is determined to catch up on a technological level, something that will help Geely to create a competitive advantage compared to its Chinese rivals, especially in less developed markets. The overall strategy for Geely and Volvo observed as a group is mixed, Geely started with a Cost focuser strategy producing models based on other

automobile producers cars. Compared to the other companies in the study Geely still targets a true low-cost segment, which implies a Cost focuser strategy. The acquisition of Volvo Cars who produce more advanced cars marks indicates a willingness to move towards more differentiated products. However Geely has yet not released any of its models developed in collaboration with Volvo.

General Motors practice of both the Sloanist production and Fordist production two practices that are typical for the American business community. Where the Fordist structure helps General Motors to keep the costs under control, something that is crucial for a volume producer. General Motors has for many years been one of the companies that sell the largest amount of automobiles in the world, a sign of a broad competitive scope. As described in the part about the different markets the North American market is characterised by relatively simple cars produced in large quantities. To conclude GM has a cost leadership strategy.

Renault has in the past mainly targeted the European mainstream market but some efforts have been made for creating more differentiated products. However the strategy focusing on more differentiated products have failed. The creation of the alliance with Nissan has further broaden Renault's competitive scope. The creation of the low-cost brand Dacia using simple mature Renault technology, targeting East European customers that need a car that is both cheap to buy and cheap to run. The Renault is positioned as a cost leader and the successful brand Dacia targeting one segment only has a clear Cost focus.

If most of the observed companies have a strong connection to their domestic business community and their strategies are strongly influenced by them, the question is; why do the different companies scores so differently in the global index?

As said before BMW is the only observed producer that focuses on high technology cars and it is also the producer with the largest share of assets, employees and production in their home market with average figures between 28,1% and 42,9% for 2006-2012 compared with for e.g. General Motors who scores between 38,6% and 61,3% on the same parameters. What rises BMW's average in the global index to 47,8% is the high share of sales outside Germany, with an average of 80,5%, more than 12 percentage points ahead of Renault which is the closest firm in that aspect. Taken into account that BMW small-car brand MINI is located in Great Britain, within Europe, you quickly realise that BMW is the least globalized carmaker in the study. Compared to Renault, on the other hand that has implemented a successful strategy with focus on low-end cars during the studied years. Renault has the most upward sloping

curves for all the studied aspects, if we exclude the extreme case of Geely. The figure of globalization almost rises with ten percentage points for all the studied factors where the up-going trend can partly be described by Renault's declining home market but that is probably not enough to explain the trend. Renault's low cost strategy is mostly concentrated to the Romanian brand Dacia who produces its cars in Romania. Dacia's success has demanded for investments both in order to broaden Dacia's model line-up but also to keep up with the large demand. The investments have been made in Romania, which increases the ratio of globalization in the global index. The reason why the ratio of international assets, employees and production all have increased is that they are so closely linked together, that becomes very clear when observing path for all the studied companies. The implementation of a true low-cost strategy is what separates Renault from the other companies in the study and that is why the low-cost strategy is likely to be the driving factor behind the increasing globalization of Renault.

Dacia is not the only brand having enjoyed high levels of growth in recent year. BMW have also been very successful in growing its sales abroad, so what is the difference is it that make them scoring so differently in all the other aspects in the global index? The difference lies in their products where BMW uses advanced technology in order to stay ahead of its competitors and be able to charge high prices whereas Renault uses well-proven mature Renault technology enabling Dacia to keep the costs as low as possible. With this difference in mind one might see a trend where technologically advanced high-end cars seems to be less globalized compared to less advanced low-end cars that are more globalized.

General Motor's trends and figures do not show any evidence of a strategic change. The effects of the financial crisis and focus on different markets can rather describe the variations in their performances in the different aspects in the global index. In 2008 when the financial crisis started in US, GM's home market collapsed which explains the large increases in all the studied variables in both 2008 and 2009. Compared to GERPISA's average portion of sales outside the North American market the increase is large which can be described by the early success of GM in China and other emerging markets but also due to the declining home market. GM's platform strategy is the one amongst the studied companies with the strongest path towards extensive global platform sharing across all the markets, with the goal to use 14 core platforms for producing 90% of all their cars by 2018. Since GM is positioned as a volume producer and have a truly global platform strategy the path with less technologically advanced cars being focusing on volume are more international than high technological high-

end cars can be seen here as well. If we continue to look at the platforms the theory is further reinforced.

BMW who is the only true high-end producer is the one with the least geographically shared platforms using one platform in USA for producing the X5 and X6 that is not used anywhere else, it is the same case with BMW's platform underpinning all the 5 series models, 6 series models and the 7 series models, which is used for producing cars in Europe exclusively. The production of the BMW i-models, using new ground breaking technology, is even more extreme in that aspect with everything except the raw material for the carbon fibre and the processing of the raw material produced inside Germany. As is the case with the development of the Toyota Prius model being developed and first sold only on the Japanese market. Both the case about BMW's i range and Toyota's Prius model proves that development of advanced technology creating milestones in the automobile industry often tends to be concentrated to the companies country of origin.

An interesting comparison can be done between the two giants amongst our studied companies being the world's two largest car companies. Since both companies are so enormous one might expect them to be similar, but despite the fact that Toyota and GM scores close to each other on the average global index with an average between 2006 and 2012 with 52,6% and 47,7% respectively they are different. Toyota have a much higher average ration of its sales abroad which can be explained by the Japanese car market being much smaller than the North American car market. However assets, employees and production are much more concentrated to Japan which can be explained by Toyota's higher focus on quality and technologically advanced cars compared to GM. The evidence of technology not being a driving force behind globalization becomes even clearer when one compares Toyota's platform strategy to GM's. Despite trying to increase the production volume on its platforms Toyota do not seem to have any intention to use any of its platforms on all markets.

Looking at Geely we see exact opposite with Geely purchasing companies abroad in order to gather technological know-how. This might contradict the idea about technology being one of the driving factors for regionalization rather than globalization. However Geely comes from a completely different situation being almost hundred years younger than many of the other studied companies, lacking the needed technological know-how. Geely's decision to sell their own cars abroad is a good example of how simple low-end technological cars drives globalization since the driving factor behind the globalization was Geely's lack of both

resources and technology enabling them to compete on the competitive Chinese home market. The decision to start selling Geely's cars outside China also explains why the share of the revenues coming from outside China have been much higher during 2006-2012 compared to the assets, employees and production.

6.2 Conclusion

Neither development nor use of new ground breaking advanced technology seems to be a driving force behind globalization in the automobile industry, it is rather the opposite with technology being a driving factor behind continued regionalization in the automobile industry. The development of both the Toyota Prius and BMW's i-range are good examples of this path. A low cost strategy with little focus on advanced technique seems on the other hand to be driving globalization, as seen in the comparison between BMW and Dacia.

Since technology is the main source for differentiation in the automobile industry we present the theory that a Differentiation leader strategy or a Differentiation focuser strategy decrease globalization in the automobile industry. The fact that BMW is the least globalized automobile company in the study strengthen this theory. A Cost leader strategy or a Cost focuser strategy implies a relatively low level of advanced technology and focus on low costs in the automobile industry. The result is that a Cost leadership strategy or a Cost focuser strategy increases globalization in the automobile industry, as seen in the case with Renault's new Cost focuser strategy with the Dacia brand increasing Renault's globalization.

6.3 Suggestions for further research

The most evident space for further research we can find is in our conclusion. We conclude that technology drives regionalization rather than globalization. We suggest further research look into why technology is a driving force behind regionalization rather than globalization in the automobile industry. A continuation on this idea could be to investigate modern communication's impact on knowledge sharing within companies.

Another suggestion is to further investigate why the automobile companies strategies seems to have such a close relationship to the business community in their country of origin. Suggestions for further research could be to investigate the connection between business community and the local companies' strategy.

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Appendix 1: Index Data

Renault

Year	Total Revenues (m €)	Revenues outside France
2006	40 332	26 689
2007	40 682	27 577
2008	37 791	24 790
2009	33 712	21 195
2010	38 971	26 274
2011	42 628	30 197
2012	41 270	30 376

Year	Total Workforce	Workforce outside France
2006	128 893	60 836
2007	130 179	67 092
2008	129 068	69 003
2009	121 307	66 272
2010	122 615	68 352
2011	128 322	73 499
2012	127 086	73 883

År	Totala Assets (m €)	Assets outside France
2006	16 588	5 660
2007	17 111	5 748
2008	17 131	5 467
2009	16 187	5 347
2010	15 181	5 263
2011	15 075	5 432
2012	15 016	5 836

År	Total production (# cars)	Production outside France
2006	2 492	1 382
2007	2 669	1 610
2008	2 417	1 645
2009	2 296	1 731
2010	2 716	2 049
2011	2 825	2 143
2012	2 676	2 105

BMW

Year	Total Revenues (m €)	Revenues outside Germany
2006	48 999	38 398
2007	56 018	44 100
2008	53 197	42 458
2009	50 681	39 245
2010	60 477	49 270
2011	68 821	55 962
2012	76 848	64 662

Year	Total Workforce	Workforce outside Germany
2006	106 575	30 201
2007	107 539	31 404
2008	100 041	26 075
2009	96 230	25 050
2010	95 453	25 527
2011	100 305	29 345
2012	105 876	32 279

Year	Totala Assets (m €)	Assets outside Germany
2006		
2007	33 791	15 680
2008	36 457	14 541
2009	34 737	13 601
2010	34 249	12 992
2011	40 035	18 516
2012	43 016	20 062

Year	Total production (# cars)	Production outside Germany
2006	1 367	493
2007	1 542	591
2008	1 440	572
2009	1 258	465
2010	1 481	557
2011	1 669	694
2012	1 845	834

Geely

Year	Total Revenues (th CNY)	Revenues outside China
2006	127 006	-
2007	131 720	3 250
2008	4 289 037	506 848
2009	14 069 225	705 539
2010	20 099 388	1 593 976
2011	145 930 627	114 224 805
2012	140 615 061	108 431 053

Year	Total Workforce	Workforce outside China
2006	9 498	-
2007	8 813	-
2008	9 945	-
2009	12 282	75
2010	17 102	75
2011	38 800	20 364
2012	41 227	21 641

Year	Total Assets (th CNY)	Assets outside China
2006	1 844 068	-
2007	2 920 351	-
2008	10 150 969	-
2009	18 802 189	-
2010	23 974 343	-
2011	100 841 112	73 244 354
2012	104 721 448	73 341 622

Year	Total production (# cars)	Production outside China
2006	164 495	-
2007	181 517	-
2008	204 205	-
2009	326 710	-
2010	415 843	-
2011	883 905	462 294
2012	912 880	429 397

General Motors

Year	Total Revenues (m USD)	Revenues outside North America
2006	204 467	87 814
2007	179 984	67 536
2008	148 979	62 792
2009	104 589	47 972
2010	135 592	52 557
2011	150 276	60 043
2012	152 256	57 661

Year	Total Workforce	Workforce outside North America
2006	280 000	128 000
2007	266 000	127 000
2008	242 000	126 000
2009	215 000	112 000
2010	202 000	106 000
2011	207 000	109 000
2012	213 000	112 000

Year	Total Assets (m USD)	Assets outside North America
2006	185 995	59 517
2007	148 846	53 413
2008	91 039	27 832
2009	136 295	57 576
2010	138 898	62 565
2011	144 603	61 008
2012	149 422	62 241

Year	Total production (# cars)	Production outside North America
2006	8926	4349
2007	9350	5097
2008	8283	4840
2009	6459	4569
2010	8476	5667
2011	9267	6178
2012	9489	6252

Toyota

Year	Total Revenues (m Yen)	Revenues outside Japan
2006	21 036 909	13 301 800
2007	23 948 091	15 795 207
2008	26 289 240	17 870 620
2009	20 529 570	13 057 654
2010	18 950 973	11 636 160
2011	18 993 688	12 026 759
2012	18 583 653	11 289 849

Year	Total Workforce	Workforce outside Japan
2006	285 977	107 763
2007	299 394	113 967
2008	316 121	121 775
2009	320 808	121 755
2010	320 590	119 433
2011	317 716	120 548
2012	325 905	128 736

Year	Total Assets (m Yen)	Assets outside Japan
2006	28 731 595	16 554 470
2007	32 574 779	19 582 400
2008	32 458 320	19 575 065
2009	29 062 037	17 105 606
2010	30 349 287	17 883 610
2011	29 818 166	18 532 302
2012	30 650 965	18 616 542

Year	Total production (# cars)	Production outside Japan
2006	8036	3842
2007	9498	4378
2008	9238	4326
2009	7234	3691
2010	8557	4510
2011	7435	3495
2012	7169	3448